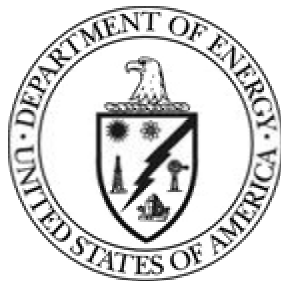


# **Department of Energy FY 2005 Congressional Budget Request**

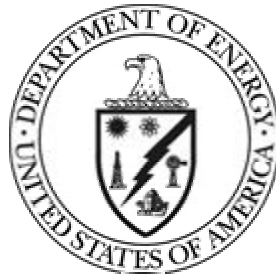


**Environmental Management  
Defense Site Acceleration Completion  
Defense Environmental Services  
Non-Defense Site Acceleration Completion  
Non-Defense Environmental Services**

**Uranium Enrichment Decontamination  
and Decommissioning Fund**



# **Department of Energy FY 2005 Congressional Budget Request**



**Environmental Management  
Defense Site Acceleration Completion  
Defense Environmental Services  
Non-Defense Site Acceleration Completion  
Non-Defense Environmental Services**

**Uranium Enrichment Decontamination  
and Decommissioning Fund**





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# Volume 5

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The Department of Energy's FY 2005 Congressional Budget justification is available on the Office of Management, Budget and Evaluation/CFO homepage at <http://www.mbe.doe.gov/budget/>





# Department of Energy Appropriation Account Summary

(dollars in thousands -OMB Scoring)

	FY 2003 Comparable Approp	FY 2004 Comparable Approp	FY 2005 Congress Request	FY 2005 vs. FY 2004	
<b>Energy and Water Development</b>					
Energy Programs					
Energy supply.....	730,215	788,620	835,266	+46,646	+5.9%
Non-Defense site acceleration completion.....	156,129	162,411	151,850	-10,561	-6.5%
Uranium enrichment D&D fund.....	320,563	414,027	500,200	+86,173	+20.8%
Non-Defense environmental services.....	161,852	306,439	291,296	-15,143	-4.9%
Science.....	3,322,244	3,500,169	3,431,718	-68,451	-2.0%
Nuclear waste disposal.....	144,058	188,879	749,000	+560,121	+296.6%
Departmental administration.....	89,219	93,720	122,611	+28,891	+30.8%
Inspector general.....	37,426	39,229	41,508	+2,279	+5.8%
<b>Total, Energy Programs.....</b>	<b>4,961,706</b>	<b>5,493,494</b>	<b>6,123,449</b>	<b>+629,955</b>	<b>+11.5%</b>
Atomic Energy Defense Activities					
National nuclear security administration:					
Weapons activities.....	5,961,345	6,233,503	6,568,453	+334,950	+5.4%
Defense nuclear nonproliferation.....	1,223,453	1,334,040	1,348,647	+14,607	+1.1%
Naval reactors.....	702,196	761,878	797,900	+36,022	+4.7%
Office of the administrator.....	330,314	336,826	333,700	-3,126	-0.9%
<b>Total, National nuclear security administration.....</b>	<b>8,217,308</b>	<b>8,666,247</b>	<b>9,048,700</b>	<b>+382,453</b>	<b>+4.4%</b>
Environmental and other defense activities:					
Defense site acceleration completion.....	5,496,409	5,576,760	5,970,837	+394,077	+7.1%
Defense environmental services.....	1,105,778	1,012,610	982,470	-30,140	-3.0%
Other defense activities.....	637,125	670,083	663,636	-6,447	-1.0%
Defense nuclear waste disposal.....	312,952	387,699	131,000	-256,699	-66.2%
<b>Total, Environmental &amp; other defense activities.....</b>	<b>7,552,264</b>	<b>7,647,152</b>	<b>7,747,943</b>	<b>+100,791</b>	<b>+1.3%</b>
<b>Total, Atomic Energy Defense Activities.....</b>	<b>15,769,572</b>	<b>16,313,399</b>	<b>16,796,643</b>	<b>+483,244</b>	<b>+3.0%</b>
Defense EM privatization (rescission).....	—	-15,329	—	+15,329	100%
Power marketing administrations:					
Southeastern power administration.....	4,505	5,070	5,200	+130	+2.6%
Southwestern power administration.....	27,200	28,431	29,352	+921	+3.2%
Western area power administration.....	167,760	176,900	173,100	-3,800	-2.1%
Falcon & Amistad operating & maintenance fund.....	2,716	2,625	2,827	+202	+7.7%
<b>Total, Power marketing administrations.....</b>	<b>202,181</b>	<b>213,026</b>	<b>210,479</b>	<b>-2,547</b>	<b>-1.2%</b>
Federal energy regulatory commission.....	—	—	—	—	—
<b>Subtotal, Energy and Water Development .....</b>	<b>20,933,459</b>	<b>22,004,590</b>	<b>23,130,571</b>	<b>+1,125,981</b>	<b>+5.1%</b>
Uranium enrichment D&D fund discretionary payments...	-432,731	-449,333	-463,000	-13,667	-3.0%
Excess fees and recoveries, FERC.....	-22,669	-18,000	-15,000	+3,000	+16.7%
Colorado River Basins.....	-22,000	-22,000	-23,000	-1,000	-4.5%
<b>Total, Energy and Water Development.....</b>	<b>20,456,059</b>	<b>21,515,257</b>	<b>22,629,571</b>	<b>+1,114,314</b>	<b>+5.2%</b>



# Department of Energy Appropriation Account Summary

(dollars in thousands -OMB Scoring)

	FY 2003 Comparable Approp	FY 2004 Comparable Approp	FY 2005 Congress Request	FY 2005 vs. FY 2004	
<b>Interior and Related Agencies</b>					
Fossil energy research and development.....	611,149	672,771	635,799	-36,972	-5.5%
Naval petroleum and oil shale reserves.....	17,715	17,995	20,000	+2,005	+11.1%
Elk Hills school lands fund.....	36,000	36,000	36,000	—	—
Energy conservation.....	880,176	877,984	875,933	-2,051	-0.2%
Economic regulation.....	1,477	1,034	—	-1,034	-100.0%
Strategic petroleum reserve.....	171,732	170,948	172,100	+1,152	+0.7%
Strategic petroleum account.....	1,955	—	—	—	—
Northeast home heating oil reserve.....	5,961	4,939	5,000	+61	+1.2%
Energy information administration.....	80,087	81,100	85,000	+3,900	+4.8%
Subtotal, Interior Accounts.....	1,806,252	1,862,771	1,829,832	-32,939	-1.8%
Clean coal technology.....	-47,000	-98,000	-140,000	-42,000	-42.9%
<b>Total, Interior and Related Agencies.....</b>	<b>1,759,252</b>	<b>1,764,771</b>	<b>1,689,832</b>	<b>-74,939</b>	<b>-4.2%</b>
<b>Total, Discretionary Funding.....</b>	<b>22,215,311</b>	<b>23,280,028</b>	<b>24,319,403</b>	<b>+1,039,375</b>	<b>+4.5%</b>
Yucca mountain--mandatory collection to offset discretionary funding.....	—	—	-749,000	-749,000	n/a
<b>Total, Discretionary Funding.....</b>	<b>22,215,311</b>	<b>23,280,028</b>	<b>23,570,403</b>	<b>+290,375</b>	<b>+1.2%</b>



# Environmental Management

## Overview

### Appropriation Summary by Program

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
<b>Defense Site Acceleration Completion</b>					
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
High-Level Waste Proposal .....	0	0	0	0	350,000
<b>Total, Defense Site Acceleration Completion.....</b>	<b>5,516,639</b>	<b>5,784,767</b>	<b>-70,796</b>	<b>5,713,971</b>	<b>5,970,980</b>
<b>Defense Environmental Services</b>					
Non-Closure Environmental Activities .....	327,188	253,024	-6,106	246,918	187,864
Community and Regulatory Support .....	67,956	61,570	-710	60,860	60,547
Federal Contribution to the UE D&D Fund .....	432,731	452,000	-2,667	449,333	463,000
Program Direction.....	279,723	287,144	-10,634	276,510	271,059
<b>Total, Defense Environmental Services .....</b>	<b>1,107,598</b>	<b>1,053,738</b>	<b>-20,117</b>	<b>1,033,621</b>	<b>982,470</b>
<b>Non-Defense Site Acceleration Completion</b>					
2006 Accelerated Completions.....	53,972	48,677	-265	48,412	45,435
2012 Accelerated Completions.....	109,323	119,750	-671	119,079	98,191
2035 Accelerated Completions.....	4,289	4,948	-28	4,920	8,224
<b>Total, Non-Defense Site Acceleration.....</b>	<b>167,584</b>	<b>173,375</b>	<b>-964</b>	<b>172,411</b>	<b>151,850</b>
<b>Non-Defense Environmental Services</b>					
Non-Closure Environmental Activities .....	126,009	276,245	-4,425	271,820	245,123
Community and Regulatory Support .....	20	1,034	-4	1,030	90
Environmental Cleanup Projects .....	35,823	43,842	-253	43,589	46,083
Legacy Management (Non-Defense) .....	0	28,347	-28,347	0	0
<b>Total, Non-Defense Environmental Services.....</b>	<b>161,852</b>	<b>349,468</b>	<b>-33,029</b>	<b>316,439</b>	<b>291,296</b>
<b>Uranium Enrichment Decontamination &amp; Decommissioning Fund</b>					
D&D Activities.....	304,667	365,484	-2,156	363,328	399,586
Uranium/Thorium Reimbursement .....	15,896	51,000	-301	50,699	100,614
<b>Total, Uranium Enrichment D&amp;D Fund.....</b>	<b>320,563</b>	<b>416,484</b>	<b>-2,457</b>	<b>414,027</b>	<b>500,200</b>

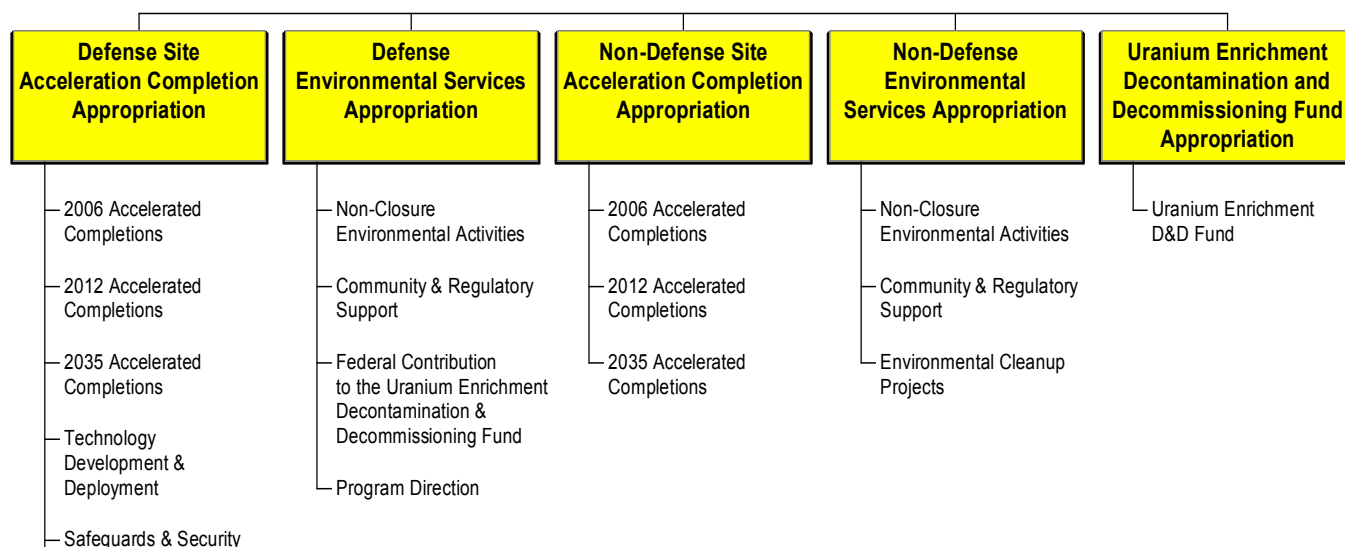
(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
<b>Total, Environmental Management</b> .....	<b>7,274,236</b>	<b>7,777,832</b>	<b>-127,363</b>	<b>7,650,469</b>	<b>7,896,796</b>
Uranium Enrichment D&D Fund Deposit (Offset) .....	-432,731	-452,000	2,667	-449,333	-463,000
Privatization Prior Year Rescission.....	0	-15,329	0	-15,329	0
Less Use of Prior Year Balances (Defense).....	-21,928	-153,361	-4,740	-158,101	0
Safeguards and Security Charge for Reimbursable Work.....	-122	-1,344	1,223	-121	-143
Less Use of Prior Year Balances (Non- Defense).....	-11,455	-20,000	0	-20,000	0
<b>Total, Environmental Management</b> .....	<b>6,808,000</b>	<b>7,135,798</b>	<b>-128,213</b>	<b>7,007,585</b>	<b>7,433,653</b>

## Preface

Fifty years of nuclear weapons production and energy research generated millions of gallons of radioactive waste along with huge quantities of contaminated soil and water. The Environmental Management (EM) program was established in 1989 to cleanup the legacy waste from these operations and dispose of the waste in a manner protective of the environment, the workers, and the public.

The following chart identifies the five appropriations that comprise the EM program and the associated programs. Risk reduction and completion activities are consolidated into predominantly three appropriations - Defense Site Acceleration Completion and Non-Defense Site Acceleration Completion, and the Uranium Enrichment D & D Fund. The two acceleration completion appropriations are segmented into three programs – 2006, 2012, and 2035, to highlight time horizons and accountability. The other two appropriations, Defense and Non-Defense Environmental Services, fund activities that indirectly support EM’s accelerated cleanup and closure mission.



This Overview will describe Strategic Context, Mission, Benefits, Strategic Goals, and Funding by General Goal. These items together provide a perspective to the five appropriations. The Annual Performance Results and Targets, Means and Strategies, and Validation and Verification sections address how the goals will be achieved and how performance will be measured. Finally, this Overview will address the Program Assessment Rating Tool (PART) and Significant Program Shifts.

## **Strategic Context**

Following publication of the Administration's National Energy Policy, the Department developed a Strategic Plan that defines its mission, four strategic goals for accomplishing that mission, and seven general goals to support the strategic goals. Each appropriation has developed quantifiable goals to support the general goals. Thus, the "goal cascade" is the following:

Department Mission → Strategic Goal (25 yrs) → General Goal (10-15 yrs) → Program Goal (GPRA Unit) (10-15 yrs)

To provide a concrete link between budget, performance, and reporting, the Department developed a "GPRA<sup>a</sup> unit" concept. Within DOE, a GPRA Unit defines a major activity or group of activities that support the core mission and aligns resources with specific goals. Each GPRA Unit has completed or will complete a PART. A unique program goal was developed for each GPRA unit. A numbering scheme has been established for tracking performance and reporting<sup>b</sup>.

The goal cascade accomplishes two things. First, it ties major activities for each program to successive goals and, ultimately, to DOE's mission. This helps ensure the Department focuses its resources on fulfilling its mission. Second, the cascade allows DOE to track progress against quantifiable goals and to tie resources to each goal at any level in the cascade. Thus, the cascade facilitates the integration of budget and performance information in support of the GPRA and the President's Management Agenda (PMA).

## **Mission**

The mission of EM is the accelerated risk reduction and cleanup of the environmental legacy of the nation's nuclear weapons program and government-sponsored nuclear energy research. This program, refined over the last two years and fortified with new management reforms, has led to the accelerated risk reduction and a decrease in life-cycle costs surpassing previous expectations. The FY 2005 budget request represents the peak year of our investment strategy to accelerate cleanup and risk reduction.

This transformation has propelled the EM program from a risk management paradigm to one of taking new and innovative actions to reduce risk faster, achieve cleanup sooner, and to enhance and change processes to drive results. The release of the February 2002 Top-to-Bottom Review Report was the catalyst that initiated EM's reevaluation of previous accepted strategies and cleanup methods and announced our re-commitment to cleaning up the environmental legacy of the Cold War faster.

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<sup>a</sup> Government Performance and Results Act of 1993.

<sup>b</sup> The numbering scheme uses the following numbering convention: First 2 digits identify the General Goal that (01 through 07); second two digits identify the GPRA Unit; last four digits are reserved for future use.

Key to meeting accelerated objectives is risk reduction designed to protect human health and the environment. EM is eliminating or reducing the highest risks first, not just managing them. Activities that address the highest risks and achieve the most risk reduction are given the highest priority. Our actions are addressing:

- High curie, long-lived isotope liquid waste
- Special nuclear materials
- Liquid transuranic waste in tanks
- Sodium bearing liquid waste in tanks
- Deteriorating spent nuclear fuel in leaky or poor integrity basins
- Remote-handled transuranic waste and high transuranic content waste
- Transuranic waste stored on the surface
- Decommissioning of highly-contaminated facilities.

EM's risk reduction focus encompasses:

- Accelerating cleanup of contaminated sites - Complete cleanup at three major sites (Mound, Fernald, and Rocky Flats) by 2006. In addition, as of the end of FY 2003 EM continues to clean up its 35 other remaining sites on an aggressive schedule.
- Stabilizing and eliminating or reducing high-hazard or highly-radioactive materials. This includes removing liquid waste from single shell or low integrity tanks at Hanford; solidifying radioactive liquid waste to a stable form at Savannah River and Hanford; and moving spent nuclear fuel from low integrity basins at Hanford and the Idaho National Environmental and Engineering Laboratory.
- Consolidating special nuclear materials at one or two sites to improve safeguards and security for the materials and safety at all sites.
- Accelerating packaging, shipping, and disposal of transuranic waste. Transuranic waste shipments to the Waste Isolation Pilot Plant have been significantly increased.
- Decontaminating and decommissioning excess facilities, and reducing the EM footprint and associated infrastructure and support costs at sites with long-term or on-going missions.

In addition, risk-based end states are a key component of our accelerated cleanup strategy. Risk-based end states are the final conditions at a site based on the future anticipated use of the land (e.g., industrial, recreational, unrestricted). This type of site planning allows for the selection of appropriate remedies that are technically sound and consistent with laws and regulations designed to protect public health and the environment. EM anticipates that risk-based end states for all sites will be defined before the end of fiscal year 2004. By ensuring EM's cleanup strategy is driven by suitable risk-based end states for site closure, the program is taking direct steps to accomplish our completion commitment.

Underpinning EM's completion philosophy and facilitating accelerated risk reduction and sites closure is the implementation of several crucial complementing management reforms and cleanup initiatives. A revised budget structure, human capital revitalization, improved acquisition strategy, and stricter configuration control are four principal reforms that have been implemented along with recommendations of Integrated Project Teams. Resource loaded site baselines will complete the multi-front approach to producing accelerated cleanup results.



- **Budget Structure:** EM implemented a revised budget structure in FY 2004 to clearly distinguish the scope and resources that directly support EM's core accelerated clean up and risk reduction mission from those that do not. As described earlier, this budget structure consists of five appropriations: Defense Site Acceleration Completion, Defense Environmental Services, Non-Defense Site Acceleration, Non-Defense Environmental Services, and Uranium Enrichment Decontamination and Decommissioning Fund.
- **Human Capital Revitalization:** In FY 2003 and FY 2004, EM implemented steps to assure the required human capital resources are available, with the right skills, to meet the challenges that are needed to accomplish our completion mission. EM implemented an executive mentoring program in 2003 with the pilot program completed at the Carlsbad site. Two sites are slated for the executive mentoring program in FY 2004.

In December 2003, the EM program implemented a re-organization to increase the functionality of the program. The new organization creates a 1:14 manager to employee ratio, becoming a flatter and more effective organization with an organizational structure that is clearly aligned to deliver on the accelerated risk reduction and closure results.

EM plans to establish a Consolidated Business Center in FY 2004. The Consolidated Business Center will address the business functional areas for those closure sites and some smaller sites where consolidation of services will increase program efficiency. The Consolidated Business Center will continue to mature and change to meet the needs of the EM program and the Department.

- **Acquisition Strategy:** EM is using and managing the acquisition process as one tool to drive contract performance. EM chartered a Contract Management Advisory Council, which reviews contract and acquisition strategies from a corporate perspective. Five contracts have been reevaluated or renegotiated to shorten schedules, establish more focused performance incentives, and restructure projects to accelerate risk reduction. Three contracts were modified, and two contracts were re-competed to allow for better performance.

The following awarded, renegotiated, or planned contracts will encourage better performance:

- In April 2003, a contract modification was negotiated to revise the terms and conditions of the Fernald Closure Project contract to increase the ability and confidence to achieve closure by 2006.
- An EM-specific contract for the Idaho National Laboratory Cleanup Project is expected to be in place by January 2005.
- The Miamisburg Closure Project contract was awarded in December 2002, with a target completion date of March 31, 2006.
- Savannah River's contract was modified in June 2003 to drive accelerated cleanup and risk reduction.
- Five remediation and decontamination and decommissioning Indefinite Delivery/Indefinite Quantity (IDIQ) sole-source contracts were awarded to Small Disadvantaged Businesses (8a's) in September 2003.
- At Oak Ridge, EM transitioned to a cost-plus-incentive-fee cleanup contract in October 2003. This change in the contract structure will accelerate cleanup work by up to 5 years and save approximately \$1.4 billion over the life of the program at the site.

- The Battelle-Columbus Closure Contract was awarded to a small business in November 2003.
- **Configuration Control:** EM program elements and documents defined as essential for monitoring the scope, schedule, and cost of the EM Program at the Headquarters level are managed and controlled through a formal Configuration Control Board. This Board, chartered on December 17, 2002, established initial values (or baselines) for essential program elements such as performance management plans, site end states, site end dates, performance metrics, performance incentives, and life-cycle costs. The Configuration Control Board also maintains rigorous control of annual baseline costs, project baseline summaries for each site, the EM budget structure, and the Waste Isolation Pilot Plant transportation baseline.

Through the implementation of this management system, EM has assured that site end states, performance measures and performance objective/incentives are aligned and linked to the EM Performance Management Plans and reflect those expectations and outcomes that are critical to the successful accomplishment of the EM mission. The Configuration Control Board's actions have brought increased control, rigor and accountability to the EM Program. These actions have resulted in improved program communication and control of site end states. Through strict configuration control, EM is able to make crucial corporate decisions that will keep the program on track; control cost increase, and minimize schedule growth.

EM continues to review and improve the configuration control process in order to intensify the focus. For example, EM will utilize the improved resource-loaded baselines for more effective project management and control.

- **Site Baselines:** A major focus of the EM program in FY 2003 and continuing in FY 2004 has been the development of resource-loaded baselines for each site. This effort represents a significant step that EM is undertaking to further improve its performance and accountability. Based on site Performance Management Plans or accelerated cleanup strategies, the baselines describe in detail the activities, schedule and resources required to complete the EM mission at each site. Key elements of the baselines such as annual costs, corporate performance measures, and completion dates are under strict configuration control. All baselines are assessed prior to approval to ensure that they meet site-specific commitments in addition to EM corporate goals. These approved baselines, assessed to identify and remedy any weaknesses that would be a barrier to accomplishing the scope of work at the validated cost, will allow for even greater focus on the cleanup mission. The baselines are also critical in enabling senior management to accurately monitor and measure the cleanup progress of each site against its completion objectives. EM's goal is to have validated baselines for all of its sites by the end of FY 2004.
- **Integrated Project Teams and Continued Focus on the EM Program:** EM is in the process of assimilating the recommendations of Integrated Project Teams into EM's accelerated cleanup strategies. Ten Integrated Project teams were established to identify breakthrough solutions to some of EM's toughest issues. Their focus areas included contracting, high-level waste, and consolidation of special nuclear material. For example, one project team examined the applicability of lessons learned from Rocky Flats to each EM site. At Rocky Flats, implementation of several new technologies and new business ideas have been significantly accelerated and have resulted in reduced costs: use of a new process allows sprayed-on material to serve as an acceptable container for shipment to the Nevada Test Site; and new and innovative methods are being used for size reduction (e.g., plasma cutting torch, engineered enclosures, water-jet cutting of components), significantly improving safety and productivity. Project teams

have been developing reports and/or action plans that described the results of their projects and recommendations regarding better management practices for improved program performance.

With this submission, certain assumptions have been incorporated into the FY 2005 EM Program budget estimates. These assumptions are neither listed in priority order nor by their influence on the EM program. The planning assumptions are:

- 1) Site Performance Management Plans will remain in effect as the roadmap for accelerated cleanup and risk reduction.
- 2) Portsmouth will continue in enhanced cold standby mode.
- 3) The EM program will not be subject to new regulations, statutes, or orders that constrains the program's flexibility in accomplishing the goal of accelerated cleanup and risk reduction in a fiscally responsible manner while being protective of human health and the environment.
- 4) No new mission requirements or responsibilities will be assigned to the EM program.
- 5) The high-level waste program strategy presented in this budget for the Savannah River site, the Idaho National Laboratory, and the Hanford site is based on the current accelerated baselines in the sites' Performance Management Plans. This strategy assumes that DOE has the authority to manage and dispose of different tank wastes according to the risks they present. However, a recent District Court decision has cast serious doubt and uncertainty on DOE's ability to implement this strategy. This budget identifies those activities affected by the District Court ruling as part of the "High-Level Waste Proposal" within the Defense Site Acceleration Completion appropriation. The \$350 million reserved for the proposal will be requested only to the extent that legal uncertainty concerning certain reprocessing wastes is satisfactorily resolved through pending litigation or by new legislation.

## **Benefits**

Since the release of the Top to Bottom Review Report, the reforms described above have enabled the EM program to reduce comparable life-cycle costs (in constant FY 2003 dollars) from \$192 billion in FY 2001 to \$142 billion in FY 2003, a reduction of \$50 billion. They have also contributed to a shortening of cleanup completion by 35 years, from 2070 to 2035. EM's goal is to continue the trend of reducing the life-cycle costs of the program and site completion dates. These initiatives, aligned with the goal of achieving tangible results in accelerating risk reduction and cleanup, illustrate the Administration's commitment to protecting the environment while providing a responsible resolution for the environmental legacy of the Cold War. EM's mission of accelerated risk reduction and cleanup of the environmental legacy of the Cold War is supportive of DOE's Environmental Strategic Goal.

## **Strategic Goals**

The Department's Strategic Plan identifies four strategic goals (one each for defense, energy, science, and environmental aspects of the mission plus seven general goals that tie to the strategic goals. EM's five appropriations support the following goal:

Environmental Strategic Goal: To protect the environment by providing a responsible resolution to the environmental legacy of the Cold War and by providing for the permanent disposal of high-level radioactive waste.

General Goal 6, Environmental Management: Accelerate cleanup of nuclear weapons manufacturing and testing sites, completing cleanup of 108 contaminated sites by 2025.

The programs funded within the five EM appropriations have one Program Goal that contributes to the General Goals in the “goal cascade.” This goal is:

Program Goal 06.18.00.00: Based on EM’s accelerated risk reduction and site closure initiative, EM is targeting 89 and 100 geographic sites to be completed by the end of FY 2006 and FY 2012, respectively.

### Contribution to General Goal

Integral to meeting General Goal 6 is the accelerated completion of geographic sites as scheduled to ensure the completion of 108 contaminated sites by the end of 2025. EM’s Program Goal contributes directly to the program’s ability to meet its General Goal through the establishment of “interim” goals for the FY 2006 and FY 2012 time periods.

The EM program is now aligned to achieve the objectives of the above goals. Annual progress towards meeting these goals is demonstrated by EM’s 16 corporate performance measures. Each site establishes annual targets for specific corporate performance measures that are applicable to that site’s scope of work. The corporate measures for a site collectively represent the totality of EM risk reduction activities that must be achieved in order for site cleanup to be completed.

### Funding by General Goal

	(dollars in thousands)				
	FY 2003	FY 2004	FY 2005	\$ Change	% Change
General Goal 6, Environmental Management					
Program Goal 06.18.00.00, Environmental Management					
Defense Site Acceleration Completion					
2006 Accelerated Completions .....	1,234,037	1,239,018	1,251,799	+12,781	+1.0%
2012 Accelerated Completions .....	2,102,613	2,199,338	2,150,641	-48,697	-2.2%
2035 Accelerated Completions .....	1,811,563	1,918,375	1,893,339	-25,036	-1.3%
Safeguards and Security .....	254,747	291,124	265,059	-26,065	-9.0%
Technology Development & Deployment ...	113,679	66,116	60,142	-5,974	-9.0%
High-Level Waste Proposal .....	0	0	350,000	+350,000	+100.0%
Subtotal, Defense Site Acceleration Completion General Goal 6.....	5,516,639	5,713,971	5,970,980	+257,009	+4.5%
Defense Environmental Services					
Non-Closure Environmental Activities .....	157,188	135,360	85,619	-49,741	-36.7%
Subtotal, Defense Environmental Services General Goal 6.....	157,188	135,360	85,619	-49,741	-36.7%
Non-Defense Site Acceleration Completion					
2006 Accelerated Completions .....	53,972	48,412	45,435	-2,977	-6.1%
2012 Accelerated Completions .....	109,323	119,079	98,191	-20,888	-17.5%
2035 Accelerated Completions .....	4,289	4,920	8,224	3,304	+67.2%
Subtotal, Non-Defense Site Accelerated Completions General Goal 6.....	167,584	172,411	151,850	-20,561	-11.9%

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Non-Defense Environmental Services</b>					
Environmental Cleanup Projects .....	35,823	43,589	46,083	+2,500	+5.7%
Non-Closure Environmental Activities .....	0	22,476	20,000	-2,476	-11.0%
<b>Subtotal, Non-Defense Environmental Services General Goal 6 .....</b>	<b>35,823</b>	<b>66,065</b>	<b>66,083</b>	<b>+24</b>	<b>+0.0%</b>
<b>Uranium Enrichment D&amp;D Fund</b>					
D&D Activities .....	270,009	338,594	367,227	+28,633	+8.5%
<b>Subtotal, Uranium Enrichment D&amp;D Fund General Goal 6 .....</b>	<b>270,009</b>	<b>338,594</b>	<b>367,227</b>	<b>+28,633</b>	<b>+8.5%</b>
<b>All Other</b>					
Community and Regulatory Support.....	70,887	67,283	64,925	-2,358	-3.5%
Federal Contribution to the UE D&D Fund	432,731	449,333	463,000	+13,667	+3.0%
Uranium/Thorium Reimbursements.....	15,896	50,699	100,614	+49,915	+98.5%
Non-Closure Environmental Activities.....	327,756	380,243	355,419	-24,824	-6.5%
Program Direction.....	279,723	276,510	271,059	-5,451	-2.0%
<b>Subtotal, All Other.....</b>	<b>1,126,993</b>	<b>1,224,068</b>	<b>1,255,017</b>	<b>+30,949</b>	<b>+2.5%</b>
<b>Subtotal, General Goal 6 (EM).....</b>	<b>7,274,236</b>	<b>7,650,469</b>	<b>7,896,796</b>	<b>+246,327</b>	<b>+3.2%</b>
Use of Prior Year Balances (Defense Site Accelerated Completion) .....	-20,108	-137,090	0	-137,090	>999%
Use of Prior Year Balances (Defense Environmental Services).....	-1,820	-21,011	0	-21,011	>999%
Uranium Enrichment D&D Fund Deposit (Offset) .....	-432,731	-449,333	-463,000	-13,667	-3.0%
Use of Prior Year Balances (Non-Defense Site Acceleration) .....	-11,455	-10,000	0	-10,000	>999%
Use of Prior Year Balances (Non-Defense Environmental Services) .....	0	-10,000	0	-10,000	>999%
Privatization Prior Year Rescission.....	0	-15,329	0	+15,329	>999%
Safeguards and Security Charge for Reimbursable Work .....	-122	-121	-143	-22	-18.2%
<b>Total, EM Funding.....</b>	<b>6,808,000</b>	<b>7,007,585</b>	<b>7,433,653</b>	<b>+426,048</b>	<b>+6.1%</b>

## Annual Performance and Targets<sup>a</sup>

In developing a subset of the 16 corporate performance measures EM uses to track program performance, nine measures were selected. The nine measures selected portray the broad scope of cleanup challenges the program faces in completing its cleanup mission.

Measures	FY 2000 Results	FY 2001 Results	FY 2002 Results	FY 2003 Results	FY 2004 Targets	FY 2005 Targets
Number of Geographic Sites Eliminated	Complete remediation at 2 geographic sites. (FMFIA) (MET GOAL)	Complete remediation at 3 geographic sites. (MET GOAL)	Complete remediation at one additional geographic site, the Weldon Spring Site in Missouri. (MET GOAL)	Complete remediation at two geographic sites, the Maxey Flats Disposal Site in Kentucky and the Salmon Site in Mississippi. (GOAL NOT MET)	No geographic sites are presently scheduled for completion.	Complete remediation at two geographic sites, the Amchitka Island Site in Alaska and the Laboratory for Energy-Related Health Research Site in California.
Low-Level Waste/Mixed Level Waste Disposed	Dispose of 10,000 cubic meters of MLLW. (EXCEEDED GOAL) Treat 6,973 cubic meters of MLLW. (NEARLY MET GOAL) Dispose of 40,000 cubic meters of LLW. (EXCEEDED GOAL)	Dispose of approximately 8,271 cubic meters of MLLW. (BELOW EXPECTATION) Treat approximately 4,814 cubic meters of MLLW. (NEARLY MET GOAL) Dispose of approximately 47,908 cubic meters of LLW. (EXCEEDED GOAL)	Dispose of approximately 8,446 cubic meters of MLLW. (MIXED RESULTS) Treat approximately 2,765 cubic meters of MLLW. (MIXED RESULTS) Dispose of approximately 76,655 cubic meters of LLW. (MET GOAL)	Dispose of 75,030 cubic meters of low-level waste/mixed low-level waste. (MET GOAL)	Dispose of 89,070 cubic meters of low-level waste/mixed low-level waste.	Dispose of 84,635 cubic meters of low-level waste/mixed low-level waste, bringing the total amount.
Number of Industrial Facilities Completions	Complete 82 facility decommissionings. (NEARLY MET GOAL).	Complete 45 facility decommissionings. (BELOW EXPECTATION). Completed 31 facility decommissionings.	Complete 42 facility decommissioning projects. (MET GOAL) Deactivate 30 facilities. (MET GOAL)	Complete 49 industrial facility. (MET GOAL)	Complete 104 industrial facility.	Complete 152 industrial facility.

<sup>a</sup> FY 2003 – FY 2005 annual results and targets, as well as life-cycle numbers, are under configuration control. In enforcing the Assistant Secretary's added emphasis on project management principles, EM's Configuration Control Board maintains strict configuration control of these numbers to ensure performance and accountability is firmly established and reported.

Measures	FY 2000 Results	FY 2001 Results	FY 2002 Results	FY 2003 Results	FY 2004 Targets	FY 2005 Targets
Transuranic Waste Shipped for Disposal at WIPP	Ship 1,200 cubic meters of Transuranic waste to Waste Isolation Pilot Plant for disposal. (BELOW EXPECTATION) Implement the permit requirements in parallel with the court challenge and begin Mixed Transuranic waste disposal operations at Waste Isolation Pilot Plant in FY 2000. (FMFIA) (MET GOAL)	Ship 2,425 cubic meters of Transuranic waste to Waste Isolation Pilot Plant for disposal. (BELOW EXPECTATION)	Ship 4,709 cubic meters of Transuranic waste to Waste Isolation Pilot Plant for disposal. (MET GOAL)	Ship 4,522 cubic meters of transuranic waste to Waste Isolation Pilot Plant. (MET GOAL)	Ship 12,952 cubic meters of transuranic waste to Waste Isolation Pilot Plant.	Ship 13,318 cubic meters of transuranic waste to Waste Isolation Pilot Plant.
Liquid Waste in Inventory Eliminated <sup>a</sup>	N/A	N/A	N/A	Eliminated 700,000 gallons of liquid waste in inventory. (Goal Not Met)	Eliminate 1,300,000 gallons of liquid waste in inventory.	Eliminate 1,900,000 gallons of liquid waste in inventory.
Canisters of High Level Waste Packaged	Produce 200 canisters of HLW at the Defense Waste Processing Facility (DWPF) at Savannah River Site and five canisters of HLW at the West Valley Demonstration Project. (EXCEEDED GOAL)	Produce 225 canisters of HLW. (MET GOAL)	Produce 205 canisters of HLW. (MIXED RESULTS)	Package 130 containers of high-level waste for final disposition. (NEARLY MET GOAL)	Package 250 containers of high-level waste for final disposition.	Package 250 containers of high-level waste for final disposition.
Plutonium Metal or Oxide Packaged for Long-Term Storage	Stabilize 400 containers of plutonium metals/oxides, 41,000 kilograms (kg) of bulk plutonium residues, and 130 handling units of other nuclear material in other forms. (NEARLY MET GOAL)	Stabilize 510 containers of plutonium metals/oxides and 29,456 kilograms of bulk plutonium residues. (BELOW GOAL)	Stabilize 110 containers of plutonium metals/oxides and 17,225 kilograms of bulk plutonium residues. (MET GOAL)	Package 2,836 containers of plutonium metal or oxide for long-term storage. (MET GOAL)	Package 1,223 containers of plutonium metal or oxide for long-term storage.	Package 165 containers of plutonium metal or oxide for long-term storage.
Plutonium or Uranium Residues Packaged for Long-Term Storage				Package 934 kilograms of plutonium or uranium residues for disposition. (MET GOAL)	Package 49 kilograms of plutonium or uranium residues for disposition.	Package 44 kilograms of plutonium or uranium residues for disposition.

<sup>a</sup> Liquid Waste in Inventory Eliminated is a new performance measure for which EM began collecting data in FY 2003. EM did not have goals for this measure in FY 2000-FY 2002.

## Means and Strategies

The EM Program will use various means and strategies to achieve its program goals. However, various external factors may impact the ability to achieve these goals. The program also performs collaborative activities to help meet its goals.

The EM will continue to pursue the following means and strategies:

- Eliminate significant environmental, health and safety risks as soon as possible.
- Accelerated risk reduction and site closure are performed in concert with regulators and stakeholders to determine the most appropriate remediation schedules and approaches.
- Develop management systems that will force the establishment of clearly defined and demanding performance goals.
- Improve the acquisition approach by clearly identifying the work to be done and the Department's expectations, establishing proper incentives for its contracts, and adequately rewarding performance.
- Hold cleanup contractors to high safety standards; yet empower them to pursue the most direct path to success.
- Streamline EM program activities to focus on expedited legacy cleanup.
- Continue to revitalize human capital to accomplish the accelerated cleanup mission.
- Technology development and deployment will continue to directly address the specific, applied technology needs for cleanup and closure for the next five to ten years.

These means and strategies will result in significant cost savings and a significant reduction in the time needed to complete cleanup—putting the taxpayers' dollars to more productive use.

The following external factors could affect EM's ability to achieve its strategic goal:

- **Regulatory Requirements:** Compliance with environmental laws and regulations, agreements with states and federal regulators, and legal decisions drive the Department's cleanup approaches. Laws and regulations are subject to change, agreements with states require renegotiation, and legal decisions can alter strategic frameworks.
- **Cleanup Standards:** The end state for cleanup at certain sites is not fully determined. The extent of cleanup greatly affects cost, schedule and scope of work.
- **Technology:** Suitable cleanup technologies do not always currently exist, and the development and deployment of innovative technologies could help reduce risk, lower cost, and accelerate cleanup.
- **Uncertain Work Scope:** Uncertainties are inherent in the environmental cleanup program due to the complexity and nature of the work. There are uncertainties in our knowledge of the types of contaminants, their extent, and concentrations.
- **Commercially Available Options for Waste Disposal:** Accomplishment of accelerated risk reduction and site closure is dependent upon the continued availability of commercial options for mixed low level waste and low-level waste disposal.



In carrying out the program's accelerated cleanup and closure mission, EM performs a variety of collaborative activities:

- **Regulatory Compliance:** DOE negotiates and executes environmental compliance and cleanup agreements with the U.S. Environmental Protection Agency and state regulatory agencies, as appropriate. Key parameters such as required cleanup levels and milestones must be negotiated with the appropriate regulators and stakeholders for each site.
- **Defense Nuclear Facilities Safety Board:** EM works with the Defense Nuclear Facilities Safety Board to implement recommendations relating to activities at the Department's nuclear facilities affecting nuclear health and safety.
- **Environmental Management Advisory Board:** EM solicits advice and guidance from the EM Advisory Board on a wide variety of topics, with special emphasis on difficult corporate issues relative to accelerated-risk-based cleanup strategies.
- **EM Site Specific Advisory Boards:** EM solicits advice and guidance on site operations from nine Site Specific Advisory Boards across the EM complex.

## **Validation and Verification**

**To validate and verify program performance, EM will conduct various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the General Accounting Office, the Department's Inspector General, the Nuclear Regulatory Commission, the U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Engineering and Construction Management. Each year, the Office of Engineering and Construction Management conducts external independent reviews of selected projects. In addition, various Operations/Field Offices commission external independent reviews of site baselines or portions of both operating and construction project baselines. Additionally, EM Headquarters senior management and Field managers conduct quarterly, in-depth reviews of cost, schedule, and scope to ensure projects are on-track and within budget and Headquarters program offices conduct routine assessments of baseline performance.**

## **Program Assessment Rating Tool**

The Department implemented a tool to evaluate selected programs. The Program Assessment Rating Tool (PART) was developed by the Office of Management and Budget (OMB) to provide a standardized way to assess the effectiveness of the Federal Government's portfolio of programs. The structured framework of the PART provides a means through which programs can assess their activities differently than through traditional reviews.

The current focus is to establish outcome- and output-oriented goals, the successful completion of which will lead to benefits to the public, such as increased national security and energy security, and improved environmental conditions. DOE has incorporated feedback from OMB into the FY 2005 Budget Request, and the Department will take the necessary steps to continue to improve performance.

## **FY 2004 PART**

The EM program received a FY 2004 PART score of 49 (ineffective). Average or above scores of 80, 88, and 73 were received in the “Purpose,” “Planning,” and “Management” sections of the Program Assessment Rating Tool evaluation, respectively. The Office of Management and Budget’s assessment found that the program is generally effective in planning and managing cleanup activities. For the last section of the Program Assessment Rating Tool assessment, “Results/Accountability,” an unsatisfactory score of 20 was assigned due in large part to OMB’s position that a lack of annual cost and schedule performance measures makes it difficult for the EM program to demonstrate progress towards its program goal. In the FY 2004 Congressional Budget Request, EM acknowledged that the program needed to continue to improve upon the progress made to further develop project management techniques and associated cost and schedule performance measures.

## **FY 2005 PART**

EM made significant progress in the past year, which has enabled the program to receive a FY 2005 PART score of 61 (adequate), which is one rating level above the FY 2004 Program Assessment Rating Tool).

The Office of Management and Budget assigned scores in the “Purpose,” “Planning,” and “Management Sections” of 100, 80, and 100, respectively. The assessment found that EM’s managers are implementing reforms that are improving program performance. It was also determined that the EM program has been redesigned to focus on its cleanup mission. The score for the “Results/Accountability” section was 26, also an improvement versus the value previously assigned. OMB’s primary finding was that EM had not developed annual cost and schedule performance measures to monitor progress towards completing the EM mission. EM is taking steps to fully incorporate and address this finding. Based on site Performance Management Plans or accelerated cleanup strategies, the Assistant Secretary has either approved site resource-loaded baselines in FY 2003 or sites are well on the way to getting them approved in FY 2004. It is EM’s goal to have validated baselines for all of its sites approved by the Assistant Secretary and to develop annual cost and schedule measures by the end of FY 2004.

## **Significant Program Shifts**

The FY 2005 budget request reflects a number of shifts to other Departmental programs. The following activities, while important to overall DOE operations, are not closely aligned with the EM mission of accelerated risk reduction and site closure.

- Environmental Management staff at the Pacific Northwest National Laboratory have transferred to the Office of Science to facilitate the establishment of the Pacific Northwest Site Office.
- Environmental Management has transitioned support for desktop, e-mail, and related network Extended Common Integrated Environment services to the Office of the Chief Information Officer to align with Department corporate support.
- The Off-Site Source Recovery Program was transferred to the National Nuclear Security Administration. The Off-Site Source Recovery Program recovers Greater-Than-Class-C sealed sources from Nuclear Regulatory Commission licensees and stores the sources at the Los Alamos National Laboratory pending disposal. National Nuclear Security Administration will have total program responsibility including recovering, storing and, where available, disposing of these sources.

- Environmental Management has transitioned program responsibility for maintenance and operations of the Idaho National Laboratory Chemical Processing Plant-666 Facility and the non-legacy interim stored spent nuclear fuel to the Office of Civilian Radioactive Waste Management to support DOE mission activities. EM will continue to transfer EM-managed legacy fuel from the basin to dry storage.
- Program responsibility 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 is transitioned from the Office of Environmental Management to the Office of Civilian Radioactive Waste Management as the spent nuclear fuel stored at these facilities originated at commercial reactors and are not aligned with the EM mission of cleaning up the legacy of the Cold War.
- Environmental Management has transitioned responsibility for the Foreign Research Reactor Spent Nuclear Fuel Program to the Office of Civilian Radioactive Waste Management in order for the Department to consolidate functions related to the receipt and transportation of domestic and foreign research reactor spent nuclear fuel.
- The National Spent Nuclear Fuel Program was transferred to the Office of Civilian Radioactive Waste Management. This program is in direct support of the Office of Civilian Radioactive Waste Management's repository program.
- The Office of Environmental Management has transitioned the responsibility for records management support of Formerly Utilized Sites Remedial Action Program Considered Sites to the Office of Legacy Management. This is a realignment of responsibilities in accordance with the responsibilities of the new Office of Legacy Management.
- The Office of Environmental Management has transitioned the responsibility for cost liability and recovery review of claims brought by private parties under CERCLA where DOE is identified as a potentially responsible party to the Office of Legacy Management. This is a realignment of responsibilities in accordance with the responsibilities of the new Office of Legacy Management.
- Environmental Justice activities and the Massie Chairs of Excellence Program was transferred to the Office of Legacy Management. This is a realignment of responsibilities in accordance with the responsibilities of the new Office of Legacy Management.

## **Performance Measurement**

EM's 16 corporate performance enable the program to monitor annual and life-cycle progress towards meeting General Goal 6. EM's 16 corporate performance measures are:

1. Number of geographic sites closed;
2. Certified DOE storage/treatment/disposal 3013 containers (or equivalent) of plutonium metal or oxide packaged ready for long-term storage;
3. Certified containers of enriched uranium packaged ready for long-term storage;
4. Plutonium or uranium residues packaged for disposition (kg of bulk material);
5. Spent nuclear fuel packaged for final disposition (metric tons of heavy metal);
6. Depleted and other uranium packaged for disposition (metric tons).
7. Liquid waste eliminated (millions of gallons);
8. Number of liquid tanks closed;

9. Canisters of high-level waste packaged for final disposition;
10. Transuranic waste shipped for disposal at the Waste Isolation Pilot Plant (cubic meters);
11. Number of nuclear facilities completed;
12. Number of radioactive facilities completed;
13. Number of industrial facility completed;
14. Number of material access areas eliminated;
15. Low-level waste/mixed low-level waste disposed (cubic meters); and
16. Number of release sites remediated.

Each of EM's corporate performance measures is quantitative and focuses on the accomplishment of risk-reducing actions and life-cycle reduction. Each measure is tracked in the context of the total measure (life-cycle) necessary to complete each site as well as the EM program as a whole. The corporate measures are under strict configuration control, thereby establishing performance expectations and accountability for those expectations within a given target funding. Through strict configuration control, EM is able to make crucial corporate decisions that will keep the program on track, monitor and control costs, and manage site closure expectations. In addition to the corporate measures, performance is also tracked through the establishment of site- and project-specific milestones, which are used to demonstrate whether a project and site are on track to achieve agreed upon performance expectations.

### **Corporate Performance Measures - EM Program Totals<sup>a</sup>**

	FY 2003 Actual	FY 2004 Target	FY 2005 Target	Complete through FY 2005	Life-cycle Estimates <sup>b</sup>
Number of Plutonium Metal or Oxide Containers Packaged for Long-Term Storage.....	3,065	1,223	165	5,937	6,045
Number of Enriched Uranium Containers Packaged for Long-Term Storage.....	201	925	669	3,648	9,101
Amount of Plutonium or Uranium Residues Packaged for Disposition (kg bulk).....	1,140	49	44	107,752	107,752
Amount of Depleted and Other Uranium Packaged for Disposition (MT).....	4,551	0	0	7,651	742,149
Volume of Liquid Waste in Inventory Eliminated (Thousands of Gallons).....	0	1,300	1,900	3,200	88,000
Number of Liquid Waste Tanks Closed.....	0	9	9	20	241
Number of High-Level Waste Containers Packaged for Final Disposition.....	115	250	250	2,227	18,735
Amount of Spent Nuclear Fuel Packaged for Final Disposition (MTHM).....	807	633	1	2,080	2,420

<sup>a</sup>FY 2003 – FY 2005 annual results and targets, as well as life-cycle numbers, are under configuration control. In enforcing the Assistant Secretary's added emphasis on project management principles, EM's Configuration Control Board maintains strict configuration control of these numbers to ensure performance and accountability is firmly established and reported.

<sup>b</sup> Life-cycle estimates for release sites, facilities, and high-level waste containers include pre-1997 actuals. Quantities for all other performance measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begin in 1998.

	FY 2003 Actual	FY 2004 Target	FY 2005 Target	Complete through FY 2005	Life-cycle Estimates <sup>b</sup>
Volume of Transuranic Waste Shipped for Disposal at Waste Isolation Pilot Plant (m3) .....	6,361	12,952	13,318	40,351	141,314
Volume of Low-Level and Mixed Low-Level Waste Disposed (m3).....	118,362	89,070	84,635	576,273	1,155,650
Number of Material Access Areas Eliminated.....	0	1	1	8	14
Number of Nuclear Facility Completions.....	4	5	14	40	523
Number of Radioactive Facility Completions.....	24	45	57	250	804
Number of Industrial Facility Completions.....	107	104	152	873	2,430
Number of Geographic Sites Eliminated .....	1 <sup>a</sup>	0	2	78	114
Number of Remediation Completions (# of Release Sites).....	258	196	283	5,665	10,374

## Nuclear Materials

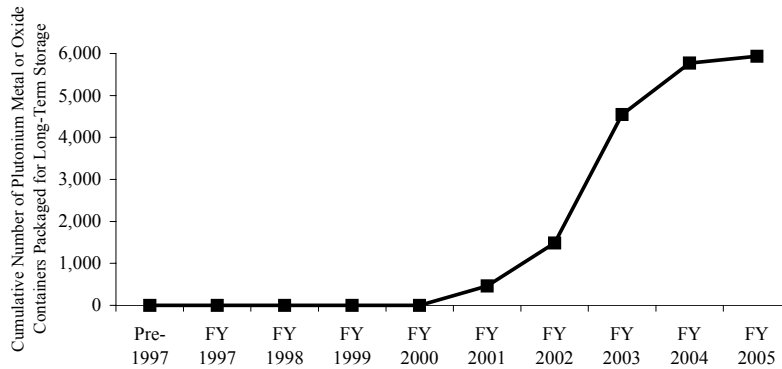
Reducing the inventory of high-risk nuclear materials by preparing it for long-term storage or disposition quantitatively measures EM's progress towards environmental, safety, and security risk reduction. The stabilization and packaging of nuclear materials indicates a reduction in an activity that is a major cost driver for the EM program. The following four corporate performance measures (and the identification of the sites which mainly contributes to each of the measures) are depicted below.

- Plutonium metal or oxide containers packaged for long-term storage (Hanford Site, Rocky Flats Site, and Savannah River Site);
- Enriched uranium containers packaged for long-term storage (Hanford Site, Savannah River Site, Idaho National Laboratory, and Oak Ridge Reservation);
- Plutonium or uranium residues packaged for disposition (Rocky Flats Site); and
- Depleted and other uranium packaged for disposition (Oak Ridge Reservation, Paducah, and Portsmouth).

<sup>a</sup> In FY 2003, EM completed the Maxey Flats Disposal Site in Kentucky. The Salmon Site in Mississippi, also targeted for site closure in FY 2003, was not completed. All remediation work is complete but is awaiting regulatory approval. DOE only considers a site complete when regulatory approval is received. The Salmon Site is expected to be completed in FY 2004. If completed as anticipated, the number of geographic sites eliminated through FY 2005 would be 79.

## Plutonium Metal or Oxide Progress

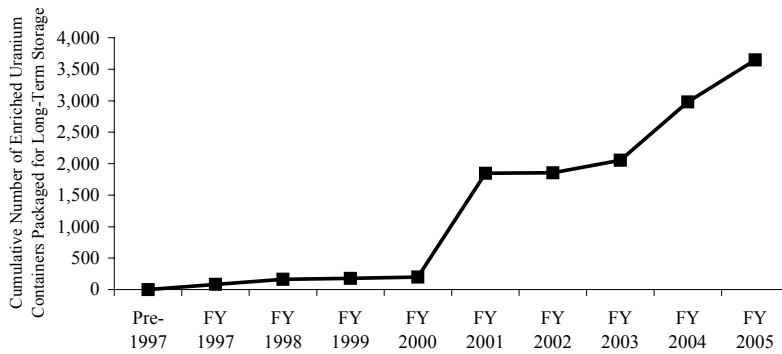
Budget Window Plutonium Metal or Oxide Containers Packaged for Long-Term Storage					
Pre-FY 2003	FY 2003	FY 2004	FY 2005	% Complete Through FY 2005	Life-cycle Total
1,484	3,065	1,223	165	98%	6,045



- Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

## Enriched Uranium Progress

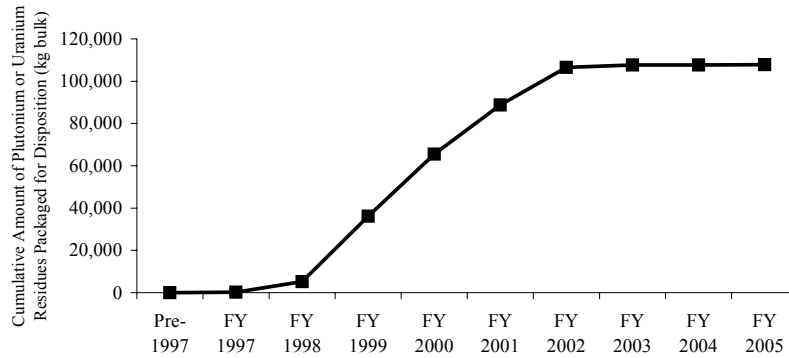
Budget Window Enriched Uranium Containers Packaged for Long-Term Storage					
Pre-FY 2003	FY 2003	FY 2004	FY 2005	% Complete Through FY 2005	Life-cycle Total
1,853	201	925	669	40%	9,101



- Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

## Plutonium or Uranium Residues Progress

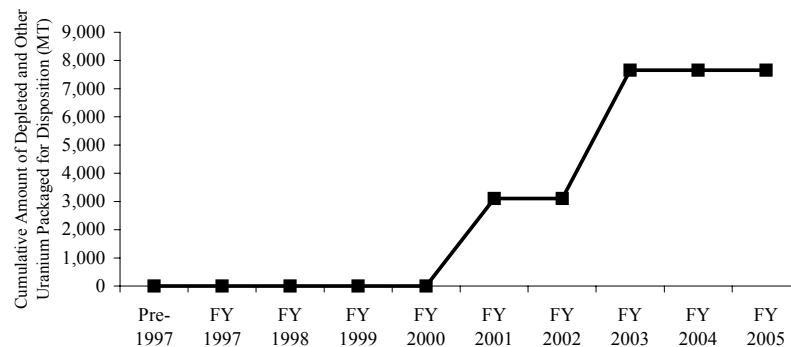
Budget Window Plutonium or Uranium Residues Packaged for Disposition (kg bulk)					
Pre-FY 2003	FY 2003	FY 2004	FY 2005	% Complete Through FY 2005	Life-cycle Total
106,519	1,140	49	44	100%	107,752



- Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

## Depleted and Other Uranium Progress

Budget Window Depleted and Other Uranium Packaged for Disposition (MT)					
Pre-FY 2003	FY 2003	FY 2004	FY 2005	% Complete Through FY 2005	Life-cycle Total
3,100	4,551	0	0	1%	742,149



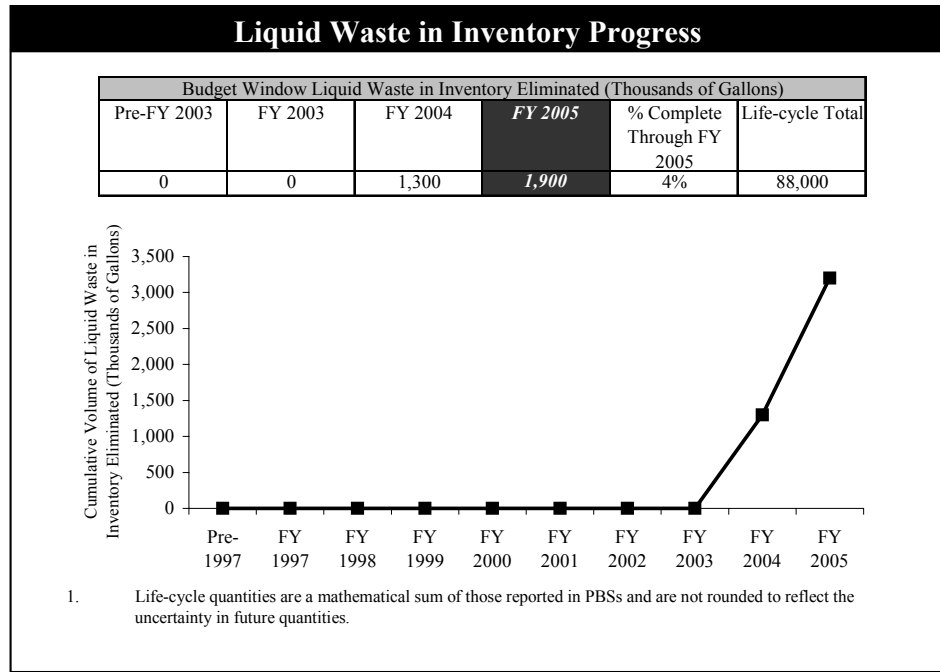
- Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

## Liquid Waste

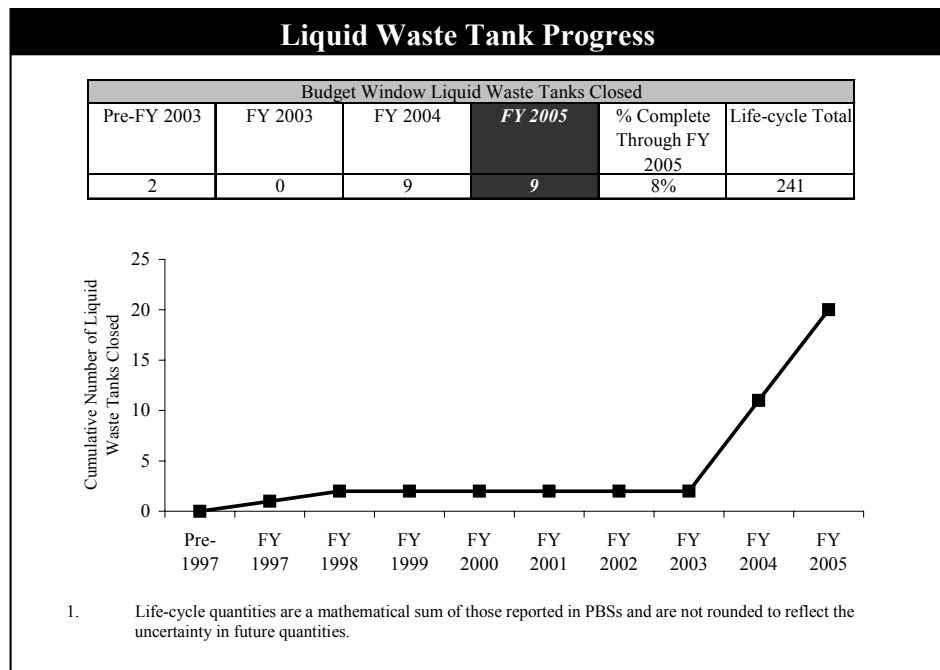
By reducing the amount of high risk radioactive liquid waste in inventory and subsequent closing of the liquid waste tanks, EM is demonstrating tangible evidence of the program's goal to accelerate reduction of the highest risks in the complex and site cleanup. In addition to eliminating high-risk material,

corresponding life-cycle cost reductions are achieved for an activity that is a major cost driver to the EM program. The following two corporate measures (and the identification of the sites which mainly contributes to each of the measures) are depicted below:

- Liquid waste in inventory eliminated (Hanford Site and Savannah River Site); and
- Liquid waste tanks closed (Hanford Site, Savannah River Site, and Idaho National Laboratory, and



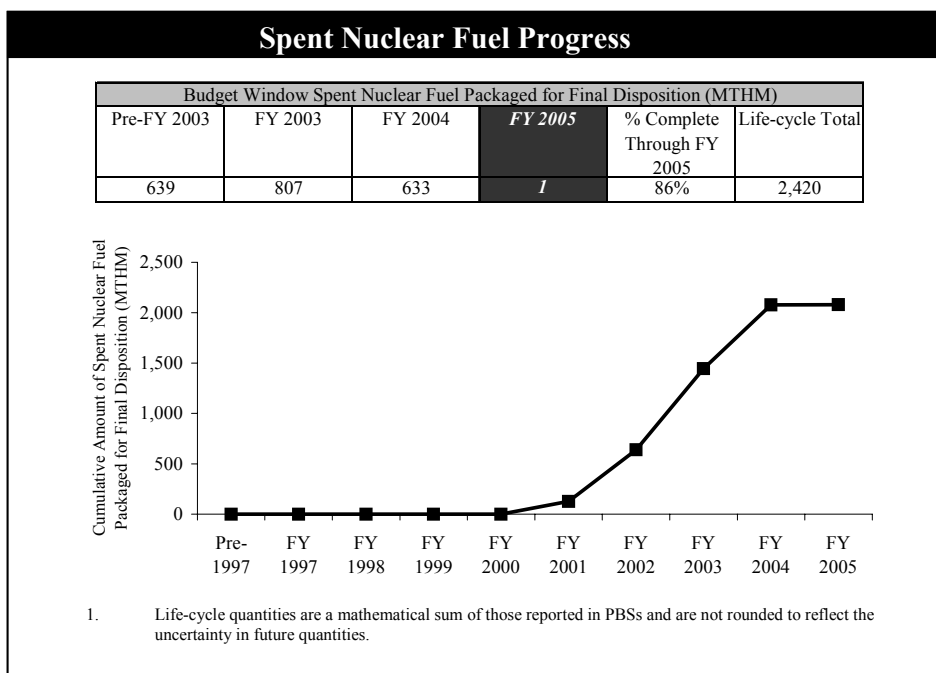
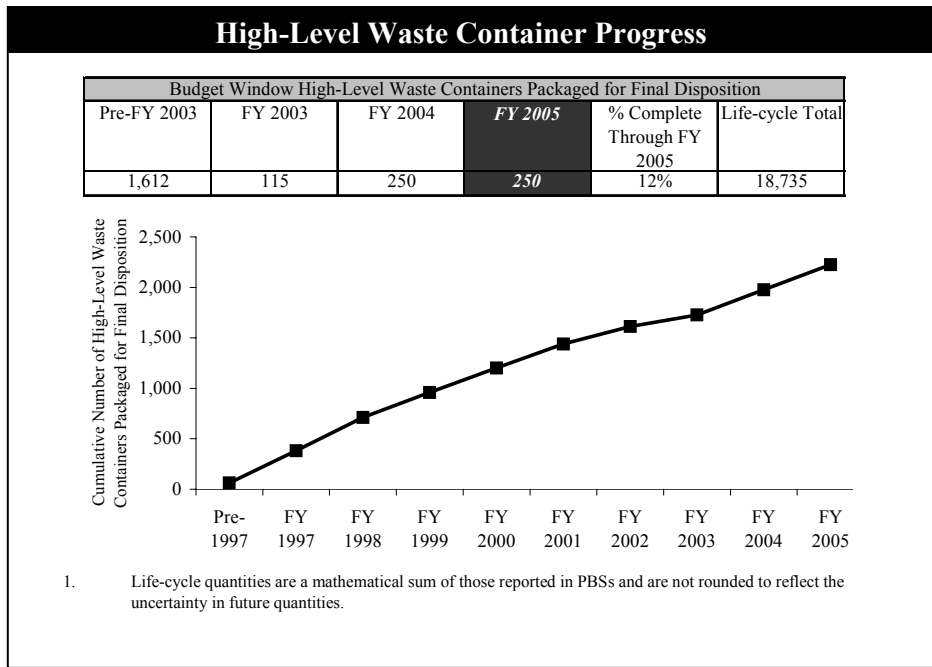
Oak Ridge Reservation).





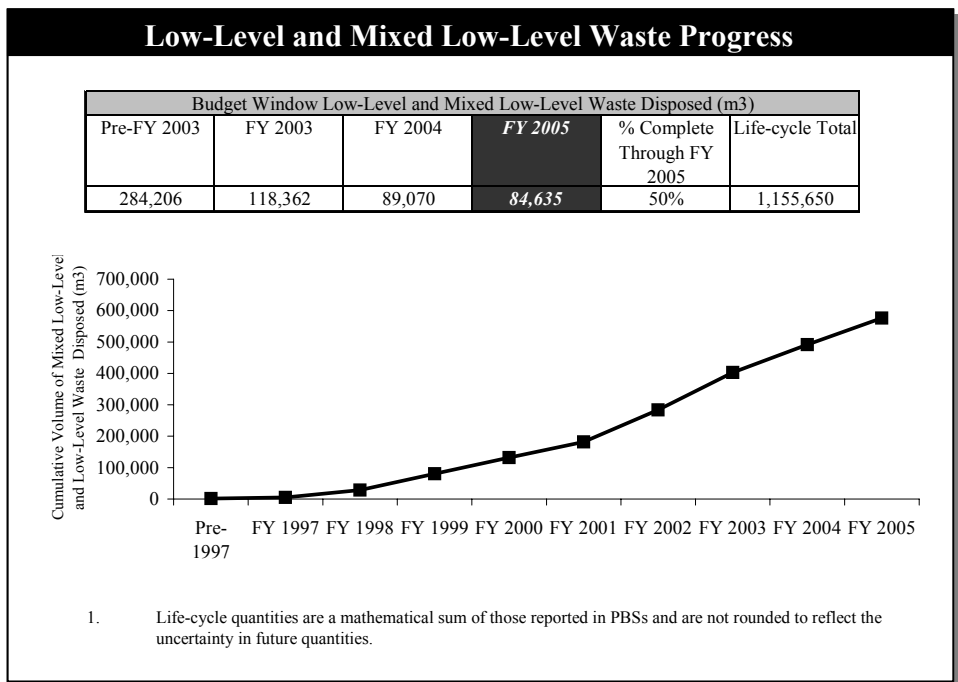
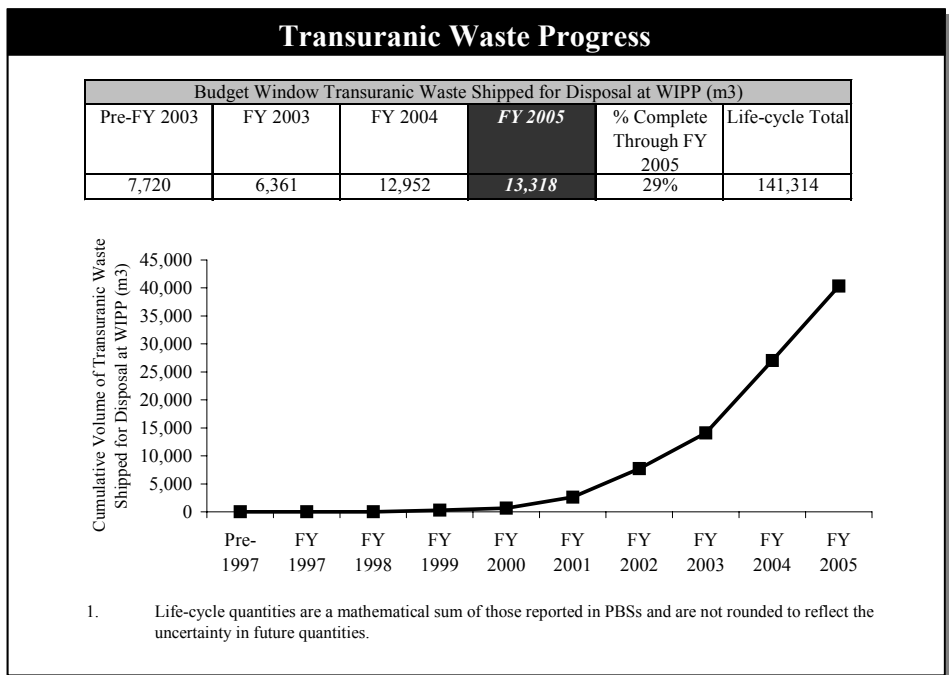
## High-Level Waste and Spent Nuclear Fuel

The EM program is preparing high-level waste and spent nuclear fuel for final disposition in order to ensure the material is ready for disposal in the federal geologic repository. Completion of high-level waste and spent nuclear fuel activities indicates the reduction of both high risk and cost incurring activities. The Hanford Site, Savannah River Site, and Idaho National Laboratory primarily contribute to both the high-level waste measure and the spent nuclear fuel measure. Both corporate performance measures are depicted below.

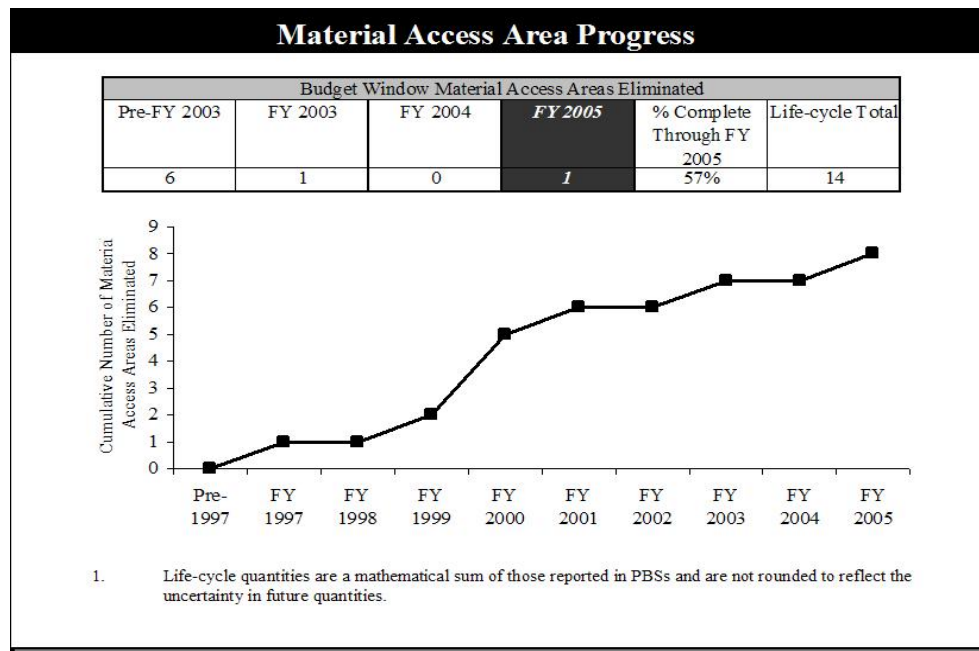


## Transuranic Waste and Low-Level/Mixed Low-Level Waste

The shipment of transuranic waste to the Waste Isolation Pilot Plant measures a site's progress towards accelerating cleanup and reducing risk. The Idaho National Laboratory, Savannah River Site, Rocky Flats Site, Los Alamos National Laboratory, and Hanford Site primarily contribute to the transuranic waste corporate measure. The disposal of low-level waste/mixed low-level waste reflects the intensity of cleanup activities at a site. A number of sites contribute to the low-level waste/mixed low-level waste measure. The two corporate measures portrayed below demonstrate progress towards EM's ultimate goal of site completion.



## Material Access Areas



The elimination of a Material Access Area indicates the completion of a segment of work, thus removing the need for safeguards and security in the area. This is an obvious indicator of a site's work towards reducing risk to workers, the public, and the environment. The Rocky Flats Site, Savannah River Site, Hanford Site, and Idaho National Laboratory contribute to this corporate measure, which is depicted below.

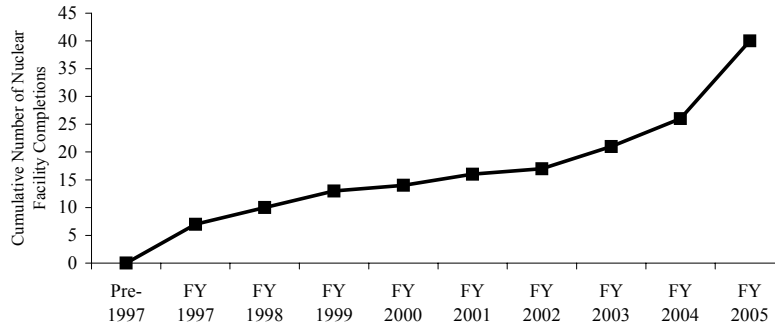
## Facility Completions

Three corporate performance measures (i.e., nuclear, radioactive, and industrial facilities) encompass facility completions; measured are the number of facilities that have reached their end state within the EM program. The endpoint corresponds to one of the following: decommissioning, deactivation, dismantlement, demolition, or responsibility for the facility is transferred to another program or owner. Facility completions are an excellent indicator of EM's progress towards site cleanup. Many sites contribute to facility completions, which are portrayed below.

- Nuclear facility completions;
- Radioactive facility completions; and
- Industrial facility completions.

## Nuclear Facility Progress

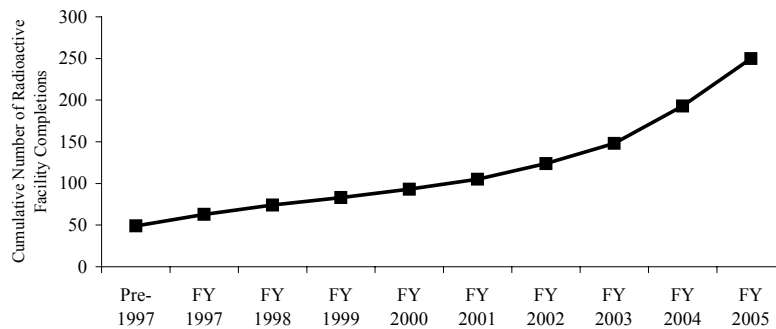
Budget Window Nuclear Facility Completions					
Pre-FY 2003	FY 2003	FY 2004	<i>FY 2005</i>	% Complete Through FY 2005	Life-cycle Total
17	4	5	<i>14</i>	8%	523



1. Pre-1997 actuals are included in life-cycle totals.
2. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

## Radioactive Facility Progress

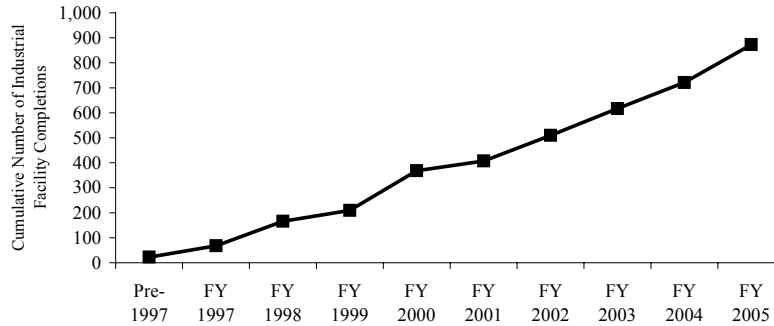
Budget Window Radioactive Facility Completions					
Pre-FY 2003	FY 2003	FY 2004	<i>FY 2005</i>	% Complete Through FY 2005	Life-cycle Total
124	24	45	<i>57</i>	31%	804



1. Pre-1997 actuals are included in life-cycle totals.
2. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

## Industrial Facility Progress

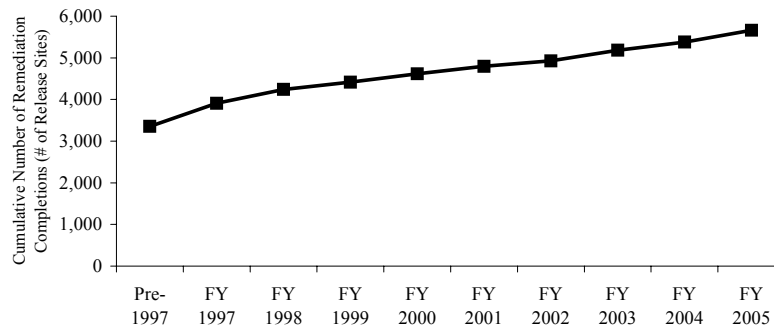
Budget Window Industrial Facility Completions					
Pre-FY 2003	FY 2003	FY 2004	<i>FY 2005</i>	% Complete Through FY 2005	Life-cycle Total
510	107	104	<i>152</i>	36%	2,430



1. Pre-1997 actuals are included in life-cycle totals.
2. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

## Remediation Completion Progress

Budget Window Remediation Completions (# of Release Sites)					
Pre-FY 2003	FY 2003	FY 2004	<i>FY 2005</i>	% Complete Through FY 2005	Life-cycle Total
4,928	258	196	<i>283</i>	55%	10,374

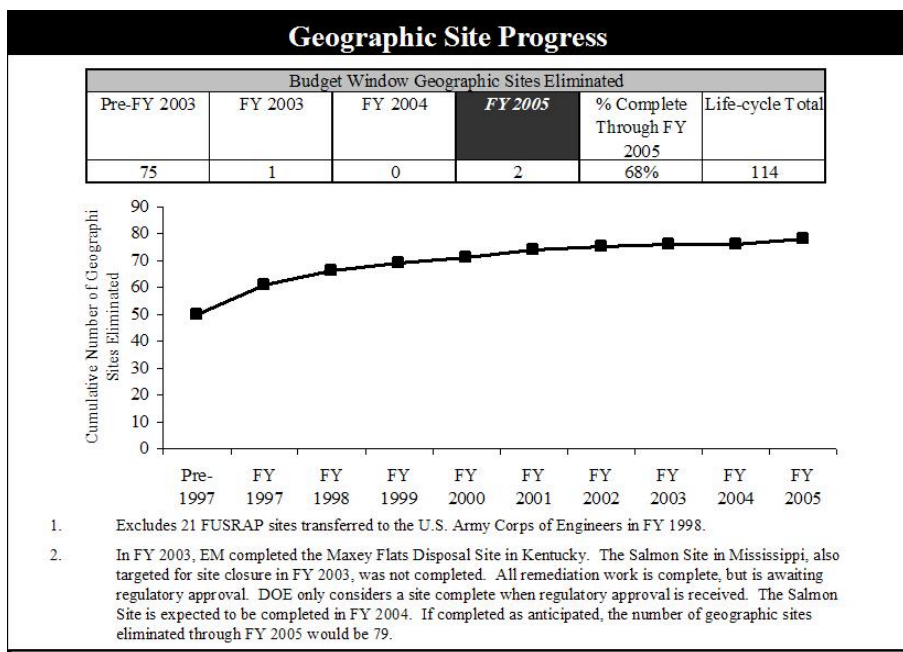


1. Pre-1997 actuals are included in life-cycle totals.
2. Life-cycle quantities are a mathematical sum of those reported in PBSs and are not rounded to reflect the uncertainty in future quantities.

## Geographic Sites and Remediation Completions

Completion of a geographic site best reflects EM's goal of accelerating cleanup and reducing risk. A geographic site in its entirety is considered complete when active remediation has been completed in accordance with the terms and conditions of cleanup agreements. Stewardship or non-EM activities may be on going after a site is completed. EM tracks cleanup responsibilities for 114 contaminated sites. In FY 2005, EM plans to complete two sites, Amchitka Island in Alaska and the Laboratory for Energy-Related Health Research in California.

In order to complete a geographic site (e.g., Fernald), EM must complete remediation of any release sites present at the site. The completion of release sites, discrete areas of contamination at a site, is a good indicator of a site's progress towards completions. All sites except for the Waste Isolation Pilot Plant contribute to this corporate measure. These two corporate performance measures are shown below.



## Environmental Management

### Funding by Site by Program

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Carlsbad Field Office</b>					
Carlsbad Field Office					
Defense Site Acceleration Completion: Safeguards and Security .....	3,262	3,441	4,105	+664	+19.3%
Defense Environmental Services: Community and Regulatory Support .....	29,058	22,290	23,340	+1,050	+4.7%
<b>Total, Carlsbad Field Office .....</b>	<b>32,320</b>	<b>25,731</b>	<b>27,445</b>	<b>+1,714</b>	<b>+6.7%</b>
Waste Isolation Pilot Plant					
Defense Site Acceleration Completion: 2035 Site Acceleration Completions .....	178,164	183,020	204,167	+21,147	+11.6%
<b>Total, Carlsbad Field Office .....</b>	<b>210,484</b>	<b>208,751</b>	<b>231,612</b>	<b>+22,861</b>	<b>+11.0%</b>
<b>Chicago Operations Office</b>					
Argonne National Laboratory-East					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	2,863	1,521	404	-1,117	-73.4%
Non-Defense Site Acceleration Completion: 2012 Accelerated Completions .....	521	343	397	+54	+15.7%
<b>Total, Argonne National Laboratory-East .....</b>	<b>3,384</b>	<b>1,864</b>	<b>801</b>	<b>-1,063</b>	<b>-57.0%</b>
Argonne National Laboratory-West					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	386	0	0	+0	+0.0%
Brookhaven National Laboratory					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	34,724	37,406	37,470	+128	+0.3%
Non-Defense Site Acceleration Completion: 2012 Accelerated Completions .....	1,166	1,302	5,734	+4,432	+340.4%
Non-Defense Environmental Services: Community and Regulatory Support .....	0	660	50	-610	-92.4%
<b>Total, Brookhaven National Laboratory .....</b>	<b>35,890</b>	<b>39,368</b>	<b>43,254</b>	<b>+3,886</b>	<b>+9.9%</b>
Princeton Plasma Physics Laboratory					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	0	124	0	-124	-100.0%
<b>Total, Chicago Operations Office .....</b>	<b>39,660</b>	<b>41,356</b>	<b>44,055</b>	<b>+2,699</b>	<b>+6.5%</b>
<b>Idaho Operations Office</b>					
Idaho National Laboratory					
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	473,288	509,162	415,178	-93,984	-18.5%
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	0	439	0	-439	-100.0%
Defense Environmental Services: Community and Regulatory Support .....	3,335	2,782	3,412	+630	+22.7%
<b>Total, Idaho National Laboratory .....</b>	<b>476,623</b>	<b>512,383</b>	<b>418,590</b>	<b>-93,793</b>	<b>-18.3%</b>

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Idaho Operations Office					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	8,086	0	0	0	0.0%
Total, Idaho Operations Office.....	484,709	512,383	418,590	-93,793	-18.3%
Oak Ridge Operations Office					
East Tennessee Technology Park					
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	2,741	5,184	6,677	+1,493	28.8%
Non-Defense Environmental Services: Non-Closure Environmental Activities .....	11,084	12,260	7,987	-4,273	-34.9%
Uranium Enrichment D&D Fund: D&D Activities ...	142,057	161,327	213,584	+52,257	+32.4%
Total, East Tennessee Technology Park .....	155,882	178,771	228,248	+49,447	+27.7%
Oak Ridge National Laboratory					
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	41,786	27,010	20,028	-6,482	-25.8%
Oak Ridge Reservation					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	97,974	123,157	111,768	-11,389	-9.2%
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	52,330	61,795	60,492	-1,303	-2.1%
Defense Site Acceleration Completion: Safeguards and Security .....	17,975	20,668	22,026	+1,358	+6.6%
Defense Environmental Services: Non-Closure Environmental Activities .....	15,678	16,582	18,709	+2,127	+12.8%
Defense Environmental Services: Community and Regulatory Support .....	3,934	3,936	3,970	+34	+0.9%
Uranium Enrichment D&D Fund: D&D Activities ...	1,414	1,426	1,466	+40	+2.8%
Total, Oak Ridge Reservation .....	189,305	227,564	218,431	-9,133	-4.0%
Y-12 Plant					
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	28,462	28,095	28,611	+516	+1.8%
Total, Oak Ridge Operations Office.....	415,435	461,440	495,318	+33,878	+7.3%
Paducah Gaseous Diffusion Plant					
Defense Site Acceleration Completion: Safeguards and Security .....	6,706	6,952	7,822	+870	+12.5%
Non-Defense Environmental Services: Non-Closure Environmental Activities .....	8,318	61,337	55,931	-5,406	-8.8%
Non-Defense Environmental Services: Community and Regulatory Support .....	0	331	0	-331	0.0%
Uranium Enrichment D&D Fund: D&D Activities ...	97,189	120,159	92,757	-27,402	-22.8%
Total, Paducah Gaseous Diffusion Plant.....	112,213	188,779	156,510	-32,269	-17.1%
Portsmouth Gaseous Diffusion Plant					
Defense Site Acceleration Completion: Safeguards and Security .....	16,976	16,021	16,138	+117	+0.7%
Non-Defense Environmental Services: Non-Closure Environmental Activities .....	106,607	198,223	181,205	-17,018	-8.6%
Uranium Enrichment D&D Fund: D&D Activities ...	64,007	80,416	91,779	+11,363	+14.1%
Total, Portsmouth Gaseous Diffusion Plant .....	187,590	294,660	289,122	-5,538	-1.9%



	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Ohio Field Office</b>					
Ashtabula					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	13,896	15,747	15,879	+132	+0.8%
Columbus					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	18,963	22,735	19,849	-2,886	-12.7%
Fernald					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	318,710	321,585	319,144	-2,441	-0.8%
Defense Site Acceleration Completion: Safeguards and Security .....	3,368	3,922	1,166	-2,756	-70.3%
Defense Environmental Services: Community and Regulatory Support .....	0	1,262	1,253	-9	-0.7%
Total, Fernald .....	322,078	326,769	321,563	-5,206	-1.6%
Miamisburg					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	101,931	93,307	97,243	+3,936	+4.2%
Defense Site Acceleration Completion: Safeguards and Security .....	1,448	3,870	528	-3,342	-86.4%
Defense Environmental Services: Community and Regulatory Support .....	0	1,112	1,487	+375	+33.7%
Total, Miamisburg .....	103,379	98,289	99,258	+969	+1.0%
West Valley					
Defense Site Acceleration Completion: Safeguards and Security .....	2,164	2,555	2,669	+114	+4.5%
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	3,571	0	0	0	+0.0%
Non-Defense Site Acceleration Completion: 2012 Accelerated Completions .....	90,677	99,160	73,000	-26,160	-26.4%
Total, West Valley .....	96,412	101,715	75,669	-26,046	-25.6%
Total, Ohio Field Office .....	554,728	565,255	532,218	-33,037	-5.8%
<b>Richland Operations Office</b>					
Hanford Site					
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	453,949	490,011	524,818	+34,807	+7.1%
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	263,475	323,057	385,616	+62,559	+19.4%
Defense Site Acceleration Completion: Safeguards and Security .....	46,725	55,057	54,740	-317	-0.6%
Non-Defense Environmental Services: Environmental Cleanup Projects .....	35,823	43,589	46,083	+2,494	+5.7%
Total, Hanford Site .....	799,972	911,714	1,011,257	+99,543	+10.9%
Richland Operations Office					
Defense Site Acceleration Completion: Safeguards and Security .....	1,640	6,897	1,989	-4,908	-71.2%
Defense Environmental Services: Community and Regulatory Support .....	15,140	11,278	13,759	+2,481	+22.0%
Total, Richland Operations Office .....	16,780	18,175	15,748	-2,427	-13.4%
Total, Richland Operations Office .....	816,752	929,889	1,027,005	+97,116	+10.4%

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Office of River Protection</b>					
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	690,000	686,036	690,000	+3,964	+0.6%
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	427,820	401,898	348,570	-53,328	-13.3%
<b>Total, Office of River Protection.....</b>	<b>1,117,820</b>	<b>1,087,934</b>	<b>1,038,570</b>	<b>-49,364</b>	<b>-4.5%</b>
<b>Rocky Flats Field Office</b>					
Rocky Flats Environmental Technology Site					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	624,707	620,825	642,516	+21,691	+3.5%
Defense Site Acceleration Completion: Safeguards and Security .....	44,783	28,382	16,588	-11,794	-41.6%
<b>Total, Rocky Flats Environmental Technology Site....</b>	<b>669,490</b>	<b>649,207</b>	<b>659,104</b>	<b>+9,897</b>	<b>+1.5%</b>
Rocky Flats Field Office					
Defense Environmental Services: Non-Closure Environmental Activities .....	130	2,466	2,300	-166	-6.7%
Defense Environmental Services: Community and Regulatory Support .....	2,979	2,795	3,050	+255	+9.1%
<b>Total, Rocky Flats Field Office .....</b>	<b>3,109</b>	<b>5,261</b>	<b>5,350</b>	<b>+89</b>	<b>+1.7%</b>
<b>Total, Rocky Flats Field Office.....</b>	<b>672,599</b>	<b>654,468</b>	<b>664,454</b>	<b>+9,986</b>	<b>+1.5%</b>
<b>Savannah River Operations Office</b>					
Savannah River Operations Office					
Defense Environmental Services: Non-Closure Environmental Activities .....	13,242	14,251	5,070	-9,181	-64.4%
Defense Environmental Services: Community and Regulatory Support .....	7,711	6,118	7,256	+1,138	+18.6%
<b>Total, Savannah River Operations Office.....</b>	<b>20,953</b>	<b>20,369</b>	<b>12,326</b>	<b>-8,043</b>	<b>-39.5%</b>
Savannah River Site					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	4,458	208	0	-208	-100.0%
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	369,452	362,273	369,636	+7,363	-2.0%
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	718,018	804,197	734,993	-69,204	-8.6%
Defense Site Acceleration Completion: Safeguards and Security .....	109,700	143,359	137,288	-6,071	-4.2%
<b>Total, Savannah River Operations Office.....</b>	<b>1,201,628</b>	<b>1,310,037</b>	<b>1,241,917</b>	<b>-68,090</b>	<b>-5.2%</b>
<b>Total, Savannah River Operations Office.....</b>	<b>1,222,581</b>	<b>1,330,406</b>	<b>1,254,243</b>	<b>-76,163</b>	<b>-5.7%</b>
<b>NNSA Service Center</b>					
Former Albuquerque Operations Office					
Defense Environmental Services: Non-Closure Environmental Activities .....	18,336	0	0	0	0.0%
Defense Environmental Services: Community and Regulatory Support .....	3,240	3,776	1,731	-2,045	-54.2%
<b>Total, Former Albuquerque Operations Office .....</b>	<b>21,576</b>	<b>3,776</b>	<b>1,731</b>	<b>-2,045</b>	<b>-54.2%</b>

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Los Alamos National Laboratory					
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	28,916	42,730	41,502	-1,228	-2.9%
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	71,453	70,890	79,692	+8,802	+12.4%
Non-Defense Site Acceleration Completion: 2035 Accelerated Completions .....	433	480	451	-29	-6.0%
Total, Los Alamos National Laboratory .....	100,802	114,100	121,645	+7,545	+6.6%
Sandia National Laboratories					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	23,918	21,804	20,246	-1,558	-7.1%
Pantex Plant					
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	14,991	21,133	24,521	+3,388	+16.0%
Kansas City Plant					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	2,257	2,066	3,506	+1,440	+69.7%
South Valley					
Defense Environmental Services: Non-Closure Environmental Activities .....	933	0	0	0	0.0%
Inhalation Toxicology Laboratory					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	1,065	476	491	+15	+3.2%
Former Nevada Operations Office					
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	7,259	5,287	5,014	-273	-5.2%
Defense Environmental Services: Community and Regulatory Support .....	2,307	5,460	1,229	-4,231	-77.5%
Total, Former Nevada Operations Office .....	9,566	10,747	6,243	-4,504	-41.9%
Nevada Test Site					
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	6,315	10,218	6,221	-3,997	-39.1%
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	69,195	60,632	74,157	+13,525	+22.3%
Total, Nevada Test Site .....	75,510	70,850	80,378	+9,528	+13.4%
Nevada Offsites					
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	5,215	8,439	6,783	-1,656	-19.6%
Former Oakland Operations Office					
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	378	458	486	+28	+6.1%
Defense Environmental Services: Community and Regulatory Support .....	252	51	60	+9	+17.6%
Non-Defense Site Acceleration Completion: 2012 Accelerated Completions .....	523	57	60	+3	+5.3%
Non-Defense Environmental Services: Community and Regulatory Support .....	20	39	40	+1	+2.6%
Total, Former Oakland Operations Office .....	1,173	605	646	+41	+6.8%

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Lawrence Livermore National Laboratory					
Defense Site Acceleration Completion: 2006 Accelerated Completions .....	19,137	17,584	21,648	+4,064	-23.1%
Defense Site Acceleration Completion: 2012 Accelerated Completions .....	10,253	10,338	11,110	+772	+7.5%
Total, Lawrence Livermore National Laboratory .....	29,390	27,922	32,758	+4,836	+17.3%
Lawrence Berkeley National Laboratory					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	3,134	3,228	4,070	+842	+26.1%
Laboratory for Energy-Related Health Research					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	4,049	3,273	500	-2,773	-84.7%
Energy Technology Engineering Center					
Non-Defense Site Acceleration Completion: 2012 Accelerated Completions .....	16,436	18,217	19,000	+783	+4.3%
General Atomics					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	1,575	0	0	0	0.0%
Stanford Linear Accelerator Center					
Non-Defense Site Acceleration Completion: 2006 Accelerated Completions .....	2,605	2,384	2,500	+116	+4.9%
Separations Process Research Unit					
Defense Site Acceleration Completion: 2035 Accelerated Completions .....	716	5,411	5,708	+297	+5.5%
Total, NNSA Service Center .....	314,911	314,431	330,726	+16,295	+5.2%
Technology Development					
Defense Site Acceleration Completion: Technology Development & Deployment .....	113,679	66,116	60,142	-5,974	-9.0%
Program Direction					
Defense Environmental Services: Program Direction .....	279,723	276,510	271,059	-5,451	-2.0%
D&D Fund Deposit					
Defense Environmental Services: Federal Contribution to the Uranium Enrichment D&D Fund.....	432,731	449,333	463,000	+13,667	+3.0%
High-Level Waste Proposal					
Defense Site Acceleration Completion: High-Level Waste Proposal.....	0	0	350,000	+350,000	+100.0%
Washington Headquarters					
Headquarters					
Defense Environmental Services: Non-Closure Environmental Activities .....	120,412	77,024	75,688	-1,336	-1.7%
Idaho National Laboratory					
Defense Environmental Services: Non-Closure Environmental Activities .....	63,132	55,277	10,617	-44,660	-80.8%
Savannah River Site					
Defense Environmental Services: Non-Closure Environmental Activities .....	19,093	14,429	11,337	-3,092	-21.4%

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Hanford Site					
Defense Environmental Services: Non-Closure Environmental Activities .....	0	3,429	3,498	+69	+2.0%
Lawrence Livermore National Laboratory					
Defense Environmental Services: Non-Closure Environmental Activities .....	20,891	20,395	22,000	+1,605	+7.9%
Y-12 Plant					
Defense Environmental Services: Non-Closure Environmental Activities .....	24,396	21,549	19,789	-1,760	-8.2%
Oak Ridge National Laboratory					
Defense Environmental Services: Non-Closure Environmental Activities .....	24,659	20,281	18,378	-1,903	-9.4%
Uranium/Thorium Reimbursements					
Uranium Enrichment D&D Fund .....	15,896	50,699	100,614	+49,915	+98.5%
Atlas, Moab					
Non-Defense Site Acceleration Completion: 2035 Accelerated Completions.....	3,856	4,440	7,773	+3,333	+75.1%
Grand Junction					
Defense Environmental Services: Non-Closure Environmental Activities .....	1,269	1,235	478	-757	-61.3%
River Protection					
Defense Environmental Services: Non-Closure Environmental Activities .....	5,017	0	0	0	0.0%
Total, Washington Headquarters.....	298,621	268,758	270,172	+1,414	+0.5%
Subtotal, Environmental Management .....	7,274,236	7,650,469	7,896,796	+246,327	+3.2%
Less Use of Prior Year Balances (Defense).....	-21,928	-158,101	0	+158,101	+100.0%
Privatization Prior Year Rescission .....	0	-15,329	0	+15,329	+100.0%
Safeguards and Security Charge for Reimbursable Work .....	-122	-121	-143	-22	-18.2%
UE D&D Fund Deposit (Offset) .....	-432,731	-449,333	-463,000	-13,667	-3.0%
Less Use of Prior Year Balances (Non-Defense).....	-11,455	-20,000	0	+20,000	+100.0%
Total, Environmental Management.....	6,808,000	7,007,585	7,433,653	426,068	+6.1%

## **Site Descriptions**

### **Argonne National Laboratory-East**

The Argonne National Laboratory-East is a research laboratory occupying a 700-acre tract of land located approximately 22 miles southwest of downtown Chicago in DuPage County, Illinois. The Argonne National Laboratory-East is operated by the University of Chicago under the direction of the Chicago Operations Office. The site is an Office of Science multi-disciplinary research and development laboratory that conducts basic and applied research to support the development of energy-related technologies. Historic operations at Argonne focused on reactor research that led to the construction and operation of several reactors.

Contamination of groundwater, sediments, and soils has occurred at the Argonne National Laboratory-East as a result of past laboratory operations and spills. The EM mission at Argonne involves the cleanup of contaminated soils and remedial actions to reduce risk to human health and the environment in compliance with the corrective action requirements of the Resource Conservation and Recovery Act Part B Permit issued by the Illinois Environmental Protection Agency in 1997. In addition, the EM mission includes the decontamination and decommissioning of several surplus reactor facilities, and the disposal of transuranic waste.

The EM end-state for Argonne National Laboratory-East will be reached when all the corrective actions have been implemented and accepted by the regulators (expected in FY 2004), the transuranic waste has been disposed, and the remaining surplus reactor facilities in the EM program have been decontaminated and decommissioned (expected in FY 2009). Continuing operation and maintenance activities will be transferred to the Office of Science, the landlord organization, whose mission will be ongoing after EM mission completion.

### **Argonne National Laboratory-West**

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

Past operations of the Experimental Breeder Reactor II and associated facilities at Argonne National Laboratory-West have resulted in contaminated surface soils and sediments. The EM mission at Argonne National Laboratory-West involves remediation activities at Waste Area Group 9.

The EM end-state for Argonne National Laboratory-West is the completion of phytoremediation operation and maintenance activities, and verification sampling in FY 2003, with regulator approval expected in FY 2004. The continuing tasks of monitoring and maintaining restricted areas, and enforcing institutional controls are expected to be transferred to the landlord program, the Office of Nuclear Energy, after FY 2004.

## **Ashtabula Closure Project**

The Ashtabula Closure Project site, located in Ashtabula, Ohio, is owned and operated by the RMI Titanium Company. The site, originally 43 acres with 32 facilities, is contaminated with both radiological and hazardous materials resulting from previous metals extrusion operations for the DOE. The Ashtabula Closure Project requires decontamination and decommissioning of buildings and the remediation of contaminated soils and groundwater in conformance with a U.S. Nuclear Regulatory Commission decommissioning plan to allow unrestricted use of the site. Upon closure in FY 2006, or sooner, the site will be released back to RMI Titanium Company for unrestricted use.

## **Brookhaven National Laboratory**

The Brookhaven National Laboratory site is an Office of Science multi-purpose research and development laboratory located in central Suffolk County on Long Island, about 60 miles east of New York City. It is operated by Brookhaven Science Associates under the direction of the Chicago Operations Office. Brookhaven National Laboratory's current mission is to conduct fundamental research, including concept development, design, construction, and operation of large complex research facilities. These facilities are used for both basic and applied research in high energy and nuclear physics; in basic energy sciences emphasizing fundamental research on biological, chemical, and physical phenomena underlying energy related transfer, conversion and storage systems; in life sciences; and in nuclear medical applications.

Soil, groundwater, and surface water sediment were contaminated from past operations, resulting in the site being placed on the U.S. Environmental Protection Agency's National Priorities (Superfund) List in 1989. The EM mission at Brookhaven National Laboratory addresses the accelerated cleanup of these contaminated areas. The EM mission also includes the decontamination and decommissioning of several surplus nuclear reactor and non-reactor facilities, and the disposal of legacy waste.

The EM end-state for the Brookhaven National Laboratory is the construction and operation of 17 groundwater treatment systems, soil and Peconic River sediment cleanup, legacy waste disposal, and surplus nuclear facility decontamination and decommissioning (except for the High Flux Beam Reactor) by the end of FY 2005. Continuing activities such as groundwater monitoring and groundwater treatment system operations and maintenance would be underway and expected to transfer to the Office of Science, the landlord organization, in FY 2006. The decontamination and decommissioning of the High Flux Beam Reactor is expected to be completed by the end of FY 2008.

## **Columbus Closure Project**

The Columbus Closure Project is comprised of two geographic sites (King Avenue and West Jefferson) located in and near Columbus, Ohio. Research and development work was performed at these facilities for DOE and its predecessor's agencies. The 14 affected buildings and grounds are privately-owned by Battelle Memorial Institute. The Columbus Closure Project consists of 15 radioactively contaminated facilities and two release sites, of which 12 facility clean ups were completed by the end of FY 2001. The original scope of decontamination activities at King Avenue has been completed.

## **Energy Technology Engineering Center**

The Energy Technology Engineering Center is located approximately 30 miles north of Los Angeles, California between the populous Simi and San Fernando Valleys. The facility occupies 90 acres of the Santa Susana Field Laboratory, which is owned and operated by Boeing North American Incorporated. The site was opened in the 1950s and supported research for DOE and its predecessor agencies in nuclear research and energy development projects. The cleanup of the site involves the remediation of contaminated groundwater, decontamination and decommissioning of several radiological facilities, deactivation and clean up existing sodium facilities, and the characterization and off-site disposal of radiological and hazardous waste. Upon completion of cleanup in FY 2007, the land and existing facilities will be returned to the Boeing Company.

## **Fernald**

The Fernald Closure Project site encompasses approximately 1,050 acres, located 17 miles northwest of Cincinnati, Ohio. High purity uranium metal products were produced at Fernald for DOE and its predecessor agencies from 1951 to 1989. Thorium was also processed, on a smaller scale. Uranium processing operations at Fernald were limited to a fenced, 136 acre tract known as the Production Area. In November 1989, the Environmental Protection Agency placed the Fernald site on the National Priorities List, and in April 1990, DOE and the U.S. and Ohio Environmental Protection Agencies entered into a Consent Agreement (since amended) for site remediation. Clean up of contaminated facilities, soils, groundwater and waste pits and disposition of waste in three silos will be accomplished by 2006. The planned end state for the Fernald Site is an undeveloped park. To that end, an Institutional Control Plan is being developed with stakeholder input.

## **General Atomics**

The General Atomics site is privately owned and operated, and is located near San Diego, California. General Atomics has maintained and operated a Hot Cell Facility for over 30 years to conduct both government (including DOE) and commercially funded nuclear research and development programs. DOE cleanup efforts were focused on cleanup of the Hot Cell Facility and surrounding contaminated soils. The General Atomics Hot Cell cleanup project was comprised of two release sites, which were completed in FY 2000. The U.S. Nuclear Regulatory Commission and State of California approved an amendment to the General Atomics License to delete the reference to Hot Cell Facility area. The EM mission at General Atomics was completed in FY 2003 with the shipment of the irradiated fuel materials to the Idaho National Laboratory for interim storage. The site has been returned to General Atomics.



## **General Electric**

The General Electric site is a privately owned site located near Pleasanton, California. The Department's Environmental Management activities are focused on clean up of a High-Level Alpha Hot Cell that was constructed in 1958 for post-irradiation examination of uranium fuel and irradiated reactor components and a Glove Box, an emission spectrograph enclosure, installed in 1968 for emission spectrograph analysis of uranium. DOE is re-evaluating the requirements for the decontamination and decommissioning of this Hot Cell/Glovebox. Currently, DOE is proposing that EM complete the administrative closure of all the GE contracts related to the Hot Cell/Glovebox work. Closure of these contracts is scheduled for completion by the end of September 2006.

## **Hanford Site - Richland Operations Office**

The Richland Operations Office manages the Department's Hanford Site, except for the High-Level Waste Tank Farms, in Southeastern Washington State. The 1,465 square kilometer (560 square mile) site is bounded on the north by over 80 kilometers (50 miles) of the Columbia River, known as the Hanford Reach.

Hanford was established in secrecy during World War II to produce plutonium for the nation's nuclear weapons. Peak production years were reached in the 1960s when nine production reactors were in operation along the river. The last reactor to be decommissioned was the N-Reactor and its spent nuclear fuel in the K-Basins is now being relocated to higher ground in the central plateau, known as the 200 Area. The Plutonium Finishing Plant is one of the last production facilities that remains operational - but only to process and stabilize remaining plutonium materials. Research and development is conducted by Pacific Northwest National Laboratories in the 300 Area. Support facilities are located in the 1100 Area, most of which have been turned over to the local community. Soil and groundwater contamination has resulted from past operations, placing the site on the National Priorities (Superfund) List. The Hanford mission is now site cleanup and environmental restoration to protect the Columbia River. The cleanup is covered by commitments in a 1989 consent agreement, known as the Tri-Party Agreement, among DOE, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology.

## **Hanford Site - Office of River Protection**

In order to more effectively manage the River Protection Project and in response to Section 3139 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999, the Secretary of Energy established the Office of River Protection at the Hanford Site in the State of Washington. The Office of River Protection is responsible for the storage, retrieval, treatment, and immobilization, and disposal of tank waste and the operation, maintenance, engineering, and construction activities in the 200 Area tank farms. The 200 Area tank farms are located in the central plateau of the Hanford Site and are 7 miles south and 10 miles west of the Columbia River. They include 177 underground storage tanks (149 single-shell and 28 double shell) containing approximately 190 million curies in more than 53 million gallons of radioactive waste from past processing operations. Multi-year construction of the Waste Treatment and Immobilization Plant to process and immobilize the tank waste is ongoing. Waste treatment operations are scheduled to begin in 2011 and treatment of all tank waste will be completed by 2028. The Office of River Protection will manage the complex River Protection Project activities to ensure successful immobilization and disposal of radioactive liquid wastes and the ultimate protection of the Columbia River resources.

## **Idaho National Laboratory**

The Idaho National Laboratory, established as the National Reactor Testing Station in 1949, occupies 890 square miles in the Snake River Plain of Southeastern Idaho. They have constructed and operated fifty-two reactors over the years. The Laboratory has nine primary facilities as well as administrative, engineering, and research laboratories in Idaho Falls, approximately 50 miles east of the site. Other activities at the Laboratory over the last five decades include nuclear technology research, defense programs, engineering testing and operations to develop, demonstrate, and transfer advanced engineering technology and systems to private industry. These activities have resulted in an inventory of high-level, transuranic, mixed low-level and low-level wastes, which are being disposed in accordance with applicable laws and regulations. The Idaho National Laboratory is also responsible for storing and dispositioning approximately 250 metric tons of spent nuclear fuel from a number of sources, including the Navy, foreign and domestic research reactors, and some commercial reactors, along with Department of Energy owned fuel. In addition, the site is on the U.S. Environmental Protection Agency's National Priorities (Superfund) List, and environmental remediation activities are required at ten Waste Area Groups encompassing 100 operable units, including Naval Reactors Facility (8) and Argonne National Laboratory-West (4).

## **Kansas City Plant**

The Kansas City Plant is part of a Federal complex located 12 miles south of downtown Kansas City, Missouri. It is managed by the National Nuclear Security Administration, Kansas City Site Office. The plant was originally built for aircraft engine production during World War II, and during the 1950's it was acquired by the Atomic Energy Commission for production of non-nuclear components for nuclear weapons, which resulted in the contamination of the soils and groundwater with hazardous waste. In FY 1993, the Department consolidated the production of non-nuclear components for nuclear weapons at the Kansas City Plant, which will continue.

The EM mission includes 43 release sites, 42 of which have been completed. Remaining EM scope includes completion of the final release site following regulator approval of a remedy, mitigation of polychlorinated biphenyl releases from the storm water discharge system, and operation and maintenance of groundwater treatment systems. The EM mission is scheduled to be complete in FY 2006 after the final release site (95<sup>th</sup> Terrace) is complete. Institutional controls and groundwater treatment and monitoring will continue indefinitely under the responsibility of the landlord (National Nuclear Security Administration) beginning in FY 2007.

## **Laboratory for Energy-Related Health Research**

The Laboratory for Energy-Related Health Research site is a 15-acre site located at the University of California at Davis, California. Research at the Laboratory focused on the health effects from chronic exposure to radionuclides, i.e. Strontium-90 and Radium 226, using animal subjects to simulate radiation effects on humans. The Department terminated the research program and closed the Laboratory in 1988. Those areas of the site contaminated by the DOE-sponsored research are being cleaned up. This involves the remediation of contaminated soil, the removal and disposal of waste material, the decontamination of several buildings, and the removal and cleanup of dog pens, septic systems, treatment systems, and trenches. The cleanup activities are to be completed in FY 2005. The cleaned areas and facilities will remain a part of the University of California-Davis for continued use in research and teaching.

## **Lawrence Berkeley National Laboratory**

The Lawrence Berkeley National Laboratory is operated by the DOE Office of Science and managed under contract by the University of California. The 200-acre Lawrence Berkeley National Laboratory site is located adjacent to the University of California in Berkeley. The Laboratory is a multipurpose research facility where the Office of Science continues to have an on-going operating DOE mission. Activities conducted at Lawrence Berkeley National Laboratory have included nuclear and high-energy physics, accelerator development; materials research, biomedical research; and research in chemistry, earth sciences, and molecular biology. In the course of performing DOE missions, a number of chemicals were used or produced as wastes during the Laboratory's 62-year operation. These chemicals include volatile organic compounds, fuels, waste oils, polychlorinated biphenyls, Freon, metals acids, and lead and chromate-based paints. Additionally, radionuclides, primarily tritium, have also been used or generated as waste at Lawrence Berkeley National Laboratory. The EM program mission at Lawrence Berkeley National Laboratory is to investigate and clean up the past releases of hazardous and radioactive waste in the soil and groundwater. The waste management activities provide compliant storage, treatment, and off-site disposal of both legacy and currently generated hazardous and radioactive waste. The responsibility for the newly generated waste management activities was transferred to the Office of Science, the landlord organization, FY 2001. EM mission completion is scheduled at the end of FY 2006 and long-term remedial actions are to transfer to the Office of Science, the site landlord, in FY 2007.

## **Lawrence Livermore National Laboratory**

The Lawrence Livermore National Laboratory is a multi-disciplinary research and development laboratory with a DOE mission focused on national defense. Lawrence Livermore National Laboratory consists of two non-contiguous geographic locations in northern California. The Lawrence Livermore National Laboratory-Livermore Site is approximately one square mile and is located 40 miles east of San Francisco, near the City of Livermore. Lawrence Livermore National Laboratory-Site 300 is comprised of about 11 square miles and is located 15 miles southeast of the Livermore Site. Both the Livermore Site and Site 300 are on the Environmental Protection Agency's National Priorities List. Environmental restoration activities at the Lawrence Livermore National Laboratory sites are directed at controlling contaminated groundwater migration; and identifying and effectively remediating soil and groundwater where contaminants (volatile organic compounds) exceed regulatory limits. The Livermore Site is considered one operable unit and Site 300 has eight operable units. Waste management activities are directed at compliant storage, treatment, and off-site shipment for disposal of both legacy and newly generated hazardous and radioactive waste. EM mission completion for the Livermore site is scheduled by the end of FY 2006 and at Site 300 by the end of FY 2008; at which time, responsibility for long-term remedial actions will be transferred to the National Nuclear Security Administration, the landlord program.

## **Los Alamos National Laboratory**

The Los Alamos National Laboratory is managed by the National Nuclear Security Administration, Los Alamos Site Office, and encompasses over 43 square miles in northern New Mexico. It is divided into 47 technical areas that are used for scientific sites, experimental areas, waste disposal locations, roads and utilities, and safety and security buffers. Los Alamos National Laboratory and its subcontractors employ approximately 13,000 people. Radiological, hazardous and high explosive wastes have contaminated the soils and groundwater as a result of the development and production of nuclear weapons, beginning during World War II. Major programs today include applied research in nuclear and

conventional weapons development, nuclear fission and fusion, nuclear safeguards and security, and environmental and energy research.

The primary legacy waste management activities include storage, treatment, and disposal of transuranic and mixed low-level waste. All newly generated waste activities were transferred to the Office of Defense Programs in FY 1999. Within the currently defined EM scope for environmental restoration, there are approximately 1,800 release sites at Los Alamos National Laboratory requiring cleanup and/or regulatory closure. Under the accelerated cleanup plan legacy waste removal has been accelerated to 2010 and completion of cleanup corrective actions to 2015. After the EM mission is completed, environmental restoration sites will be transferred to the site landlord, the National Nuclear Security Administration.

### **Inhalation Toxicology Laboratory**

The Inhalation Toxicology Laboratory, managed by the DOE Office of Science, is located 10 miles south of Albuquerque, New Mexico. It occupies 135 acres within the boundaries of the 118 square mile Kirtland Air Force Base. The laboratory was established in 1960 to carry out research programs on the effects of airborne radioactive materials on human health. After the mid-70s the program was expanded to include the effects of other airborne chemicals on human health, and more basic research on biological response of the respiratory tract to inhaled materials. The Department's goal is to fully privatize work at Inhalation Toxicology Laboratory within 4-5 years.

Low-level radioactive materials, diesel oil products, and other chemicals from past research activities and disposal practices have contaminated the soil and groundwater. EM cleanup of the 9 contaminated release sites was completed in 1997. However, groundwater monitoring and cleanup and disposition of legacy waste, mostly low-level radioactive waste from inactive laboratory buildings, is continuing under the State of New Mexico's regulatory authority. EM mission at the site will be completed by 2009, and the site will be transferred to the Office of Science landlord, who will then be responsible for stewardship and monitoring activities through 2030 and the eventual decommissioning of the site.

### **Miamisburg**

The Miamisburg Closure Project encompasses the former Mound Plant, which is located on 306 acres in Miamisburg, Ohio, ten miles south of Dayton. The plant was built in the late 1940s to support research and development, testing, and production activities for the Department's defense nuclear weapons complex and energy research programs. The mission continued until 1994, when these activities were transferred to other DOE facilities. The mission involved production of components that contained tritium, plutonium, and other radioisotopes, and processing large quantities of high explosives. As a result of these past operations, the buildings, soil, and groundwater are contaminated with radioactive and hazardous chemicals. The site is on the National Priorities List and a Federal Facility Agreement to remediate the site has been negotiated with the Ohio and United States Environmental Protection Agencies.

The end-state for the Mound Plant site is to either demolish or transfer all buildings and land to the Miamisburg Mound Community Improvement Corporation, an agent for the City of Miamisburg, for economic development. Levels of residual contamination left on-site will be below industrial use standards.

## **Moab Site**

The Moab Site includes about eleven million tons of contaminated mill tailings, and mill debris, as well as contaminated ground water, and vicinity properties in Moab, Utah. It is being remediated in accordance with Title 1 of the Uranium Mill Tailings Radiation Control Act of 1978 (under the authority of the Floyd D Spence National Defense Authorization Act for Fiscal Year 2001).

## **Nevada Test Site and Off-Sites**

The National Nuclear Security Administration, Nevada Site Office manages the Nevada Test Site, which is located 65 miles northwest of the City of Las Vegas and encompasses 1,573 square miles, an area roughly one and one half times the size of Rhode Island. In December 1950, President Truman established the site as the Continental Test Site. The primary site mission has been, and continues to be, the testing of nuclear devices.

EM activities at the Nevada Test Site are widespread, geographically diverse, and are the result of 928 historical aboveground and below ground nuclear tests conducted there. In addition to surface cleanup, the regional groundwater model indicates a potential for migration of underground contaminants toward public receptors. The EM mission at the Nevada Test Site also includes safe storage and disposal of low-level radioactive wastes generated by DOE activities throughout the complex. Currently, 22 waste generators are permitted to dispose of low-level radioactive waste at the Nevada Test Site. Disposal at the Waste Isolation Pilot Plant of transuranic waste stored at the Nevada Test Site is scheduled to begin in FY 2004 and be completed in FY 2007. In addition, the Nevada Site Office is responsible for clean up of contaminated test sites at the Tonopah Test Range in Nevada and at nine contaminated off-site locations (one site completed) in five states (Alaska, Colorado, Mississippi, New Mexico, and Nevada). Following the completion of EM activities at the Nevada Test Site, responsibility for long-term surveillance and maintenance will be transferred to the National Nuclear Security Administration landlord. As EM activities are completed, responsibility for long-term surveillance and maintenance at offsite locations will be transferred to the Office of Legacy Management.

## **Oak Ridge Reservation**

The Oak Ridge Reservation encompasses about 37,000 acres in east Tennessee and is comprised of three facilities: the East Tennessee Technology Park; the Oak Ridge National Laboratory; and the Y-12 Plant. These facilities are described in detail below. In addition, there are some private properties that are not located on the Oak Ridge Reservation (the Atomic City Auto Parts Site and the David Witherspoon Sites) that are being cleaned up under the auspices of Oak Ridge.

### **Oak Ridge - East Tennessee Technology Park**

The East Tennessee Technology Park site occupies 1,500 acres adjacent to the Clinch River, approximately 13 miles west of Oak Ridge, Tennessee. It was originally built as an uranium enrichment facility using uranium hexafluoride for Defense Programs. The majority of the 125 major buildings on the site have been inactive since uranium enrichment production ceased in 1985. Environmental Management is the current landlord. The site will be closed by 2008 as part of the Accelerated Cleanup Plan. Much of the Oak Ridge legacy Low-level waste is stored at the East Tennessee Technology Park and will be dispositioned by 2005. The Toxic Substances Control Act Incinerator is located here and will continue to treat waste for the DOE complex until 2006. At closure the site will be available as an industrial park. Some of the facilities and buildings may be transitioned to the private sector as part of the Accelerated Cleanup Project through the reindustrialization program if there is timely private interest.

## **Oak Ridge National Laboratory**

Activities carried out at the 3,300-acre Oak Ridge National Laboratory historically have supported both the defense production operations and civilian energy research effort. This group of facilities requires cleanup resulting from a variety of research and development activities, which were supported by multiple DOE programs over a long period of time. The Oak Ridge National Laboratory currently conducts applied and basic research in energy technologies and the physical and life sciences. Clean up includes environmental remediation, decontamination and decommissioning of radioactively-contaminated facilities, and disposition of legacy low, mixed low-level, and transuranic waste. When EM has completed its activities, Oak Ridge National Laboratory will continue its research and development activities. Melton Valley will be a permanent waste management area.

## **Oak Ridge - Y-12**

The Y-12 site is approximately 811 acres and is located about two miles southwest of Oak Ridge, Tennessee. The Y-12 site originally was a uranium processing facility and now dismantles nuclear weapons components and serves as one of the nation's store houses for special nuclear materials. The Y-12 site has 15 operable units within three areas; Chestnut Ridge, Upper East Fork of Poplar Creek, and Bear Creek Valley. The types of contamination include radioactive, hazardous, and mixed wastes. The West End Treatment Facility treats organic liquid waste produced by National Nuclear Security Administration activities. The sanitary landfills for all of the Oak Ridge Reservation are located at Y-12. The Environmental Management Waste Management Facility, the CERCLA disposal facility supporting the Accelerated Cleanup is located in Bear Creek Valley of Y-12 area. When EM has completed its activities, Y-12 will continue its national security mission. Portions of Y-12 will be a permanent waste management areas.

## **Paducah Gaseous Diffusion Plant**

The Paducah Gaseous Diffusion Plant, located just outside Paducah, Kentucky, is owned by DOE. The plant, which occupies about 750 acres of the approximately 3600-acre site, began operations in the mid-1950s to supply enriched uranium to meet both Government and commercial nuclear fuel needs. The United States Enrichment Corporation leases facilities at the site for commercial uranium enrichment purposes. In accordance with a June 2002 Memorandum of Agreement with DOE, the Paducah Gaseous Diffusion Plant will continue operations at least until advanced uranium enrichment technology is successfully deployed. The EM mission at the site includes environmental cleanup, facility decontamination and decommissioning, and waste management; management of depleted uranium hexafluoride, including the construction of a facility on site to convert the hexafluoride to an oxide suitable for further disposition; and maintenance of non-leased buildings and grounds. The security aspect of the mission includes physical protection of government employees, property, classified and unclassified information through use of protective forces and physical security instrumentation, information security, cyber security, personnel security, material control and accountability, and program management. Ultimately, DOE will be responsible for the decontamination and decommissioning of the Paducah Gaseous Diffusion Plant once United States Enrichment Corporation has no further need for the facilities.

## **Pantex Plant**

The National Nuclear Security Administration, Pantex Site Office, manages the Pantex Plant, a 10,500-acre site, located approximately 17 miles northeast of Amarillo, Texas. Pantex was established in 1942 to build conventional munitions during World War II. In 1945, the Atomic Energy Commission reclaimed the Plant to assemble nuclear weapons. Pantex continues with an active mission to support the nuclear weapons stockpile for the DOE National Nuclear Security Administration. Historical waste management operations at the Pantex Plant contaminated soils and portions of the upper or perched aquifer. Consequently, in 1994, the Plant was placed on the U.S. Environmental Protection Agency's National Priority List (Superfund) of contaminated waste sites. EM is conducting accelerated cleanup actions at the Pantex Plant to remediate the contamination and protect the underlying Ogallala Aquifer. The visions and priorities have been agreed upon between DOE and the regulatory agencies for completing the cleanup in fiscal year 2008, six years earlier than the original estimate. In fiscal year 2009, long-term environmental stewardship (e.g., ground water monitoring) will transfer to the site landlord, the National Nuclear Security Administration.

## **Portsmouth Gaseous Diffusion Plant**

The Portsmouth Gaseous Diffusion Plant, which occupies a 3,700-acre site located in Piketon, Ohio (approximately 22 miles north of Portsmouth and 75 miles south of Columbus), is owned by DOE. The United States Enrichment Corporation leases facilities at the site for commercial operations. United States Enrichment Corporation ceased enrichment operations at Portsmouth in June 2001, and DOE placed the facility in cold standby condition, capable of being restarted within 18 to 24 months to produce 3 million separative work units of enriched uranium. The EM mission at Portsmouth includes environmental cleanup, facility decontamination and decommissioning, waste management; management of depleted uranium hexafluoride, including construction of a facility on site to convert the hexafluoride to an oxide suitable for further disposition; completion of the highly-enriched uranium shutdown and removal program; and maintenance of non-leased buildings and grounds. The security aspect of the mission includes physical protection of government employees, property, classified and unclassified information through use of protective forces and physical security instrumentation, information security, cyber security, personnel security, material control and accountability, and program management.

## **Rocky Flats**

The Rocky Flats Environmental Technology Site is located about 10 miles northwest of Denver, Colorado, on about 11 square miles at the base of the Rocky Mountains. The Atomic Energy Commission in 1951 established the Rocky Flats Plant with a mission to manufacture nuclear weapons components from materials such as plutonium, beryllium, and uranium. When operations ceased, large amounts of plutonium, plutonium compounds, and metallic residues remained at the various site facilities. Significant volumes of hazardous and radioactive waste generated during production operations were also present throughout numerous buildings and soil was contaminated, resulting in the site being placed on the National Priorities List. In 1991, EM acquired the Rocky Flats Plant and the site transitioned to a new mission: cleaning up the contamination and waste from past production activities. It was at this time that the Rocky Flats Plant became the Rocky Flats Environmental Technology Site. By 2006, all site facilities will be demolished; all waste removed and contamination reduced to acceptable levels. The site will then become a National Wildlife Refuge.

## **Sandia National Laboratories-New Mexico**

The Sandia National Laboratories, New Mexico, comprises 2,820 acres within the boundaries of the 118 square mile Kirtland Air Force Base, and is located 6.5 miles east of downtown Albuquerque and is managed by the National Nuclear Security Administration. Sandia National Laboratories was established in 1945 for nuclear weapons development, testing, and assembly for the Manhattan Engineering District and this mission continued under the AEC and DOE. Beginning in 1980, the mission shifted toward research and development for non-nuclear components of nuclear weapons. Subsequently, the mission was expanded to research and development on nuclear safeguards and security, and multiple areas in science and technology.

The National Nuclear Security Administration assumed responsibility for management of newly generated waste about 5 years ago. Soil and minor groundwater contamination by radioactive and hazardous materials resulted from past research, development, and testing operations. EM activities are conducted under Resource Conservation and Recovery Act authority administered by the State of New Mexico. The EM cleanup of over 260 release sites with contaminated soil and water will be completed in FY 2006, and the release sites will be transferred to the National Nuclear Security Administration landlord who will then be responsible for the long-term stewardship and monitoring activities.

## **Savannah River Site**

The Savannah River Operations Office manages this complex which covers 310 square miles encompassing parts of Aiken, Barnwell, and Allendale counties in South Carolina, bordering the Savannah River. The Savannah River Site was completed by the mid-1950s to produce and reprocess nuclear materials for the manufacture of military weapons.

The Savannah River Site now has 13 separate areas. They include: five isotope production areas, which are permanently shutdown; heavy water processing facilities; two radiochemical reprocessing facilities (with one scheduled to begin deactivation in 2004); waste management facilities, including tank farm areas and the Defense Waste Processing Facility for vitrifying high-level waste; administrative offices, laboratories and technical shops. The site also has facilities which support research and development associated with spent nuclear materials processing; and low level waste disposal, reactor fuels, and solid waste disposal areas. The current mission of the site includes nuclear facility operations, applied research, waste management, nuclear materials and spent nuclear fuel stabilization and management, facility decontamination, deactivation and decommissioning, and environmental restoration. A major aspect of the site operations is stabilizing liquid high-level waste stored in tanks through vitrification at the Defense Waste Processing Facility and associated tank closures, and stabilization of nuclear materials in a chemical processing canyon. Due to past operations and disposal practices, the Savannah River Site was placed on the National Priorities List in 1989. The end-state goal is to maintain federal institutional control of the site for an extended period of time to provide continual assurance that the public health and safety will be fully protected.

## **Separations Process Research Unit**

The Separations Process Research Unit located in Schenectady, New York, as part of the Knolls Atomic Power Laboratory, is an inactive complex that requires facility decontamination and decommissioning and environmental cleanup. The Separations Process Research Unit facilities were originally a small-scale pilot plant utilized to further develop and research the process to separate Plutonium and Uranium from irradiated fuel. The facility was built in 1949 and operated from 1950 to 1953. This facility was operated under the direction of the U. S. Atomic Energy Commission. The property is currently under



the cognizance of the Office of Naval Reactors, Schenectady Naval Reactors Field Office. The Separations Process Research Unit facilities consist of the main buildings Building G2 and H2, the tank vaults, and small support structures and land areas. Cleanup and release 90% of the potentially impacted Separations Process Research Unit land areas will be complete in 2007. The radioactive sludge in the Tank Vaults is to be removed by 2010. The waste generated from this effort, which is expected to be transuranic, will be shipped to the Waste Isolation Pilot Plant in 2011. Demolition of the Separations Process Research Unit buildings and the tank vaults and cleanup of the remaining 10% land areas will be completed in 2014.

### **South Valley Superfund Site**

The Department is a Potentially Responsible Party under CERCLA at the South Valley Site in Albuquerque, New Mexico, which is currently owned by General Electric. The one square mile site, located approximately 2 miles west of Kirtland Air Force Base, was formerly a metal working plant associated with weapons production. Currently, General Electric is conducting groundwater monitoring and groundwater remediation system operation and maintenance activities at the site. The Government has prepaid its share of remediation costs through calendar year 2003. An extension of the settlement agreement to cover several subsequent years is being negotiated between the Department of Justice and General Electric. The Department's share will continue to be paid by the Judgment Fund. The State of New Mexico filed a suit against the U.S. Government and other parties for natural resource damages resulting from contamination of groundwater; however, the case against the U.S. Government has been dismissed. The lawsuit continues against the Department's contractor and others. DOE has liability for the contractor's legal costs and any judgments against the contractor.

### **Stanford Linear Accelerator Center**

The Stanford Linear Accelerator Center site is a 426-acre site located near Stanford University in California where theoretical research in high-energy particle physics is conducted. The site was established in 1962 and is managed by Stanford University for the Department of Energy. During past facility operations and waste management activities, the site was contaminated with volatile organic compounds, polychlorinated biphenyls, petroleum hydrocarbons, lead, and other metals. The Office of Environmental Management is currently cleaning up these contaminants which principally involves remediating contaminated soil and groundwater, and the removal of old PCB transformers, underground storage tanks, and other materials. Cleanup of site contamination is to be completed in Fiscal Year 2007, at which time the cleaned areas will be returned to the Office of Science, the landlord organization, for site research and scientific use. Responsibility for waste management operations was transferred to the Office of Science in FY 1998.

### **Waste Isolation Pilot Plant**

The Waste Isolation Pilot Plant is comprised of surface support buildings, a waste-handling building, four shafts, and the mined underground operations area. The facility is designed for deep geological disposal of defense-generated transuranic waste resulting from nuclear weapons production, dismantlement, and site cleanup. The repository is located in southeastern New Mexico near Carlsbad, 2,150 feet (655 meters) underground in bedded salt. The bedded salt where transuranic waste is being disposed has been stable for over 225 million years and, through extensive computer modeling and experiments, the DOE has successfully demonstrated to the Environmental Protection Agency that the salt will remain stable for at least the next 10,000 years. On March 26, 1999, the Waste Isolation Pilot

Plant received its first shipment of non-mixed contact-handled transuranic waste from the Los Alamos National Laboratory.

## **West Valley**

The West Valley Demonstration Project is located at the Western New York Nuclear Service Center near West Valley, New York, 35 miles south of Buffalo. The Center was developed by a private company to process commercial spent nuclear fuel to extract plutonium and uranium and operated from 1966 to 1972.

The West Valley Demonstration Project Act (Public Law 96-368) was enacted in 1980 and directed the DOE to carry out a high-level waste solidification demonstration project. The principal operation at West Valley thus far has been the solidification of liquid high-level waste into borosilicate glass using vitrification. With vitrification treatment operations complete, the Project has transitioned into its next major phase which is decontamination, shipment of project-generated waste off-site for disposal, and decommissioning. A Remote-Handled Waste Facility has been constructed which will allow project personnel to remotely size, reduce, sort, characterize, and package the project's high activity waste in preparation for off-site shipment and disposal. Following site decontamination and waste shipment activities, DOE will pursue final decommissioning and project completion, which will be implemented consistent with an Environmental Impact Statement for Decommissioning and/or Long-term Stewardship which is currently under development.

# **ANCILLARY TABLES**



## Funding Summary by Office

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Comparable Appropriation	FY 2005 Request
Carlsbad .....	210,484	208,751	231,612
Chicago .....	39,660	41,356	44,055
Idaho .....	484,709	512,383	418,590
Oak Ridge.....	415,435	461,440	495,318
Paducah .....	112,213	188,779	156,510
Portsmouth .....	187,590	294,660	289,122
Ohio .....	554,728	565,255	532,218
Richland .....	816,752	929,889	1,027,005
Office of River Protection .....	1,117,820	1,087,934	1,038,570
Rocky Flats.....	672,599	654,468	664,454
Savannah River.....	1,222,581	1,330,406	1,254,243
Technology Development and Deployment ....	113,679	66,116	60,142
D&D Fund Deposit.....	432,731	449,333	463,000
Program Direction.....	279,723	276,510	271,059
Washington Headquarters .....	298,621	268,758	270,172
Kansas City Site Office .....	2,257	2,066	3,506
Livermore Site Office.....	29,390	27,922	32,758
Los Alamos Site Office.....	100,802	114,100	121,645
Nevada Site Office.....	90,291	90,036	93,404
NNSA Service Center .....	77,180	59,174	54,892
Pantex Site Office.....	14,991	21,133	24,521
High-Level Waste Proposal .....	0	0	350,000
Subtotal, Environmental Management .....	7,259,245	7,629,336	7,522,275
Offsets.....	-466,236	-642,884	-463,143
Total, Environmental Management .....	-449,425	7,007,585	7,433,653

## Environmental Management Federal Staffing

(Full-Time Equivalents)

	FY 2003 Comparable Appropriation	FY 2004 Comparable Appropriation	FY 2005 Request
Carlsbad.....	48	50	50
Chicago.....	44	20	20
Idaho.....	71	66	63
Oak Ridge .....	132	118	100
Portsmouth/Paducah.....	19	34	34
Ohio .....	174	179	55
Richland.....	300	290	254
River Protection .....	117	116	107
Rocky Flats .....	159	156	5
Savannah River .....	397	403	373
NNSA Service Center:			
Albuquerque.....	45	36	33
Nevada .....	34	34	34
Oakland .....	54	55	55
Subtotal, Field Offices .....	1,594	1,557	1,183
Headquarters .....	349	345	345
Consolidated Business Center .....	0	0	127
<b>Total, Full-Time Equivalents.....</b>	<b>1,943</b>	<b>1,902</b>	<b>1,655</b>

## Completion Dates and Life Cycle Costs of Remaining Cleanup Sites

Site	Completion Date (Calendar Year)	Life-Cycle Cost (Thousands of Current-Year Dollars) <sup>a</sup>
Laboratory for Energy-Related Health Research.....	2005	40,577
Amchitka Site .....	2005	-- <sup>b</sup>
Rocky Flats Environmental Technology Site .....	2006	9,297,868
Fernald.....	2006	3,553,013
Miamisburg.....	2006	1,503,413
Columbus .....	2006	163,259
Ashtabula .....	2006	156,923
Sandia National Laboratories – New Mexico.....	2006	230,721
Kansas City Plant.....	2006	28,660
Lawrence Berkeley National Laboratory .....	2006	33,758
Stanford Linear Accelerator Center .....	2006	20,599
Lawrence Livermore National Laboratory-Livermore Site/Site 300 .....	2006/2008	514,673
Energy Technology Engineering Center .....	2007	204,976
Brookhaven National Laboratory .....	2008	373,359
Pantex Plant .....	2008	192,291
Argonne National Laboratory-East .....	2009	63,221
Central Nevada Test Area .....	2010	-- <sup>b</sup>
Project Shoal Area .....	2010	-- <sup>b</sup>
Rio Blanco Site.....	2010	-- <sup>b</sup>
Atlas Site (Moab) .....	2011	186,034
Rulison Site .....	2012	-- <sup>b</sup>
West Valley .....	2012	1,366,841
Separations Process Research Unit .....	2014	245,815
Gasbuggy Site.....	2014	-- <sup>b</sup>
Gnome-Coach Site.....	2014	-- <sup>b</sup>
General Electric Vallecitos Nuclear Center <sup>c</sup> .....	2014	0
Los Alamos National Laboratory .....	2015	1,529,522
Oak Ridge Reservation .....	2015	7,351,982
Savannah River Site .....	2025	28,643,636
Portsmouth Gaseous Diffusion Plant .....	2025	6,258,959
Tonopah Test Range Area.....	2027	-- <sup>b</sup>
Nevada Test Site .....	2027	2,317,170 <sup>b</sup>
Paducah Gaseous Diffusion Plant .....	2030	4,694,101
Hanford Site (incl. River Protection).....	2035	56,184,732

<sup>a</sup> Comparable (in current year dollars) to the FY 2003 environmental liability estimates, on which the Department's FY 2003 financial statements are based. Financial statements are reported in constant dollars.

<sup>b</sup> Nevada off-sites life-cycle costs cannot be credibly separated from, and are included in, the Nevada Test Site life-cycle cost estimate of \$2,317,170.

<sup>c</sup> Life-cycle cost estimate assumes the Department no longer has cleanup obligations at the site.

Site	Completion Date (Calendar Year)	Life-Cycle Cost (Thousands of Current-Year Dollars) <sup>a</sup>
Idaho National Laboratory .....	2035	14,415,224
Waste Isolation Pilot Plant .....	2035	6,278,763
Completed and Other Sites .....	-----	1,077,276,830 <sup>d</sup>
Sites Total .....		146,927,920
Other .....	-----	11,520,380 <sup>e</sup>
Total .....		<u>158,448,300</u>

<sup>d</sup> Includes life-cycle costs for sites completed prior to FY 2005, as well as life-cycle costs for various field activities that cannot be credibly allocated to their respective sites.

<sup>e</sup> Includes life-cycle costs for technology development & deployment, decontamination and decommissioning contributions and offsets, program direction, and headquarters activities.



## Funding by Site

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Carlsbad Field Office</b>					
Carlsbad Field Office.....	32,320	25,731	27,445	+1,714	+6.7%
Waste Isolation Pilot Plant .....	178,164	183,020	204,167	+21,147	+11.6%
<b>Total, Carlsbad Field Office .....</b>	<b>210,484</b>	<b>208,751</b>	<b>231,612</b>	<b>+22,861</b>	<b>11.0%</b>
<b>Chicago Operations Office</b>					
Argonne National Laboratory-East.....	3,384	1,864	801	-1,063	-57.0%
Argonne National Laboratory-West.....	386	0	0	0	0.0%
Brookhaven National Laboratory .....	35,890	39,368	43,254	+3,886	+9.9%
Princeton Plasma Physics Laboratory .....	0	124	0	-124	-100.0%
<b>Total, Chicago Operations Office .....</b>	<b>39,660</b>	<b>41,356</b>	<b>44,055</b>	<b>+2,699</b>	<b>+6.5%</b>
<b>Idaho Operations Office</b>					
Idaho National Laboratory .....	476,623	512,383	418,590	-93,793	-18.3%
Idaho Operations Office .....	8,086	0	0	0	0.0%
<b>Total, Idaho Operations Office .....</b>	<b>484,709</b>	<b>512,383</b>	<b>418,590</b>	<b>-93,793</b>	<b>-18.3%</b>
<b>Oak Ridge Operations Office</b>					
East Tennessee Technology Park .....	155,882	178,771	228,248	+49,477	+27.7%
Oak Ridge National Laboratory .....	41,786	27,010	20,028	-6,982	-25.8%
Oak Ridge Reservation.....	189,305	227,564	218,431	-9,133	-4.0%
Y-12 Plant.....	28,462	28,095	28,611	+516	+1.8%
<b>Total, Oak Ridge Operations Office.....</b>	<b>415,435</b>	<b>461,440</b>	<b>495,318</b>	<b>+33,878</b>	<b>+7.3%</b>
Paducah Gaseous Diffusion Plant .....	112,213	188,779	156,510	-32,269	-17.1%
Portsmouth Gaseous Diffusion Plant .....	187,590	294,660	289,122	-5,538	-1.9%
<b>Ohio Field Office</b>					
Ashtabula .....	13,896	15,747	15,879	+132	+0.8%
Columbus .....	18,963	22,735	19,849	-2,886	-12.7%
Fernald .....	322,078	326,769	321,563	-5,206	-1.6%
Miamisburg .....	103,379	98,289	99,258	+969	+1.0%
West Valley.....	96,412	101,715	75,669	-26,046	-25.6%
<b>Total, Ohio Field Office.....</b>	<b>554,728</b>	<b>565,255</b>	<b>532,218</b>	<b>-33,037</b>	<b>-5.8%</b>
<b>Richland Operations Office</b>					
Hanford Site.....	799,972	911,714	1,011,257	+99,543	+10.9%
Richland Operations Office .....	16,780	18,175	15,748	-2,427	-13.3%
<b>Total, Richland Operations Office.....</b>	<b>816,752</b>	<b>929,889</b>	<b>1,027,005</b>	<b>+97,116</b>	<b>+10.4%</b>
Office of River Protection.....	1,117,820	1,087,934	1,038,570	-49,364	-4.5%

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Rocky Flats Field Office</b>					
Rocky Flats Environmental Technology Site.....	669,490	649,207	659,104	+9,897	+1.5%
Rocky Flats Field Office.....	3,109	5,261	5,350	+89	+1.7%
<b>Total, Rocky Flats Field Office .....</b>	<b>672,599</b>	<b>654,468</b>	<b>664,454</b>	<b>+9,986</b>	<b>+1.5%</b>
<b>Savannah River Operations Office</b>					
Savannah River Operations Office.....	20,953	20,369	12,326	-8,043	-39.5%
Savannah River Site.....	1,201,628	1,310,037	1,241,917	-68,120	-5.2%
<b>Total, Savannah River Operations Office.....</b>	<b>1,222,581</b>	<b>1,330,406</b>	<b>1,254,243</b>	<b>-76,163</b>	<b>-5.7%</b>
Kansas City Plant .....	2,257	2,066	3,506	+1,440	+69.7%
Livermore Site Office .....	29,390	27,922	32,758	+4,836	+17.3%
Los Alamos Site Office.....	100,802	114,100	121,645	+7,545	+6.6%
<b>Nevada Site Office</b>					
Nevada Offsites .....	14,781	19,186	13,026	-6,160	-32.1%
Nevada Test Site.....	75,510	70,850	80,378	+9,528	+13.4%
<b>Total, Nevada Site Office.....</b>	<b>90,291</b>	<b>90,036</b>	<b>93,404</b>	<b>+3,368</b>	<b>+3.7%</b>
<b>NNSA Service Center</b>					
Energy Technology Engineering Center.....	16,436	18,217	19,000	+783	+4.3%
General Atomics .....	1,575	0	0	0	0.0%
Inhalation Toxicology Laboratory .....	1,065	476	491	+15	+3.2%
Laboratory for Energy-Related Health Research ...	4,049	3,273	500	-2,773	-84.7%
Lawrence Berkeley National Laboratory .....	3,134	3,228	4,070	+842	+26.1%
NNSA Service Center .....	22,749	4,381	2,377	-2,004	-45.7%
Separations Process Research Unit .....	716	5,411	5,708	+297	+5.5%
South Valley .....	933	0	0	0	0.0%
Stanford Linear Accelerator Center.....	2,605	2,384	2,500	+116	+4.9%
<b>Total, NNSA Service Center.....</b>	<b>53,262</b>	<b>37,370</b>	<b>34,646</b>	<b>-2,724</b>	<b>-7.3%</b>
Pantex Site Office.....	14,991	21,133	24,521	+3,388	+16.0%
Sandia Site Office.....	23,918	21,804	20,246	-1,558	-7.1%
High-Level Waste Proposal .....	0	0	350,000	+350,000	+100.0%
Technology Development.....	113,679	66,116	60,142	-5,974	-9.0%
Program Direction .....	279,723	276,510	271,059	-5,451	-2.0%
D&D Fund Deposit.....	432,731	449,333	463,000	+13,667	+3.0%
<b>Washington Headquarters</b>					
Atlas Site.....	3,856	4,440	7,773	+3,333	+75.1%
Grand Junction.....	1,269	1,235	478	-757	-61.3%

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Hanford Site.....	0	3,429	3,498	+69	+2.0%
Headquarters .....	136,308	127,723	176,302	+48,579	+38.0%
Idaho National Laboratory .....	63,132	55,277	10,617	-44,660	-80.8%
Oak Ridge National Laboratory .....	24,659	20,281	18,378	-1,903	-9.4%
Lawrence Livermore National Laboratory .....	20,891	20,395	22,000	+1,605	+7.9%
River Protection .....	5,017	0	0	0	0.0%
Savannah River Site.....	19,093	14,429	11,337	-3,092	-21.4%
Y-12 Plant.....	24,396	21,549	19,789	-1,760	-8.2%
Total, Washington Headquarters .....	298,621	268,758	270,172	+1,414	+5.0%
Subtotal, Environmental Management .....	7,274,236	7,650,469	7,896,796	+246,327	+3.2%
Less Use of Prior Year Balances (Defense) .....	-21,928	-158,101	0	+158,101	+100.0%
Privatization Prior Year Rescission .....	0	-15,329	0	+15,329	+100.0%
Safeguards and Security Charge for Reimbursable Work (Defense) .....	-122	-121	-143	-22	-18.2%
UE D&D Fund Deposit (Offset).....	-432,731	-449,333	-463,000	-13,667	-3.0%
Less Use of Prior Year Balances (Non-Defense).....	-11,455	-20,000	0	+20,000	+100.0%
Total, Environmental Management .....	6,808,000	7,007,585	7,433,653	+426,068	+6.1%

## EM Corporate Performance Measures <sup>a b</sup> Totals by Site <sup>c d</sup>

	Pre - FY 2003	FY 2003 Actuals	FY 2004 Targets	FY 2005 Targets	Life-cycle Estimates
<b>Carlsbad</b>					
Waste Isolation Pilot Plant					
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
<b>Chicago</b>					
Ames Laboratory					
Geographic Sites Eliminated (# of sites).....	1	-	-	-	1
Argonne National Laboratory – East					
Radioactive Facility Completions (# of facilities).....	63	-	-	-	78
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	439	4	-	-	443
Argonne National Laboratory – West					
Geographic Sites Eliminated (# of sites).....	1	-	-	-	1
Remediation Complete (# of release sites).....	37	-	-	-	37
Brookhaven National Laboratory					
Radioactive Facility Completions (# of facilities).....	3	-	1	6	10
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	68	-	-	8	76
Chicago Operations Office					
Low-Level and Mixed Low-Level Waste disposed (cubic meters).....	537	-	-	-	537
Geographic Sites Eliminated (# of sites).....	3	-	-	-	3
Remediation Complete (# of release sites).....	30	-	-	-	30
Fermi National Accelerator Laboratory					
Geographic Sites Eliminated (# of sites).....	1	-	-	-	1
Princeton Plasma Physics Laboratory					
Geographic Sites Eliminated (# of sites).....	1	-	-	-	1

<sup>a</sup> This chart provides a consistent set of performance measures for the Total EM program by Site. The project-level justification provides a description of significant activities for each project including performance measures and project-specific milestones, as applicable.

<sup>b</sup> Life-cycle estimates for release sites, facilities, and high-level waste containers include pre-1997 actuals. Quantities for all other measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begins in 1998.

<sup>c</sup> A site consists of groups of installations, for which EM may report Budget Authority separately yet report costs and performance measures collectively.

<sup>d</sup> FY 2003 – FY 2005 annual results and targets, as well as life-cycle numbers, are under configuration control. In enforcing the Assistant Secretary's added emphasis on project management principles, EM's Configuration Control Board maintains strict configuration control of these numbers to ensure performance and accountability is firmly established and reported.

Pre - FY 2003	FY 2003 Actuals	FY 2004 Targets	FY 2005 Targets	Life-cycle Estimates
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**Headquarters**

Grand Junction Office

Geographic Sites Eliminated (# of sites)..... 1 - - - 1

Idaho National Laboratory

Spent Nuclear Fuel packaged for final disposition  
(MTHM) ..... - - - - 253

Lawrence Livermore National Laboratory

Transuranic Waste shipped for disposal at WIPP  
(cubic meters) ..... - - 105 - 105

Low-Level and Mixed Low-Level Waste disposed  
(cubic meters) ..... 1,010 513 387 - 1,910

Oak Ridge Reservation

Low-Level and Mixed Low-Level Waste disposed  
(cubic meters) ..... 7,063 5,670 1,130 - 14,291

**Idaho**

Idaho National Laboratory

Enriched Uranium packaged for long-term storage (#  
of containers) ..... 205 55 313 34 1,029

Liquid Waste in Inventory eliminated (thousands of  
gallons) ..... - - - - 900

Liquid Waste Tanks closed (# of tanks) ..... - - 1 1 11

High-Level Waste packaged for final disposition (# of  
containers) ..... - - - - 4,200

Transuranic Waste shipped for disposal at WIPP  
(cubic meters) ..... 2,866 538 7,615 7,864 66,139

Low-Level and Mixed Low-Level Waste disposed  
(cubic meters) ..... 22,485 5,329 8,540 5,240 98,550

Material Access Areas eliminated (# of material  
access areas) ..... - - - - 1

Nuclear Facility Completions (# of facilities) ..... 13 - - - 86

Radioactive Facility Completions (# of facilities) ..... 5 - 3 1 37

Industrial Facility Completions (# of facilities) ..... 46 6 4 3 242

Geographic Sites Eliminated (# of sites) ..... - - - - 1

Remediation Complete (# of release sites) ..... 99 43 3 3 270

Idaho Operations Office

Remediation Complete (# of release sites) ..... 233 - - - 233

Maxey Flats

Geographic Sites Eliminated (# of sites) ..... - 1 - - 1

Moab

Geographic Sites Eliminated (# of sites) ..... - - - - 1

Monticello

Geographic Sites Eliminated (# of sites) ..... 1 - - - 1

Pinellas

Geographic Sites Eliminated (# of sites) ..... 1 - - - 1

Pre - FY 2003	FY 2003 Actuals	FY 2004 Targets	FY 2005 Targets	Life-cycle Estimates
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**Ohio**

Ashtabula

Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	10	94	-	-	104
Radioactive Facility Completions (# of facilities).....	15	5	-	-	25
Industrial Facility Completions (# of facilities).....	1	-	-	-	7
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	-	-	-	-	3

Columbus

Nuclear Facility Completions (# of facilities).....	-	-	-	-	1
Radioactive Facility Completions (# of facilities).....	12	-	2	-	14
Geographic Sites Eliminated (# of sites).....	1	-	-	-	2
Remediation Complete (# of release sites).....	1	-	-	-	2

Fernald

Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	4,517	2,568	15	-	7,100
Radioactive Facility Completions (# of facilities).....	16	3	4	1	29
Industrial Facility Completions (# of facilities).....	-	-	1	-	1
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	2	-	-	1	6

Miamisburg

Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	3,947	-	-	-	3,947
Nuclear Facility Completions (# of facilities).....	-	-	-	5	8
Radioactive Facility Completions (# of facilities).....	-	-	7	4	11
Industrial Facility Completions (# of facilities).....	59	15	15	25	116
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	104	14	3	37	178

Ohio Field Office

High-Level Waste packaged for final disposition (# of containers).....	275	-	-	-	275
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West Valley

Liquid Waste Tanks closed (# of tanks) .....	-	-	-	-	2
Transuranic Waste shipped for disposal at WIPP (cubic meters) .....	-	-	-	-	692
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	4,022	-	-	500	23,844
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	-	-	-	-	1

**Oak Ridge**

FUSRAP

Geographic Sites Eliminated (# of sites).....	25	-	-	-	25
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Oak Ridge Operations Office

Geographic Sites Eliminated (# of sites).....	1	-	-	-	1
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	Pre - FY 2003	FY 2003 Actuals	FY 2004 Targets	FY 2005 Targets	Life-cycle Estimates
<b>Oak Ridge Reservation</b>					
Enriched Uranium packaged for long-term storage (# of containers) .....	-	-	-	-	673
Depleted and Other Uranium packaged for disposition (metric tons) .....	-	-	-	-	56,988
Transuranic Waste shipped for disposal at WIPP (cubic meters) .....	-	-	250	178	646
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	55,694	3,708	8,752	7,719	85,953
Nuclear Facility Completions (# of facilities) .....	2	-	-	7	28
Radioactive Facility Completions (# of facilities) .....	6	-	5	12	48
Industrial Facility Completions (# of facilities) .....	79	5	17	27	172
Geographic Sites Eliminated (# of sites) .....	1	-	-	-	2
Remediation Complete (# of release sites) .....	253	7	20	8	654
<b>Weldon Spring Site</b>					
Geographic Sites Eliminated (# of sites) .....	-	1	-	-	1
<b><u>Paducah</u></b>					
<b>Paducah Gaseous Diffusion Plant</b>					
Enriched Uranium packaged for long-term storage (# of containers) .....	-	-	-	-	182
Depleted and Other Uranium packaged for disposition (metric tons) .....	-	-	-	-	453,312
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	3,295	2,248	75	875	17,331
Radioactive Facility Completions (# of facilities) .....	-	-	-	-	2
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	85	1	1	-	237
<b><u>Portsmouth</u></b>					
<b>Portsmouth Gaseous Diffusion Plant</b>					
Enriched Uranium packaged for long-term storage (# of containers) .....	-	-	-	-	1,450
Depleted and Other Uranium packaged for disposition (metric tons) .....	-	-	-	-	205,567
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	13,820	2,580	1,143	9,089	33,543
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	147	2	-	-	163

Pre - FY 2003	FY 2003 Actuals	FY 2004 Targets	FY 2005 Targets	Life-cycle Estimates
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**Rocky Flats**

Rocky Flats Environmental Technology Site

Plutonium Metal or Oxide packaged for long-term storage (# of containers).....	984	911	-	-	1,895
Plutonium or Uranium Residues packaged for disposition (kilograms of bulk).....	103,901	-	-	-	103,901
Transuranic Waste shipped for disposal at WIPP (cubic meters).....	4,259	4,016	2,344	1,736	12,355
Low-Level and Mixed Low-Level Waste disposed (cubic meters).....	76,704	78,688	53,882	45,688	254,962
Material Access Areas eliminated (# of material access areas).....	6	1	-	-	7
Nuclear Facility Completions (# of facilities).....	1	-	1	2	6
Radioactive Facility Completions (# of facilities).....	-	14	14	26	54
Industrial Facility Completions (# of facilities).....	151	48	40	78	317
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	177	20	8	30	240

**Richland**

Hanford

Plutonium Metal or Oxide packaged for long-term storage (# of containers).....	500	2,100	800	-	3,400
Enriched Uranium packaged for long-term storage (# of containers).....	1,648	-	-	-	2,958
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk).....	2,396	1,041	-	-	3,437
Depleted and Other Uranium packaged for disposition (Metric Tons).....	3,100	-	-	-	3,100
Spent Nuclear Fuel packaged for final disposition (MTHM).....	638	805	632	1	2,131
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	99	238	200	983	28,369
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	32,848	3,634	3,323	3,875	69,391
Material Access Areas eliminated (Number of Material Access Areas).....	-	-	-	1	2
Nuclear Facility Completions (# of facilities).....	1	2	2	-	172
Radioactive Facility Completions (# of facilities).....	-	2	2	3	415
Industrial Facility Completions (# of facilities).....	161	3	3	13	855
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	230	35	37	49	1,618

**River Protection**

Office of River Protection

Liquid Waste in Inventory eliminated (Thousands of gallons).....	-	-	-	-	54,000
Liquid Waste Tanks closed (Number of Tanks).....	-	-	6	8	177
High-Level Waste packaged for final disposition (# of containers).....	-	-	-	-	9,200
Transuranic Waste shipped for disposal at WIPP	-	-	-	120 <sup>a</sup>	7,600

<sup>a</sup>Performance Measure targets for FY 2005 are displayed under River Protection, assuming the Department determines sufficient legal authority exists for the Department to specify certain wastes as Waste Incidental for Reprocessing.



Pre - FY 2003	FY 2003 Actuals	FY 2004 Targets	FY 2005 Targets	Life-cycle Estimates
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(Cubic meters).....				
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	-	-	-	310,000
Nuclear Facility Completions (# of facilities).....	-	-	-	18
Radioactive Facility Completions (# of facilities).....	-	-	-	28
Industrial Facility Completions (# of facilities).....	-	-	-	102
Remediation Complete (# of release sites).....	5	-	-	322

### **Savannah River**

#### Savannah River Site

Plutonium Metal or Oxide packaged for long-term storage (# of containers).....	-	54	423	165	750
Enriched Uranium packaged for long-term storage (# of containers).....	-	146	612	635	2,809
Plutonium or Uranium Residues packaged for disposition (kilograms of bulk).....	222	99	49	44	414
Depleted and Other Uranium packaged for disposition (metric tons).....	-	4,551	-	-	23,182
Liquid Waste in Inventory eliminated (thousands of gallons).....	-	-	1,300	1,900	33,100
Liquid Waste Tanks closed (# of Tanks).....	2	-	2	-	51
High-Level Waste packaged for final disposition (# of containers).....	1,337	115	250	250	5,060
Spent Nuclear Fuel packaged for final disposition (MTHM).....	-	2	1	-	36
Transuranic Waste shipped for disposal at WIPP (cubic meters).....	196	1,263	840	840	15,326
Low-Level and Mixed Low-Level Waste disposed (cubic meters).....	47,264	12,682	10,744	10,364	219,526
Material Access Areas eliminated (# of material access areas).....	-	-	-	-	4
Nuclear Facility Completions (# of facilities).....	-	2	2	-	200
Radioactive Facility Completions (# of facilities).....	-	-	6	2	45
Industrial Facility Completions (# of facilities).....	-	23	23	5	592
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	281	23	13	3	515

### **Various Locations**

#### Energy Technology Engineering Center

Low-Level and Mixed Low-Level Waste disposed (cubic meters).....	137	98	390	600	1,335
Radioactive Facility Completions (# of facilities).....	3	-	1	2	6
Industrial Facility Completions (# of facilities).....	12	7	-	1	20
Geographic Sites Eliminated (# of sites).....	-	-	-	-	1
Remediation Complete (# of release sites).....	4	-	3	3	10

#### Former Albuquerque Operations Office

Low-Level and Mixed Low-Level Waste disposed (cubic meters).....	1,319	-	-	-	1,319
Geographic Sites Eliminated (# of sites).....	5	-	-	-	5
Remediation Complete (# of release sites).....	155	-	-	-	155

#### Former Nevada Operations Office

Geographic Sites Eliminated (# of sites).....	1	-	-	-	9
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	Pre - FY 2003	FY 2003 Actuals	FY 2004 Targets	FY 2005 Targets	Life-cycle Estimates
Remediation Complete (# of release sites) .....	675	41	46	48	2,082
Former Oakland Operations Office					
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	272	-	-	-	272
Remediation Complete (# of release sites) .....	3	-	-	-	3
General Atomics					
Spent Nuclear Fuel packaged for final disposition (MTHM) .....	1	-	-	-	1
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	1,716	-	-	-	1,716
Geographic Sites Eliminated (# of sites) .....	1	-	-	-	1
Remediation Complete (# of release sites) .....	2	-	-	-	2
General Electric					
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Geothermal Test Facility					
Geographic Sites Eliminated (# of sites) .....	1	-	-	-	1
Grand Junction Office (Oxnard Facility)					
Geographic Sites Eliminated (# of sites) .....	1	-	-	-	1
Inhalation Toxicology Laboratory					
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	-	165	35	35	395
Geographic Sites Eliminated (# of sites) .....	1	-	-	-	1
Remediation Complete (# of release sites) .....	9	-	-	-	9
Kansas City Plant					
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	42	-	-	-	43
Laboratory for Energy-Related Health Research					
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	944	-	4	-	948
Industrial Facility Completions (# of facilities) .....	-	-	1	-	1
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	13	3	1	-	17
Lawrence Berkeley National Laboratory					
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	138	23	5	6	181
Lawrence Livermore National Laboratory					
Transuranic Waste shipped for disposal at WIPP (cubic meters) .....	-	-	-	-	98
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	709	375	650	650	2,759
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	2
Remediation Complete (# of release sites) .....	162	6	9	6	193

	Pre - FY 2003	FY 2003 Actuals	FY 2004 Targets	FY 2005 Targets	Life-cycle Estimates
<b>Los Alamos National Laboratory</b>					
Transuranic Waste shipped for disposal at WIPP (cubic meters) .....	300	306	1,400	1,400	9,200
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	5,885	10	-	-	5,909
Radioactive Facility Completions (# of facilities) .....	-	-	-	-	1
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	1,312	13	4	49	2,124
<b>Nevada Test Site</b>					
Transuranic Waste shipped for disposal at WIPP (cubic meters) .....	-	-	198	197	734
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	2
<b>Pantex Plant</b>					
Industrial Facility Completions (# of facilities) .....	1	-	-	-	5
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	54	22	-	-	237
<b>Sandia National Laboratories</b>					
Low-Level and Mixed Low-Level Waste disposed (cubic meters) .....	8	-	-	-	8
Radioactive Facility Completions (# of facilities) .....	1	-	-	-	1
Geographic Sites Eliminated (# of sites) .....	1	-	-	-	2
Remediation Complete (# of release sites) .....	151	1	40	32	263
<b>Separations Process Research Unit</b>					
Transuranic Waste shipped for disposal at WIPP (cubic meters) .....	-	-	-	-	50
Nuclear Facility Completions (# of facilities) .....	-	-	-	-	4
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	-	-	-	-	6
<b>South Valley Superfund Site</b>					
Geographic Sites Eliminated (# of sites) .....	1	-	-	-	1
Remediation Complete (# of release sites) .....	1	-	-	-	1
<b>Stanford Linear Accelerator Center</b>					
Geographic Sites Eliminated (# of sites) .....	-	-	-	-	1
Remediation Complete (# of release sites) .....	16	-	3	-	20
<b>UMTRA – Surface</b>					
Geographic Sites Eliminated (# of sites) .....	24	-	-	-	24

## Detailed Internal Statistical Table - Budget Authority

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Comparable Appropriation	FY 2005 Request
Defense Site Acceleration Completion			
2006 Accelerated Completions			
Operating .....	1,232,079	1,239,018	1,251,799
Construction:			
02-D-420 Plutonium Packaging and Stabilization, SR .....	1,958	0	0
Subtotal, 2006 Accelerated Completions .....	1,234,037	1,239,018	1,251,799
2012 Accelerated Completions			
Operating .....	1,411,517	1,487,694	1,437,001
Construction:			
01-D-416 Waste Treatment and Immobilization Plant, RL.....	690,000	686,036	690,000
02-D-402 Cathodic Protection System Expansion, ID.....	1,096	1,120	0
04-D-414 Project Engineering and Design, 3013 Container Surveillance Capability in 235-F, SR .....	0	2,982	3,000
04-D-414 Project Engineering and Design, Sodium Bearing Waste Treatment, ID .....	0	20,379	0
04-D-423 3013 Container Surveillance Capability in 235-F, SR .....	0	1,127	20,640
Subtotal, Construction .....	691,096	711,644	713,640
Subtotal, 2012 Accelerated Completions .....	2,102,613	2,199,338	2,150,641
2035 Accelerated Completions			
Operating .....	1,796,701	1,833,166	1,849,512
Construction:			
01-D-414 Project Engineering and Design, Immobilized HLW Interim Storage Facility, RL	5,018	0	0
03-D-403 Immobilized HLW Interim Storage Facility, RL .....	1,229	13,872	0
03-D-414 Project Engineering and Design, Salt Waste Processing Facility Alternative, SR.....	4,842	51,198	0
03-D-414 Project Engineering and Design, Glass Waste Storage Building #2, SR .....	3,773	0	0
04-D-408 Glass Waste Storage Building #2, SR.....	0	20,139	43,827
Subtotal, Construction .....	14,862	85,209	43,827
Subtotal, 2035 Accelerated Completions .....	1,811,563	1,918,375	1,893,339
Safeguards and Security			
Operating .....	254,747	291,124	265,059

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Comparable Appropriation	FY 2005 Request
Technology Development and Deployment			
Operating .....	113,679	66,116	60,142
High-Level Waste Proposal.....	0	0	350,000
Subtotal, 2035 Accelerated Completions .....	1,811,563	1,918,375	1,893,339
Subtotal, Defense Site Acceleration Completion .....	5,843,827	5,960,889	5,808,844
Defense Environmental Services			
Non-Closure Environmental Activities			
Operating .....	327,188	246,918	187,864
Subtotal, Non-Closure Environmental Activities .....	432,731	449,333	463,000
Community and Regulatory Support			
Operating .....	67,956	60,860	60,547
Federal Contribution to the UE D&D Fund			
Operating .....	432,731	449,333	463,000
Program Direction			
Operating .....	279,723	276,510	271,059
Subtotal, Defense Environmental Services .....	1,161,570	1,082,033	1,027,905
Non-Defense Site Acceleration			
2006 Accelerated Completions			
Operating .....	53,972	48,412	45,435
2012 Accelerated Completions			
Operating .....	109,323	119,079	98,191
2035 Accelerated Completions			
Operating .....	4,289	4,920	8,224
Subtotal, Non-Defense Site Acceleration.....	293,593	346,006	304,373
Non-Defense Environmental Services			
Non-Closure Environmental Activities			
Operating .....	126,009	173,595	152,523
Construction:			
02-U-101 Depleted Uranium Hexafluoride Conversion Project, Paducah, KY & Portsmouth, OH.....	0	98,225	92,600
Subtotal, Construction .....	0	0	0
Subtotal, Non-Closure Environmental Activities	0	0	0

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Comparable Appropriation	FY 2005 Request
Community and Regulatory Support			
Operating .....	20	1,030	90
Environmental Cleanup Projects			
Operating .....	35,823	43,589	46,083
Total, Non-Defense Environmental Services .....	466,519	679,767	690,882
Uranium Enrichment Decontamination & Decommissioning Fund			
D&D Activities			
Operating .....	304,667	363,328	399,586
Uranium/Thorium Reimbursements			
Operating .....	15,896	50,699	100,614
Subtotal, Uranium Enrichment D&D Fund .....	454,659	275,903	463,000
Subtotal, Environmental Management .....	454,659	291,232	463,000
UE D&D Fund Deposit (Offset) .....	-432,731	-449,333	-463,000
Privatization Prior Year Rescission .....	0	-15,329	0
Less Use of Prior Year Balances (Defense) .....	-21,928	-158,101	0
Safeguards and Security Reimbursable Work (Defense) .....	-122	-121	-143
Less Use of Prior Year Balances (Non-Defense) ..	-11,455	-20,000	0
Total, Environmental Management .....	6,808,000	7,007,585	7,433,653

## Budget Authority Estimates by Project Baseline Summary Category

(dollars in thousands)

	FY 2003 Comparable Appropriation	FY 2004 Comparable Appropriation	FY 2005 Request
Nuclear Material Stabilization and Disposition .....	579,663	713,337	725,004
Spent Nuclear Fuel Stabilization and Disposition.....	402,307	358,176	244,681
Solid Waste Stabilization and Disposition .....	968,350	1,078,195	1,065,887
Radioactive Liquid Waste Stabilization and Disposition.....	1,002,371	1,049,629	1,261,084
Radioactive Liquid Waste Stabilization and Disposition - Major Construction .....	690,000	686,036	690,000
Safeguards and Security .....	254,747	291,124	265,059
Soil and Water Remediation .....	782,475	807,501	987,154
Nuclear Facility Decontamination and Decommissioning .....	1,167,695	1,257,843	1,206,800
Non-Nuclear Facility Decontamination and Decommissioning.....	21,085	55,025	47,183
Operate Waste Disposal Facility .....	176,663	153,577	174,637
Waste and Material Transportation.....	13,631	43,994	40,751
Technology Development .....	113,679	66,116	60,142
Community and Regulatory Support .....	38,589	41,217	39,854
Program Direction .....	279,723	276,510	271,059
Federal Contribution to the Uranium Enrichment D&D Fund....	432,731	449,333	463,000
Pre-2004 Completions .....	11,786	0	0
Other.....	338,741	322,856	354,501
Subtotal, Environmental Management .....	7,274,236	7,650,469	7,896,796
Uranium Enrichment D&D Fund Offset .....	-432,731	-449,333	-463,000
Privatization Prior Year Rescission .....	0	-15,329	0
Less Use of Prior Year Balances .....	-33,383	-178,101	0
Safeguards and Security Charge for Reimbursable Work ...	-122	-121	-143
Total, Environmental Management .....	6,808,000	7,007,585	7,433,653

## Budget Authority Distribution and Lifecycle Costs by Project Baseline Summary

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Planned Completion Date
			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
<b>Carlsbad</b>									
WIPP	CB-0020	Safeguards and Security .....	187,507	5,537	3,262	3,441	4,105	171,162	9/30/2035
WIPP	CB-0080	Operate Waste Disposal Facility-WIPP	5,084,685	964,637	164,533	139,026	163,416	3,653,073	9/30/2035
WIPP	CB-0090	Transportation-WIPP .....	753,317	146,983	13,631	43,994	40,751	507,958	9/30/2030
WIPP	CB-0100	US/Mexico/Border/Material Partnership Initiative .....	5,834	6,000	2,447	2,982	0	See below <sup>a</sup>	9/30/2006
WIPP	CB-0101	Economic Assistance to the State of New Mexico .....	246,044	22,065	26,611	19,308	23,340	154,720	9/30/2011
WIPP	CB-0900	Pre-2004 Completions .....	1,376	40,605	0	0	0	0 <sup>b</sup>	9/30/2003
Subtotal, Carlsbad .....			6,278,763	1,185,827	210,484	208,751	231,612	4,486,913	694
<b>Chicago</b>									
ANL-E	CH-ANLE-0030	Soil and Water Remediation-Argonne National Laboratory-East.....	28,341	26,004	2,863	1,521	404	0	9/30/2004
ANL-E	CH-ANLE-0040	Nuclear Facility D&D-Argonne National Laboratory-East.....	34,880	26,187	521	343	397	7,432	9/30/2009
ANL-W	CH-ANLW-0030	Soil and Water Remediation-Argonne National Laboratory-West.....	7,939	6,983	386	0	0	0	9/30/2003
BRNL	CH-BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory .....	195,943	113,611	25,976	30,226	29,017	See Below <sup>a</sup>	9/30/2005
BRNL	CH-BRNL-0040	Nuclear Facility D&D-Brookhaven Graphite Research Reactor .....	53,221	25,928	8,748	7,180	8,453	0	9/30/2005
BRNL	CH-BRNL-0041	Nuclear Facility D&D-High Flux Beam Reactor.....	120,293	1,240	1,166	1,302	5,734	110,851	9/30/2008

<sup>a</sup>The accurate unappropriated balance cannot be determined until EM conducts the next life-cycle cost estimate for this project.

<sup>b</sup>A portion of the Budget Authority in FY 1997-2002 includes funding for a privatization project that was cancelled and was used as a "Use of Prior Year Balances" offset in future years. Thus, there are no lifecycle costs related to this privatization project resulting in a lower overall life-cycle cost than the budget authority appropriated for this PBS.



(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Planned Completion Date
			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
BRNL	CH-BRNL-0100	Brookhaven Community and Regulatory Support .....	3,902	2,129	0	660	50	1,065	9/30/2008
CH Ops	CH-OPS-0900	Pre-2004 Completions .....	97,649	108,447	0	0	0	0	9/30/2003
PPPL	CH-PPPL-0030	Soil and Water Remediation-Princeton Site A/B.....	554	1,006	0	124	0	0	9/30/2004
Subtotal, Chicago .....			542,722	311,535	39,660	41,356	44,055	119,348	
<b>Idaho</b>									
INL	ID-0011	NM Stabilization and Disposition .....	21,408	2,000	1,500	296	1,929	15,683	9/30/2009
INL	ID-0012B-D	SNF Stabilization and Disposition-2012 (Defense).....	705,270	368,759	31,395	22,466	10,439	272,211	9/30/2012
INL	ID-0012C	SNF Stabilization and Disposition-2035 .....	755,938	0	0	0	0	755,938	9/30/2035
INL	ID-0013	Solid Waste Stabilization and Disposition .....	1,921,077	985,840	179,736	233,797	111,773	409,931	9/30/2012
INL	ID-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012 .....	2,357,775	616,615	126,369	131,860	130,317	1,370,614	9/30/2012
INL	ID-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035 .....	2,953,554	0	0	0	0	2,953,554	9/30/2035
INL	ID-0030B	Soil and Water Remediation-2012.....	1,148,952	419,898	123,826	105,223	127,621	372,384	9/30/2012
INL	ID-0030C	Soil and Water Remediation-2035.....	1,849,946	0	0	439	0	1,849,507	9/30/2035
INL	ID-0040B	Nuclear Facility D&D-2012 .....	140,142	38,720	3,487	6,587	5,539	85,809	9/30/2012
INL	ID-0040C	Nuclear Facility D&D-2035 .....	11,213	0	0	0	0	11,213	9/30/2035
INL	ID-0050B	Non-Nuclear Facility D&D-2012 .....	293,467	22,922	6,975	8,933	27,560	227,077	9/30/2012
INL	ID-0050C	Non-Nuclear Facility D&D-2035 .....	1,022,798	0	0	0	0	1,022,798	9/30/2035
INL	ID-0100	Idaho Community and Regulatory Support .....	172,343	20,474	3,335	2,782	3,412	142,340	9/30/2035
ID Ops	ID-OPS-0900	Pre-2004 Completions (Defense).....	279,620	262,253	8,086	0	0	0	9/30/2003
Subtotal, Idaho .....			13,633,503	2,737,481	484,709	512,383	418,590	9,489,059	

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Planned Completion Date
			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
<b>Oak Ridge</b>									
ETTP	OR-0011Y	NM Stabilization and Disposition-ETTP Uranium Facilities Management .....	47,011	13,917	11,084	12,260	7,987	1,763	9/30/2008
ORR	OR-0013A	Solid Waste Stabilization and Disposition-2006 .....	461,081	293,061	48,835	67,566	40,096	11,523	9/30/2006
ORR	OR-0013B	Solid Waste Stabilization and Disposition-2012 .....	808,665	568,087	51,787	54,956	47,471	86,364	9/30/2015
ORR	OR-0020	Safeguards and Security .....	169,040	23,019	17,975	20,668	22,026	85,352	9/30/2015
ORR	OR-0030	Soil and Water Remediation-Melton Valley .....	352,067	116,471	49,139	55,591	71,672	59,194	9/30/2006
ORR	OR-0031	Soil and Water Remediation-Offsites ...	97,622	23,407	543	6,839	13,021	53,812	9/30/2008
ETTP	OR-0040	Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund) .....	1,837,944	572,093	129,636	147,681	197,667	790,867	9/30/2015
Y-12	OR-0041	Nuclear Facility D&D-Y-12 .....	1,070,451	181,169	28,462	28,095	28,611	804,114	9/30/2015
ORNL	OR-0042	Nuclear Facility D&D-Oak Ridge National Laboratory .....	668,476	102,486	41,786	27,010	20,028	477,166	9/30/2015
ETTP	OR-0043	Nuclear Facility D&D-East Tennessee Technology Park (Defense) .....	151,058	48,888	2,741	5,184	6,677	87,568	9/30/2008
ORR	OR-0100	Oak Ridge Reservation Community & Regulatory Support (Defense) .....	122,370	45,521	3,934	3,936	3,970	65,009	9/30/2015
ORR	OR-0101	Oak Ridge Contract/Post-Closure Liabilities/Administration .....	249,898	97,776	15,678	16,582	18,709	101,153	9/30/2015
ETTP	OR-0102	East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration .....	209,430	51,827	12,421	13,646	15,917	115,619	9/30/2015
ORR	OR-0103	Oak Ridge Reservation Community & Regulatory Support (D&D Fund) .....	59,639	0	1,414	1,426	1,466	55,333	9/30/2015
ORR	OR-0900-D	Pre-2004 Completions (Defense) .....	16,828	29,941	0	0	0	0	9/30/2003
ORR	OR-0900-N	Pre-2004 Completions (Non-Defense) .....	610,052	622,877	0	0	0	0	9/30/2003
Subtotal, Oak Ridge .....			6,931,632	2,790,540	415,435	461,440	495,318	2,794,837	

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Planned Completion Date
			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
<b>Ohio</b>									
Ashtabula	OH-AB-0030	Soil and Water Remediation-Ashtabula	156,923	93,675	13,896	15,747	15,879	17,726	9/30/2006
Columbus	OH-CL-0040	Nuclear Facility D&D-West Jefferson...	163,259	87,710	18,963	22,735	19,849	14,002	12/31/2006
Fernald	OH-FN-0013	Solid Waste Stabilization and Disposition-Fernald .....	1,489,368	929,015	233,698	208,561	165,851	See Below <sup>a</sup>	9/30/2007
Fernald	OH-FN-0020	Safeguards and Security-Fernald.....	20,375	9,402	3,368	3,922	1,166	2,517	9/30/2007
Fernald	OH-FN-0030	Soil and Water Remediation-Fernald...	1,110,343	548,159	70,902	66,932	133,670	290,680	9/30/2007
Fernald	OH-FN-0050	Non-Nuclear Facility D&D-Fernald .....	512,267	131,916	14,110	46,092	19,623	300,526	9/30/2007
Fernald	OH-FN-0100	Fernald Post-Closure Administration ...	405,965	0	0	0	0	405,965	9/30/2070
Fernald	OH-FN-0101	Fernald Community and Regulatory Support .....	14,695	8,473	0	1,262	1,253	3,707	9/30/2007
Miamisburg	OH-MB-0013	Solid Waste Stabilization and Disposition-Miamisburg .....	202,237	121,035	24,877	18,102	57,971	See Below <sup>a</sup>	9/30/2006
Miamisburg	OH-MB-0020	Safeguards and Security-Miamisburg ..	33,654	23,132	1,448	3,870	528	4,676	9/30/2006
Miamisburg	OH-MB-0030	Soil and Water Remediation-Miamisburg .....	163,773	68,489	10,311	18,702	12,701	53,570	9/30/2006
Miamisburg	OH-MB-0040	Nuclear Facility D&D-Miamisburg.....	484,192	331,635	66,743	56,503	26,571	2,740	9/30/2006
Miamisburg	OH-MB-0100	Miamisburg Post-Closure Administration .....	611,086	0	0	0	0	611,086	9/30/2063
Miamisburg	OH-MB-0101	Miamisburg Community and Regulatory Support .....	8,471	5,402	0	1,112	1,487	470	9/30/2006
OH Ops	OH-OPS-0900-D	Pre-2004 Completions (Defense) .....	57,726	199,950	0	0	0	0	9/30/2003
OH Ops	OH-OPS-0900-N	Pre-2004 Completions (Non-Defense)..	396,094	259,675	0	0	0	0	9/30/2003
West Valley	OH-WV-0012	SNF Stabilization and Disposition-West Valley .....	29,403	30,396	3,571	0	0	0	9/30/2004
West Valley	OH-WV-0013	Solid Waste Stabilization and Disposition-West Valley .....	266,505	58,100	21,753	39,260	41,000	106,392	9/30/2008
West Valley	OH-WV-0014	Radioactive Liquid Tank Waste Stabilization and Disposition-West Valley High-Level Waste Storage.....	594,298	0	0	0	0	594,298	9/30/2035
West Valley	OH-WV-0020	Safeguards and Security-West Valley .	53,600	4,222	2,164	2,555	2,669	41,990	9/30/2035

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(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Planned Completion Date
			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
West Valley	OH-WV-0040	Nuclear Facility D&D-West Valley .....	423,035	147,068	68,924	59,900	32,000	115,143	9/30/2008
Subtotal, Ohio .....			7,197,269	3,057,454	554,728	565,255	532,218	2,565,488	
<b>Paducah</b>									
Paducah	PA-0011	NM Stabilization and Disposition- Paducah Uranium Facilities Management .....	61,060	10,936	7,214	4,209	4,931	33,770	9/30/2010
Paducah	PA-0011X	NM Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion .....	1,281,846	6,653	1,104	56,656	51,000	1,166,433	9/30/2035
Paducah	PA-0013	Solid Waste Stabilization and Disposition .....	329,699	112,171	19,039	14,539	17,603	166,347	9/30/2010
Paducah	PA-0020	Safeguards and Security .....	146,556	6,801	6,706	6,952	7,822	118,275	9/30/2010
Paducah	PA-0040	Nuclear Facility D&D-Paducah.....	2,739,824	242,994	60,171	96,564	61,081	2,279,014	9/30/2010
Paducah	PA-0100	Paducah Community and Regulatory Support (Non-Defense) .....	10,203	9,942	0	331	0	See Below <sup>a</sup>	9/30/2010
Paducah	PA-0101	Paducah Contract/Post-Closure Liabilities/Administration (Non- Defense) .....	TBD	0	0	472	0	See Below <sup>a</sup>	9/30/2010
Paducah	PA-0102	Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund) ..	85,575	10,395	16,754	5,089	11,549	41,788	9/30/2010
Paducah	PA-0103	Paducah Community and Regulatory Support (D&D Fund) .....	43,612	1,723	1,225	3,967	2,524	34,173	9/30/2010
Subtotal, Paducah .....			4,698,375	401,615	112,213	188,779	156,510	3,839,800	
<b>Portsmouth</b>									
Portsmouth	PO-0011	NM Stabilization and Disposition- Portsmouth Other Uranium Facilities Management .....	93,429	28,841	13,003	16,300	11,705	23,580	9/30/2035

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			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
Portsmouth	PO-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion .....	908,593	6,653	1,104	44,727	51,000	805,109	9/30/2035
Portsmouth	PO-0013	Solid Waste Stabilization and Disposition .....	352,935	145,703	28,401	49,389	56,666	72,776	9/30/2006
Portsmouth	PO-0020	Safeguards and Security .....	112,795	19,401	16,976	16,021	16,138	44,259	9/30/2006
Portsmouth	PO-0040	Nuclear Facility D&D-Portsmouth.....	4,132,651	180,655	32,762	30,421	34,210	3,854,603	9/30/2035
Portsmouth	PO-0041	Nuclear Facility D&D-Portsmouth GCEP .....	80,000	0	0	22,476	20,000	37,524	9/30/2006
Portsmouth	PO-0101	Portsmouth Cold Standby .....	572,478	87,444	92,500	114,720	98,500	179,314	9/30/2008
Portsmouth	PO-0103	Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund) ..	5,267	9,390	2,572	606	605	See Below <sup>a</sup>	9/30/2009
Portsmouth	PO-0104	Portsmouth Community and Regulatory Support (D&D Fund) .....	811	0	272	0	298	0	10/1/2003
Portsmouth	PO-0900	Pre-2004 Completions .....	0	2,000	0	0	0	0 <sup>b</sup>	9/30/2003
Subtotal, Portsmouth .....			6,258,959	480,087	187,590	294,660	289,122	5,017,165	
<b>Richland</b>									
Hanford	RL-0011	NM Stabilization and Disposition-PFP .	1,743,012	674,479	119,670	143,322	182,861	622,680	9/30/2009
Hanford	RL-0012	SNF Stabilization and Disposition .....	1,749,553	1,256,985	191,715	166,610	125,468	8,775	9/30/2006
Hanford	RL-0013	Solid Waste Stabilization and Disposition-200 Area.....	6,304,170	623,300	125,613	152,149	197,044	5,206,064	9/30/2035
Hanford	RL-0020	Safeguards and Security .....	1,700,294	109,033	48,365	61,954	56,729	1,424,213	9/30/2035
Hanford	RL-0030	Soil and Water Remediation-Groundwater/Vadose Zone.....	1,591,810	152,517	43,175	45,999	51,088	1,299,031	9/30/2035
Hanford	RL-0040	Nuclear Facility D&D-Remainder of Hanford .....	7,484,496	419,596	89,816	115,645	131,277	6,728,162	9/30/2035

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<sup>b</sup>The Budget Authority in FY 1997-2002 reflects funding for a privatization project that was cancelled and was rescinded by Congress as a "Prior Year Balance" offset in FY 2004. Thus, there are no lifecycle costs related to this privatization project resulting in a lower overall life-cycle cost than the budget authority appropriated for this PBS.

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Planned Completion Date
			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
Hanford	RL-0041	Nuclear Facility D&D-River Corridor Closure Project.....	3,135,899	772,579	142,564	180,079	216,489	1,824,188	9/30/2012
Hanford	RL-0042	Nuclear Facility D&D-Fast Flux Test Facility Project.....	809,843	266,605	35,823	43,589	46,083	417,743	9/30/2018
Hanford	RL-0080	Operate Waste Disposal Facility .....	241,757	45,201	4,871	9,264	6,207	176,214	9/30/2035
Hanford	RL-0100	Richland Community and Regulatory Support .....	328,088	69,609	15,140	11,278	13,759	218,302	9/30/2035
Hanford	RL-0900	Pre-2004 Completions .....	129,821	129,698	0	0	0	0	9/30/2003
Subtotal, Richland.....			25,218,743	4,519,602	816,752	929,889	1,027,005	17,925,372	
<b>River Protection</b>									
ORP	ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition .....	24,330,467	1,964,605	427,820	401,898	348,570	21,187,574	9/30/2032
ORP	ORP-0060	Major Construction-Waste Treatment Plant .....	6,210,193	1,556,844	690,000	686,036	690,000	2,587,313	7/31/2011
Subtotal, River Protection .....			30,540,660	3,521,449	1,117,820	1,087,934	1,038,570	23,774,887	
<b>Rocky Flats</b>									
RFETS	RF-0011	NM Stabilization and Disposition .....	471,442	233,166	26,576	677	0	211,023	2/24/2004
RFETS	RF-0013	Solid Waste Stabilization and Disposition .....	761,839	607,075	118,940	97,801	184,769	See below <sup>a</sup>	12/15/2006
RFETS	RF-0020	Safeguards and Security .....	350,123	90,762	44,783	28,382	16,588	169,608	12/15/2006
RFETS	RF-0030	Soil and Water Remediation .....	2,289,300	1,061,686	114,467	175,573	164,210	773,364	12/15/2006
RFETS	RF-0040	Nuclear Facility D&D-North Side Facility Closures .....	1,828,039	1,206,590	275,767	213,316	195,599	See below <sup>a</sup>	12/15/2006
RFETS	RF-0041	Nuclear Facility D&D-South Side Facility Closures .....	786,669	509,966	88,957	133,458	97,938	See below <sup>a</sup>	12/15/2006
RFETS	RF-0100	Rocky Flats Environmental Technology Site Contract Liabilities.....	2,772,214	34,900	130	2,466	2,300	2,732,418	9/30/2070

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			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
RFFO	RF-0101	Rocky Flats Community and Regulatory Support .....	38,242	24,401	2,979	2,795	3,050	5,017	9/30/2007
Subtotal, Rocky Flats .....			9,297,868	3,768,546	672,599	654,468	664,454	3,891,430	
<b><u>Savannah River</u></b>									
SRS	SR-0011A	NM Stabilization and Disposition-2006	122,290	140,520	4,458	208	0	0	9/30/2004
SRS	SR-0011B	NM Stabilization and Disposition-2012	4,057,568	2,010,667	369,452	362,273	369,636	945,540	9/30/2008
SRS	SR-0011C	NM Stabilization and Disposition-2035	1,276,496	359,881	24,498	72,409	43,955	775,753	9/30/2020
SRS	SR-0012	SNF Stabilization and Disposition .....	348,680	189,668	21,880	33,740	23,155	80,237	9/30/2020
SRS	SR-0013	Solid Waste Stabilization and Disposition .....	2,449,932	450,798	72,437	84,067	89,819	1,752,811	9/30/2025
SRS	SR-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035 .....	11,867,072	2,380,961	443,165	515,871	432,197	8,094,878	9/30/2020
SRS	SR-0020	Safeguards and Security .....	1,791,884	200,691	109,700	143,359	137,288	1,200,846	9/30/2025
SRS	SR-0030	Soil and Water Remediation .....	2,707,661	631,650	107,091	68,419	123,736	1,776,765	9/30/2025
SRS	SR-0040	Nuclear Facility D&D.....	1,585,793	160,656	48,947	29,691	22,131	1,324,368	9/30/2025
SRS	SR-0100	Non-Closure Mission Support .....	578,476	93,528	13,242	14,251	5,070	452,385	9/30/2025
SR Ops	SR-0101	Savannah River Community and Regulatory Support .....	266,142	43,476	7,711	6,118	7,256	201,581	9/30/2025
SR Ops	SR-0900	Pre-2004 Completions .....	195,846	365,779	0	0	0	0	9/30/2003
Subtotal, Savannah River .....			27,247,840	7,028,275	1,222,581	1,330,406	1,254,243	16,605,164	
<b><u>Technology Development</u></b>									
	HQ-TD-0100	Technology Development .....	2,431,426	1,329,406	113,679	66,116	60,142	867,054	9/30/2035
<b><u>D&amp;D Fund Deposit</u></b>									
	HQ-DD-0100	Federal Contribution to the Uranium Enrichment D&D Fund .....	4,725,543	2,421,812	432,731	449,333	463,000	958,667	9/30/2007
<b><u>Program Direction</u></b>									
	HQ-PD-0100	Program Direction .....	6,844,733	1,917,580	279,723	276,510	271,059	4,099,861	9/30/2035

(dollars in thousands)

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			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
<b>Headquarters</b>									
GJO	HQ-GJ-0031	Soil and Water Remediation-Moab.....	186,034	5,350	3,856	4,440	7,773	164,615	9/30/2011
GJO	HQ-GJ-0102	Rocky Flats Wildlife Refuge and Museum .....	3,539	585	1,269	1,235	478	See Below <sup>a</sup>	12/15/2006
Multiple	HQ-HLW-0014X	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository .....	116,834	38,036	5,017	0	0	73,781	9/30/2035
HQ	HQ-MS-0100	Policy, Management, and Technical Support .....	1,816,500	543,478	116,712	77,024	75,688	1,003,598	9/30/2035
HQ	HQ-OPS-0900	Pre-2004 Completions .....	3,700	32,574	3,700	0	0	0	9/30/2003
Multiple	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository .....	2,322,451	111,105	29,173	29,973	25,452	2,126,748	9/30/2035
Multiple	HQ-SNF-0012Y	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository .....	163,560	126,409	53,052	43,162	0	0	9/30/2004
Multiple	HQ-SW-0013X	Solid Waste Stabilization and Disposition-Science Current Generation .....	147,905	32,107	24,659	20,281	18,378	52,480	9/30/2005
Multiple	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation .....	467,645	162,851	45,287	41,944	41,789	175,774	9/30/2008
HQ	HQ-UR-0100	Reimbursements to Uranium/Thorium Licensees .....	424,021	248,842	15,896	50,699	100,614	7,970	9/30/2015
Subtotal, Headquarters .....			5,652,189	1,301,337	298,621	268,758	270,172	3,440,351	
<b>Various Locations-Albuquerque</b>									
AL Ops	VL-FAO-0100-D	Nuclear Material Stewardship (Defense).....	107,197	85,524	18,336	0	0	3,337	10/1/2004
AL Ops	VL-FAO-0100-N	Nuclear Material Stewardship (Non-Defense) .....	19,969	14,269	0	0	0	5,700	10/1/2004

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AL Ops	VL-FAO-0101	Misc Programs and Agreements in Principle .....	79,933	72,505	3,240	3,776	1,731	See Below <sup>a</sup>	9/30/2015
AL Ops	VL-FAO-0900	Pre-2004 Completions .....	232,667	219,063	0	0	0	13,604	9/30/2003
ITL	VL-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory .....	7,910	4,696	1,065	476	491	1,182	9/30/2010
KCP	VL-KCP-0030	Soil and Water Remediation-Kansas City Plant .....	28,660	16,964	2,257	2,066	3,506	3,867	9/30/2006
LANL	VL-LANL-0013	Solid Waste Stabilization and Disposition-LANL Legacy .....	443,839	137,807	28,916	42,730	41,502	192,884	9/30/2011
LANL	VL-LANL-0030	Soil and Water Remediation-LANL .....	1,067,835	318,113	71,453	70,890	79,692	527,687	9/30/2015
LANL	VL-LANL-0040-N	Nuclear Facility D&D-LANL (Non-Defense) .....	17,848	0	433	480	451	16,484	9/30/2011
Pantex	VL-PX-0030	Soil and Water Remediation-Pantex ....	175,050	74,508	14,914	18,430	19,714	47,484	9/30/2008
Pantex	VL-PX-0040	Nuclear Facility D&D-Pantex .....	17,241	100	77	2,703	4,807	9,554	9/30/2007
Sandia	VL-SN-0030	Soil and Water Remediation-Sandia ....	230,721	154,981	23,918	21,804	20,246	9,772	9/29/2006
South Valley	VL-SV-0100	South Valley Superfund .....	2,820	4,474	933	0	0	0	9/30/2003
Subtotal, Various Locations-Albuquerque .....			2,431,690	1,103,004	165,542	163,355	172,140	822,518	
<b>Various Locations-Nevada</b>									
NTS	VL-NV-0013	Solid Waste Stabilization and Disposition-Nevada Test Site.....	76,660	37,568	6,315	10,218	6,221	16,338	9/30/2007
NTS/ Offsites	VL-NV-0030	Soil and Water Remediation-Nevada Test Site and Offsites .....	1,990,663	386,262	74,410	69,071	80,940	1,379,980	9/30/2027
NTS	VL-NV-0080	Operate Waste Disposal Facility-Nevada .....	159,821	40,625	7,259	5,287	5,014	101,636	9/30/2021
NV Ops	VL-NV-0100	Nevada Community and Regulatory Support .....	90,026	17,228	2,307	5,460	1,229	63,802	9/30/2027
Subtotal, Various Locations-Nevada .....			2,317,170	481,683	90,291	90,036	93,404	1,561,756	

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<b>Various Locations-Oakland</b>									
ETEC	VL-EETEC-0040	Nuclear Facility D&D-Energy Technology Engineering Center.....	204,976	102,577	16,436	18,217	19,000	48,746	9/30/2007
OK Ops	VL-FOO-0013B-D	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense).....	15,278	13,561	378	458	486	395	9/30/2014
OK Ops	VL-FOO-0013B-N	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non-Defense) .....	6,537	9,701	523	57	60	See Below <sup>a</sup>	9/30/2014
OK Ops	VL-FOO-0100-D	Oakland Community and Regulatory Support (Defense) .....	5,080	5,080	252	51	60	See Below <sup>a</sup>	9/30/2008
OK Ops	VL-FOO-0100-N	Oakland Community and Regulatory Support (Non-Defense) .....	2,470	3,636	20	39	40	See Below <sup>a</sup>	9/30/2008
OK Ops	VL-FOO-0900-N	Pre-2004 Completions (Non-Defense).	20,839	22,090	0	0	0	0	10/1/2002
General Atomics	VL-GA-0012	SNF Stabilization and Disposition-General Atomics .....	13,629	12,780	1,575	0	0	0	9/30/2003
LBNL	VL-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory .....	33,758	20,368	3,134	3,228	4,070	2,958	9/30/2006
LEHR	VL-LEHR-0040	Nuclear Facility D&D-Laboratory for Energy-Related Health Research.....	40,577	32,288	4,049	3,273	500	467	9/30/2005
LLNL	VL-LLNL-0013	Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory .....	74,441	137,273	7,102	4,545	7,555	See Below <sup>a</sup>	9/30/2006
LLNL	VL-LLNL-0030	Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site.....	122,993	69,418	12,035	13,039	14,093	14,408	9/30/2006
LLNL	VL-LLNL-0031	Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300 .....	122,039	60,216	10,253	10,338	11,110	30,122	9/30/2008
SLAC	VL-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center.....	20,599	9,794	2,605	2,384	2,500	3,316	9/30/2006

<sup>a</sup>The unappropriated balance cannot be determined until EM conducts the next life-cycle cost estimate for this project.

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs	Budget Authority					Planned Completion Date
			Lifecycle (current \$)	Prior Year (FY97-02)	FY 2003 Comp Approp	FY 2004 Comp Approp	FY 2005 Request	Unappropriated balance	
SPRU	VL-SPRU-0040	Nuclear Facility D&D-Separations Process Research Unit.....	245,815	5,249	716	5,411	5,708	228,731	9/30/2014
Subtotal, Various Locations-Oakland .....			929,031	504,031	59,078	61,040	65,182	329,143	
<b>High-Level Waste Proposal</b>			N/A	N/A	0	0	350,000	N/A	N/A
Subtotal, Environmental Management .....			163,178,116	38,861,264	7,274,236	7,650,469	7,896,796	102,563,594	
Less Use of Prior Year Balances (Defense) .....			0	-529,407	-21,928	-158,101	0	0	
Less Use of Prior Year Balances (Non-Defense) .....			0	-30,728	-11,455	-20,000	0	0	
Less Use of Prior Year Balances (UE D&D Fund) .....			0	-3,000	0	0	0	0	
Dupont Pension (Offset) .....			0	-71,799	0	0	0	0	
Less Privatization Prior Year Rescission.....			0	0	0	-15,329	0	0	
UE D&D Fund Deposit (Offset) .....			-4,725,543	-2,421,812	-432,731	-449,333	-463,000	-956,000	
Safeguards and Security Charge for Reimbursable Work (Offset) .....			0	-1,547	-122	-121	-143	0	
Total, Environmental Management .....			158,452,573	35,802,971	6,808,000	7,007,585	7,433,653	101,607,594	

## Corporate Performance Measure Quantities by Project Baseline Summary<sup>abc</sup>

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
<b>Chicago</b>								
ANL-E	CH-ANLE-0030	Soil and Water Remediation-Argonne National Laboratory-East Remediation Complete (Number of Release Sites).....	439	4	-	-	-	443
ANL-E	CH-ANLE-0040	Nuclear Facility D&D-Argonne National Laboratory-East Radioactive Facility Completions (Number of Facilities).....	63	-	-	-	15	78
ANL-W	CH-ANLW-0030	Soil and Water Remediation-Argonne National Laboratory-West Remediation Complete (Number of Release Sites).....	37	-	-	-	-	37
BNL	CH-BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory Radioactive Facility Completions (Number of Facilities).....	-	-	-	3	-	3
		Remediation Complete (Number of Release Sites).....	67	-	-	8	-	75
BNL	CH-BRNL-0040	Nuclear Facility D&D-Brookhaven Graphite Research Reactor Radioactive Facility Completions (Number of Facilities).....	3	-	1	3	-	7
		Remediation Complete (Number of Release Sites).....	1	-	-	-	-	1

<sup>a</sup>Life-cycle estimates for release sites, facilities, and high-level waste canisters include pre-1997 actuals. Quantities for all other measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begins in 1998.

<sup>b</sup>This chart provides a consistent set of performance measures for the EM program by PBS. The project-level justification provides a description of significant activities for each project including performance measures and project-specific budget milestones, as applicable.

<sup>c</sup> FY 2003 – FY 2005 annual results and targets, as well as life-cycle numbers, are under configuration control. In enforcing the Assistant Secretary's added emphasis on project management principles, EM's Configuration Control Board maintains strict configuration control of these numbers to ensure performance and accountability is firmly established and reported.

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
CH Ops	CH-OPS-0900	Pre-2004 Completions						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	537	-	-	-	-	537
		Remediation Complete (Number of Release Sites).....	30	-	-	-	-	30
<b>Headquarters</b>								
INL	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository						
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal) .....	-	-	-	-	253	253
ORR	HQ-SW-0013X	Solid Waste Stabilization and Disposition-Science Current Generation						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	2,705	590	341	-	428	4,064
LLNL	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters) .....	-	-	105	-	-	105
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	1,010	513	387	-	-	1,910
ORR	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	4,358	5,080	789	-	-	10,227
<b>Idaho</b>								
INL	ID-0011	NM Stabilization and Disposition						
		Enriched Uranium packaged for long-term storage (Number of Containers).....	205	55	313	34	422	1,029
		Material Access Areas eliminated (Number of Material Access Areas).....	-	-	-	-	1	1
INL	ID-0013	Solid Waste Stabilization and Disposition						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters) .....	2,866	538	7,615	7,864	45,368	64,251
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	22,485	5,329	8,540	5,240	35,836	77,430

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
INL	ID-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012						
		Liquid Waste in Inventory eliminated (Thousands of Gallons).....	-	-	-	-	900	900
		Liquid Waste Tanks closed (Number of Tanks)..	-	-	1	1	9	11
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	-	-	-	-	1,130	1,130
INL	ID-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035						
		High-Level Waste packaged for final disposition (Number of Containers).....	-	-	-	-	4,200	4,200
INL	ID-0030B	Soil and Water Remediation-2012						
		Remediation Complete (Number of Release Sites).....	99	43	3	3	51	199
INL	ID-0030C	Soil and Water Remediation-2035						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	-	-	-	-	758	758
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	-	-	-	-	21,120	21,120
		Remediation Complete (Number of Release Sites).....	-	-	-	-	71	71
INL	ID-0040B	Nuclear Facility D&D-2012						
		Nuclear Facility Completions (Number of Facilities).....	13	-	-	-	2	15
INL	ID-0040C	Nuclear Facility D&D-2035						
		Nuclear Facility Completions (Number of Facilities).....	-	-	-	-	71	71
INL	ID-0050B	Non-Nuclear Facility D&D-2012						
		Radioactive Facility Completions (Number of Facilities).....	5	-	3	1	10	19
		Industrial Facility Completions (Number of Facilities).....	46	6	4	3	12	71

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
INL	ID-0050C	Non-Nuclear Facility D&D-2035						
		Radioactive Facility Completions (Number of Facilities).....	-	-	-	-	18	18
		Industrial Facility Completions (Number of Facilities).....	-	-	-	-	171	171
ID Ops	ID-OPS-0900-D	Pre-2004 Completions						
		Remediation Complete (Number of Release Sites).....	233	-	-	-	-	233
<b>Ohio</b>								
Ashtabula	OH-AB-0030	Soil and Water Remediation-Ashtabula						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	10	94	-	-	-	104
		Radioactive Facility Completions (Number of Facilities).....	15	5	-	-	5	25
		Industrial Facility Completions (Number of Facilities).....	1	-	-	-	6	7
		Remediation Complete (Number of Release Sites).....	-	-	-	-	3	3
Columbus	OH-CL-0040	Nuclear Facility D&D-West Jefferson						
		Nuclear Facility Completions (Number of Facilities).....	-	-	-	-	1	1
		Radioactive Facility Completions (Number of Facilities).....	12	-	2	-	-	14
		Remediation Complete (Number of Release Sites).....	1	-	-	-	1	2
Fernald	OH-FN-0013	Solid Waste Stabilization and Disposition-Fernald						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	4,517	2,568	15	-	-	7,100
		Remediation Complete (Number of Release Sites).....	2	-	-	1	1	4
Fernald	OH-FN-0030	Soil and Water Remediation-Fernald						
		Remediation Complete (Number of Release Sites).....	-	-	-	-	2	2

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
Fernald	OH-FN-0050	Non-Nuclear Facility D&D-Fernald						
		Radioactive Facility Completions (Number of Facilities).....	16	3	4	1	5	29
		Industrial Facility Completions (Number of Facilities).....	-	-	1	-	-	1
Miamisburg	OH-MB-0013	Solid Waste Stabilization and Disposition-Miamisburg						
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	3,947	-	-	-	-	3,947
Miamisburg	OH-MB-0030	Soil and Water Remediation-Miamisburg						
		Remediation Complete (Number of Release Sites).....	104	14	3	37	20	178
Miamisburg	OH-MB-0040	Nuclear Facility D&D- Miamisburg						
		Nuclear Facility Completions (Number of Facilities).....	-	-	-	5	3	8
		Radioactive Facility Completions (Number of Facilities).....	-	-	7	4	-	11
		Industrial Facility Completions (Number of Facilities).....	59	15	15	25	2	116
OH Ops	OH-OPS-0900-N	Pre-2004 Completions (Non-Defense)						
		High-Level Waste packaged for final disposition (Number of Containers).....	275	-	-	-	-	275
West Valley	OH-WV-0013	Solid Waste Stabilization and Disposition-West Valley						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	-	-	-	-	692	692
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	4,022	-	-	500	19,322	23,844
West Valley	OH-WV-0040	Nuclear Facility D&D-West Valley						
		Liquid Waste Tanks closed (Number of Tanks)..	-	-	-	-	2	2
		Remediation Complete (Number of Release Sites).....	-	-	-	-	1	1



Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
<b>Oak Ridge</b>								
ORR	OR-0011Y	NM Stabilization and Disposition-ETTP Uranium Facilities Management						
		Enriched Uranium packaged for long-term storage (Number of Containers).....	-	-	-	-	673	673
		Depleted and Other Uranium packaged for disposition (Metric Tons).....	-	-	-	-	56,988	56,988
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	93	-	-	-	-	93
ORR	OR-0013A	Solid Waste Stabilization and Disposition-2006 Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	11,981	2,101	7,503	6,538	6,876	34,999
ORR	OR-0013B	Solid Waste Stabilization and Disposition-2012 Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	-	-	250	178	218	646
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	5,463	1,607	1,249	1,181	3,204	12,704
ORR	OR-0030	Soil and Water Remediation-Melton Valley						
		Radioactive Facility Completions (Number of Facilities).....	2	-	1	10	-	13
		Industrial Facility Completions (Number of Facilities).....	2	-	-	-	-	2
		Remediation Complete (Number of Release Sites).....	30	1	18	1	53	103
ORR	OR-0031	Soil and Water Remediation-Offsites						
		Remediation Complete (Number of Release Sites).....	5	-	-	1	4	10
ORR	OR-0040	Nuclear Facility D&D- East Tennessee Technology Park (D&D Fund)						
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	5,178	-	-	-	-	5,178
		Nuclear Facility Completions (Number of Facilities).....	2	-	-	6	4	12
		Radioactive Facility Completions (Number of Facilities).....	1	-	3	2	-	6
		Industrial Facility Completions (Number of Facilities).....	66	5	14	27	33	145
		Remediation Complete (Number of Release Sites).....	18	1	2	4	115	140

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
ORR	OR-0041	Nuclear Facility D&D-Y-12						
		Industrial Facility Completions (Number of Facilities).....	1	-	3	-	2	6
		Remediation Complete (Number of Release Sites).....	25	3	-	2	108	138
ORR	OR-0042	Nuclear Facility D&D-Oak Ridge National Laboratory						
		Nuclear Facility Completions (Number of Facilities).....	-	-	-	1	15	16
		Radioactive Facility Completions (Number of Facilities).....	3	-	1	-	25	29
		Industrial Facility Completions (Number of Facilities).....	7	-	-	-	9	16
		Remediation Complete (Number of Release Sites).....	78	2	-	-	84	164
ORR	OR-0043	Nuclear Facility D&D- East Tennessee Technology Park (Defense)						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	32,979	-	-	-	-	32,979
ORR	OR-0900-D	Pre-2004 Completions (Defense)						
		Remediation Complete (Number of Release Sites).....	74	-	-	-	-	74
ORR	OR-0900-N	Pre-2004 Completions (Non-Defense)						
		Industrial Facility Completions (Number of Facilities).....	3	-	-	-	-	3
		Remediation Complete (Number of Release Sites).....	23	-	-	-	2	25
<b><u>Paducah</u></b>								
Paducah	PA-0011	NM Stabilization and Disposition-Paducah Uranium Facilities Management						
		Enriched Uranium packaged for long-term storage (Number of Containers).....	-	-	-	-	182	182
Paducah	PA-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion						
		Depleted and Other Uranium packaged for disposition (Metric Tons).....	-	-	-	-	453,312	453,312
Paducah	PA-0013	Solid Waste Stabilization and Disposition						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	3,295	2,248	75	875	10,838	17,331

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
Paducah	PA-0040	Nuclear Facility D&D-Paducah						
		Radioactive Facility Completions (Number of Facilities).....	-	-	-	-	2	2
		Remediation Complete (Number of Release Sites).....	84	1	1	-	150	236
Paducah	PA-0900	Pre-2004 Completions						
		Remediation Complete (Number of Release Sites).....	1	-	-	-	-	1
<b>Portsmouth</b>								
Portsmouth	PO-0011	NM Stabilization and Disposition-Portsmouth Uranium Facilities Management						
		Enriched Uranium packaged for long-term storage (Number of Containers).....	-	-	-	-	1,450	1,450
Portsmouth	PO-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion						
		Depleted and Other Uranium packaged for disposition (Metric Tons).....	-	-	-	-	205,567	205,567
Portsmouth	PO-0013	Solid Waste Stabilization and Disposition						
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	13,820	2,580	1,143	9,089	6,911	33,543
Portsmouth	PO-0040	Nuclear Facility D&D-Portsmouth						
		Remediation Complete (Number of Release Sites).....	17	2	-	-	14	33
Portsmouth	PO-0900	Pre-2004 Completions						
		Remediation Complete (Number of Release Sites).....	130	-	-	-	-	130
<b>Rocky Flats</b>								
RFETS	RF-0011	NM Stabilization and Disposition						
		Plutonium Metal or Oxide packaged for long-term storage (Number of Containers).....	984	911	-	-	-	1,895
		Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk).....	103,901	-	-	-	-	103,901

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
RFETS	RF-0013	Solid Waste Stabilization and Disposition						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	4,259	4,016	2,344	1,736	-	12,355
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	76,704	78,688	53,882	45,688	-	254,962
RFETS	RF-0030	Soil and Water Remediation						
		Remediation Complete (Number of Release Sites).....	177	20	8	30	5	240
RFETS	RF-0040	Nuclear Facility D&D-North Side Facility Closures						
		Material Access Areas eliminated (Number of Material Access Areas).....	5	1	-	-	-	6
		Nuclear Facility Completions (Number of Facilities).....	1	-	1	2	2	6
		Radioactive Facility Completions (Number of Facilities).....	-	3	7	12	-	22
		Industrial Facility Completions (Number of Facilities).....	68	19	40	14	-	141
RFETS	RF-0041	Nuclear Facility D&D-South Side Facility Closures						
		Material Access Areas eliminated (Number of Material Access Areas).....	1	-	-	-	-	1
		Radioactive Facility Completions (Number of Facilities).....	-	11	7	14	-	32
		Industrial Facility Completions (Number of Facilities).....	83	29	-	64	-	176
<b>Richland</b>								
Hanford	RL-0011	NM Stabilization and Disposition-PFP						
		Plutonium Metal or Oxide packaged for long-term storage (Number of Containers).....	500	2,100	400	-	-	3,000
		Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk).....	2,396	1,041	-	-	-	3,437
		Material Access Areas eliminated (Number of Material Access Areas).....	-	-	-	1	1	2
		Nuclear Facility Completions (Number of Facilities).....	1	2	-	-	57	60
Hanford	RL-0012	SNF Stabilization and Disposition						
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal) .....	638	805	631	-	50	2,124

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
Hanford	RL-0013	Solid Waste Stabilization and Disposition-200 Area Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	99	238	200	983	26,849	28,369
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	32,848	3,634	3,323	3,875	25,711	69,391
Hanford	RL-0040	Nuclear Facility D&D-Remainder of Hanford Nuclear Facility Completions (Number of Facilities).....	-	-	2	-	96	98
		Radioactive Facility Completions (Number of Facilities).....	-	-	-	-	342	342
		Industrial Facility Completions Number of Facilities.....	154	2	3	5	472	636
		Remediation Complete (Number of Release Sites).....	5	-	-	-	855	860
Hanford	RL-0041	Nuclear Facility D&D-River Corridor Closure Project Enriched Uranium packaged for long-term storage (Number of Containers).....	1,648	-	-	-	1,310	2,958
		Depleted and Other Uranium packaged for disposition (Metric Tons).....	3,100	-	-	-	-	3,100
		Nuclear Facility Completions (Number of Facilities).....	-	-	-	-	14	14
		Radioactive Facility Completions (Number of Facilities).....	-	2	2	3	43	50
		Industrial Facility Completions (Number of Facilities).....	7	1	-	8	203	219
		Remediation Complete Number of Release Sites.....	225	35	37	49	412	758
Hanford	RL-0042	Nuclear Facility D&D-Fast Flux Test Facility Project Plutonium Metal or Oxide packaged for long- term storage (Number of Containers).....	-	-	400	-	-	400
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal) .....	-	-	1	1	5	7
		Radioactive Facility Completions (Number of Facilities).....	-	-	-	-	23	23

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
<b><u>River Protection</u></b>								
River Protection	ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition						
		Liquid Waste in Inventory eliminated (Thousands of Gallons).....	-	-	-	-	54,000	54,000
		Liquid Waste Tanks closed (Number of Tanks)..	-	-	6	8	163	177
		High-Level Waste packaged for final disposition (Number of Containers).....	-	-	-	-	9,200	9,200
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	-	-	-	120 <sup>a</sup>	7,480	7,600
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	-	-	-	-	310,000	310,000
		Nuclear Facility Completions (Number of Facilities).....	-	-	-	-	18	18
		Radioactive Facility Completions (Number of Facilities).....	-	-	-	-	28	28
		Industrial Facility Completions (Number of Facilities).....	-	-	-	-	102	102
		Remediation Complete (Number of Release Sites).....	5	-	-	-	317	322
<b><u>Savannah River</u></b>								
SRS	SR-0011B	NM Stabilization and Disposition-2012						
		Plutonium Metal or Oxide packaged for long-term storage (Number of Containers).....	-	54	423	165	108	750
		Enriched Uranium packaged for long-term storage (Number of Containers).....	-	146	612	635	1,416	2,809
		Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk).....	222	99	49	44	-	414
		Depleted and Other Uranium packaged for disposition (Metric Tons).....	-	4,551	-	-	18,631	23,182
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal) .....	-	2	1	-	33	36

<sup>a</sup>Performance Measure targets for FY 2005 are displayed this PBS where the work will be performed assuming the Department determines sufficient legal authority exists for the Department to specify certain wastes as Waste Incidental to Reprocessing.

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
SRS	SR-0013	Solid Waste Stabilization and Disposition						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	196	1,263	840	840	12,187	15,326
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	47,058	12,682	10,744	10,364	138,472	219,320
SRS	SR-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035						
		Liquid Waste in Inventory eliminated (Thousands of Gallons).....	-	-	1,300	1,900	29,900	33,100
		Liquid Waste Tanks closed (Number of Tanks)..	2	-	2	-	47	51
		High-Level Waste packaged for final disposition (Number of Containers).....	1,337	115	250	250	3,108	5,060
SRS	SR-0020	Safeguards and Security						
		Material Access Areas eliminated (Number of Material Access Areas).....	-	-	-	-	4	4
SRS	SR-0030	Soil and Water Remediation						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	206	-	-	-	-	206
		Remediation Complete (Number of Release Sites).....	281	23	13	3	195	515
SRS	SR-0040	Nuclear Facility D&D						
		Nuclear Facility Completions (Number of Facilities).....	-	2	2	-	196	200
		Radioactive Facility Completions (Number of Facilities).....	-	-	6	2	37	45
		Industrial Facility Completions (Number of Facilities).....	-	23	23	5	541	592
<b><u>Various Locations</u></b>								
AL Ops	VL-FAO-0900	Pre-2004 Completions						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	1,319	-	-	-	-	1,319
		Remediation Complete (Number of Release Sites).....	155	-	-	-	-	155

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
Inhalation Toxicology Laboratory	VL-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory						
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	-	165	35	35	160	395
		Remediation Complete (Number of Release Sites).....	9	-	-	-	-	9
KCP	VL-KCP-0030	Soil and Water Remediation-Kansas City Plant						
		Remediation Complete (Number of Release Sites).....	42	-	-	-	1	43
LANL	VL-LANL-0013	Solid Waste Stabilization and Disposition-LANL Legacy						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	300	306	1,400	1,400	5,794	9,200
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	459	10	-	-	14	483
LANL	VL-LANL-0030	Soil and Water Remediation-LANL						
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	5,426	-	-	-	-	5,426
		Remediation Complete (Number of Release Sites).....	1,312	13	4	49	746	2,124
LANL	VL-LANL-0040-N	Nuclear Facility D&D-LANL (Non-Defense)						
		Radioactive Facility Completions (Number of Facilities).....	-	-	-	-	1	1
Pantex	VL-PX-0030	Soil and Water Remediation- Pantex						
		Remediation Complete (Number of Release Sites).....	54	22	-	-	161	237
Pantex	VL-PX-0040	Nuclear Facility D&D- Pantex						
		Industrial Facility Completions (Number of Facilities).....	1	-	-	-	4	5
SNL	VL-SN-0030	Soil and Water Remediation-Sandia						
		Low -Level and Mixed Low -Level Waste disposed (Cubic Meters).....	8	-	-	-	-	8
		Radioactive Facility Completions (Number of Facilities).....	1	-	-	-	-	1
		Remediation Complete (Number of Release Sites).....	151	1	40	32	39	263



Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
South Valley	VL-SV-0100	South Valley Superfund Remediation Complete (Number of Release Sites).....	1	-	-	-	-	1
NTS	VL-NV-0013	Solid Waste Stabilization and Disposition-Nevada Test Site Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	-	-	198	197	339	734
NV Ops	VL-NV-0030	Soil and Water Remediation-Nevada Test Site and Offsites Remediation Complete (Number of Release Sites).....	675	41	46	48	1,272	2,082
ETEC	VL-ETEC-0040	Nuclear Facility D&D-Energy Technology Engineering Center Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	137	98	390	600	110	1,335
		Radioactive Facility Completions (Number of Facilities).....	3	-	1	2	-	6
		Industrial Facility Completions (Number of Facilities).....	12	7	-	1	-	20
		Remediation Complete (Number of Release Sites).....	4	-	3	3	-	10
OK Ops	VL-FOO-0013B-N	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non-Defense) Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	83	-	-	-	-	83
OK Ops	VL-FOO-0900-N	Pre-2004 Completions (Non-Defense) Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	189	-	-	-	-	189
		Remediation Complete (Number of Release Sites).....	3	-	-	-	-	3
GA	VL-GA-0012	SNF Stabilization and Disposition-General Atomics Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal) .....	1	-	-	-	-	1
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	1,716	-	-	-	-	1,716
		Remediation Complete (Number of Release Sites).....	2	-	-	-	-	2
LBNL	VL-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory Remediation Complete (Number of Release Sites).....	138	23	5	6	9	181

Office / Installation	Project Number	Project Name / Measure	Prior to FY 2003	FY 2003 Actuals	FY 2004 Estimate	FY 2005 Estimate	Balance Remaining	Life-Cycle Quantity
LEHR	VL-LEHR-0040	Nuclear Facility D&D-Laboratory for Energy-Related Health Research						
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	944	-	4	-	-	948
		Industrial Facility Completions (Number of Facilities).....	-	-	1	-	-	1
		Remediation Complete (Number of Release Sites).....	13	3	1	-	-	17
LLNL	VL-LLNL-0013	Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	-	-	-	-	98	98
		Low-Level and Mixed Low-Level Waste disposed (Cubic Meters).....	709	375	650	650	375	2,759
LLNL	VL-LLNL-0030	Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site						
		Remediation Complete (Number of Release Sites).....	104	3	5	5	3	120
LLNL	VL-LLNL-0031	Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300						
		Remediation Complete (Number of Release Sites).....	58	3	4	1	7	73
SLAC	VL-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center						
		Remediation Complete (Number of Release Sites).....	16	-	3	-	1	20
SPRU	VL-SPRU-0040	Nuclear Facility D&D-Separations Process Research Unit						
		Transuranic Waste shipped for disposal at WIPP (Cubic Meters).....	-	-	-	-	50	50
		Nuclear Facility Completions (Number of Facilities).....	-	-	-	-	4	4
		Remediation Complete (Number of Release Sites).....	-	-	-	-	6	6

**Defense Site  
Acceleration  
Completion**

**Defense Site  
Acceleration  
Completion**

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# **Defense Site Acceleration Completion**

## **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 <sup>al</sup>	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"

<sup>al</sup> 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 Remediation - 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%
<b>Total, 2006 Accelerated Completions.....</b>	<b>1,234,037</b>	<b>1,239,018</b>	<b>1,251,799</b>	<b>12,781</b>	<b>1.0%</b>

## **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
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**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
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- 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)						
<ul style="list-style-type: none"> <li>▪ Completed 20 shipments of spent nuclear fuel from the Power Burst Facility canal to dry storage (FY 2003).</li> <li>▪ Completed closeout and start up of the Health Physics Instrumentation Laboratory project (FY 2003).</li> <li>▪ Completed closeout and turnover of the Idaho National Laboratory Electrical Distribution Upgrade Project (FY 2003).</li> <li>▪ Completed closeout and turnover of the Idaho National Road Rehabilitation project (FY 2003).</li> <li>▪ Completed final eight shipments of spent nuclear fuel from the Power Burst Facility canal to dry storage using prior year funding (December 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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<sup>3</sup> 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<sup>3</sup> of legacy mixed low-level waste, and all of the legacy Resource Conservation and Recovery Act hazardous wastes were disposed. Only 750 m<sup>3</sup> of legacy industrial waste and 100 m<sup>3</sup> 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<sup>3</sup> 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 <sup>3</sup> )	2,101	7,503	6,538	28,123	34,999	80%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ East Tennessee Technology Park Legacy Low-Level Waste Disposition – Characterized selected East Tennessee Technology Park low-level streams (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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**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 demolition 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
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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<sup>3</sup> 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<sup>3</sup> of contaminated soil and debris.
- Excavate and prepare for shipment approximately 3,000 m<sup>3</sup> 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 <sup>3</sup> )	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
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**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<sup>3</sup>) 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
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- 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
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**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<sup>3</sup>) of low-level waste has been shipped to the Nevada Test Site leaving approximately 558,000 cubic feet (14,791 m<sup>3</sup>) 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
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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 <sup>3</sup> )	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<sup>3</sup> 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
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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<sup>3</sup>, of the estimated total of 2,280,000 m<sup>3</sup>, of soil and below grade debris was excavated, and 716,680 m<sup>3</sup> 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<sup>3</sup> 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
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**Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)**

- Placed 230,280 m<sup>3</sup> 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<sup>3</sup> of material in the On-Site Disposal Facility (September 2005).
- Excavate 600,000 cubic yards (459,000 m<sup>3</sup>) 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
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- 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<sup>3</sup>) of the total estimated life-cycle volume (227,237 m<sup>3</sup>) 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
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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<sup>3</sup> of remediation waste to the Nevada Test Site for disposal and 60,643 m<sup>3</sup> to Envirocare in support of site removal actions.
- Dispose of 7,054 m<sup>3</sup> 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 <sup>3</sup> )	0	0	0	3,947	3,947	100%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ Shipped all remaining transuranic waste (250 m<sup>3</sup>) from current inventory to the Savannah River Site (FY 2003).</li> <li>▪ Shipped 4,745 m<sup>3</sup> of remediation waste to the Nevada Test Site and 16,801 m<sup>3</sup> to Envirocare for disposal in support of site removal actions (FY 2003).</li> <li>▪ Complete shipment of 7,243 m<sup>3</sup> remediation waste to the Nevada Test Site and 51,657 m<sup>3</sup> of remediation waste to Envirocare (September 2004).</li> <li>▪ Complete shipment of 1,783 m<sup>3</sup> remediation waste to the Nevada Test Site for disposal (September 2005).</li> <li>▪ Complete shipment of 60,643 m<sup>3</sup> remediation waste to Envirocare for disposal (September 2005).</li> <li>▪ Dispose of 7,054 m<sup>3</sup> of hazardous waste (September 2005).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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)						
<ul style="list-style-type: none"> <li>▪ Commenced rebound test on Operable Unit-1 groundwater treatment system (FY 2003).</li> <li>▪ Continued operation of two groundwater treatment systems (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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)						
<ul style="list-style-type: none"><li>▪ In preparation for site closure, transferred fire protection services to the City of Miamisburg (FY 2003).</li><li>▪ 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).</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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)						
<ul style="list-style-type: none"> <li>▪ Completed the size reduction of 163 weapons parts for disposition (FY 2003).</li> <li>▪ Produced 911 DOE Standard 3013 compliant cans in the Plutonium Packaging and Stabilization System (FY 2003).</li> <li>▪ Packaged 962 kg of low purity plutonium oxide for disposal at the Waste Isolation Pilot Plant (FY 2003).</li> <li>▪ Eliminated Protected Area (FY 2003).</li> <li>▪ Complete nuclear material stabilization and disposition activities (September 2004).</li> </ul>						

**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<sup>3</sup>, low-level and mixed low-level waste with an estimated life-cycle total of 254,962 m<sup>3</sup>, 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<sup>3</sup> 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<sup>3</sup> 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
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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<sup>3</sup> representing 100 percent completion. The quantity of transuranic waste planned for FY 2005 disposal is 1,736 m<sup>3</sup> 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 <sup>3</sup> )	4,016	2,344	1,736	12,355	12,355	100%
Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )	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<sup>3</sup> of low-level and mixed low-level waste (FY 2003).
- Disposed of 4,016 m<sup>3</sup> 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 m<sup>3</sup> 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
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**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
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**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, demolition, 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
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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)						
<ul style="list-style-type: none"> <li>▪ Closed Building 371 Material Access Area (FY 2003).</li> <li>▪ Completed the deactivation of Buildings 771/774, and 374 (FY 2003).</li> <li>▪ Completed 56 work sets (FY 2003).</li> <li>▪ Completed 21 deactivation and 230 decommissioning activities (FY 2003).</li> <li>▪ Demolished 19 industrial facilities (FY 2003).</li> <li>▪ Removed 306 gloveboxes (FY 2003).</li> <li>▪ Complete the demolition of Building 771 (August 2004).</li> <li>▪ Complete the deactivation and decommissioning of 48 facilities (September 2004).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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)						
<ul style="list-style-type: none"> <li>▪ Demolished 29 Industrial Facilities (FY 2003).</li> </ul>						

**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
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- 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)						
<ul style="list-style-type: none"> <li>▪ Canyon Exhaust (92-D-140) – Completed the startup testing and turnover of the remaining H-Area Canyon Exhaust Fan. Closed out project (FY 2003).</li> <li>▪ FB-Line (02-D-420) – Completed start up (FY 2003).</li> <li>▪ 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).</li> </ul>						

**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 95<sup>th</sup> 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 95<sup>th</sup> 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
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- 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)						
<ul style="list-style-type: none"> <li>▪ Continued Storm Sewer Polychlorinated Biphenyl investigation (FY 2003).</li> <li>▪ Continued groundwater treatment and monitoring through operation of the Groundwater Treatment Facility (FY 2003).</li> <li>▪ Complete 95<sup>th</sup> Terrace Corrective Measures Study and Corrective Measures Implementation Work Plan (September 2004).</li> <li>▪ Complete 95<sup>th</sup> Terrace remediation design (September 2005).</li> </ul>						

**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
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- 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 <sup>3</sup> )	0	0	0	0	98	0%
Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )	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.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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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)						
<ul style="list-style-type: none"> <li>▪ Constructed, installed, and operated a portable treatment unit on-site at the following: <ul style="list-style-type: none"> <li>• 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).</li> <li>• the Eastern Landing Material Source Area to isolate and remediate the contaminated vadose zone and reduce contaminant concentrations in the source area (FY 2003).</li> </ul> </li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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**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
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- 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).

<b>Total, 2006 Accelerated Completions.....</b>	<b>1,234,037</b>	<b>1,239,018</b>	<b>1,251,799</b>
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## Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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**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)
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**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

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**Total Funding Change, 2006 Accelerated Completions..... 12,781**

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## 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 Remediaton-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%
<b>Total, 2012 Accelerated Completions.....</b>	<b>2,102,613</b>	<b>2,199,338</b>	<b>2,150,641</b>	<b>-48,697</b>	<b>-2.2%</b>

## **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
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**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)						
<ul style="list-style-type: none"> <li>▪ Repackaged and/or shipped off-site, 55 containers of special nuclear material (FY 2003).</li> <li>▪ Complete the transfer of all denitrator products to the Savannah River Site and Nuclear Fuel Services (September 2004).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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)						
<ul style="list-style-type: none"><li>▪ 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).</li><li>▪ 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).</li><li>▪ Complete analysis of DOE spent nuclear fuel to support inclusion in the monitored geologic repository license application (September 2004).</li><li>▪ 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).</li><li>▪ 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).</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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<sup>3</sup> 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<sup>3</sup> 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<sup>3</sup>) 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<sup>3</sup> 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
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Through 2003, the project shipped for disposal about 3,400 m<sup>3</sup> (initial waste volume was about 3,250 m<sup>3</sup> of stored transuranic waste prior to repackaging for disposal) of transuranic waste to the Waste Isolation Pilot Plant, and approximately 800 m<sup>3</sup> 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<sup>3</sup> (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<sup>3</sup> 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 <sup>3</sup> )	538	7,615	7,864	18,883	64,251	29%
Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )	5,329	8,540	5,240	41,594	77,430	54%



(dollars in thousands)

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

- Completed settlement agreement milestone for shipment of 3,100 m<sup>3</sup> (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<sup>3</sup> of transuranic waste and more than 5,200 m<sup>3</sup> 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<sup>3</sup> 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
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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
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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 <sup>3</sup> )	0	0	0	0	1,130	0%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ Complete the characterization of remaining liquids and solids in the 11 underground sodium bearing waste tanks (September 2004).</li> <li>▪ 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).</li> <li>▪ Cease receipt of Newly Generated Liquid Waste in the 11 high-level waste farm tanks (September 2005).</li> </ul>						

**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
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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
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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
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- 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
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- 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**

<b>\$140,142) .....</b>	<b>3,487</b>	<b>6,587</b>	<b>5,539</b>
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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
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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
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- 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 contaminants.

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
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- 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)						
<ul style="list-style-type: none"> <li>▪ Completed final disposition of six buildings and three structures at Test Area North (FY 2003).</li> <li>▪ Complete demolition of four industrial buildings and structures at Test Area North, two of which are large above ground oil storage tanks (September 2004).</li> <li>▪ Complete the consolidation and reconfiguration of the Test Area North to determine long-term responsibility for facilities (September 2004).</li> <li>▪ Inactivate an additional 52 EM buildings to a condition that is cold, dark, and dry (power, water, and heat disconnected) (September 2005).</li> </ul>						

**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<sup>3</sup> 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
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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<sup>3</sup> 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 <sup>3</sup> )	0	250	178	428	646	0%
Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )	1,607	1,249	1,181	9,500	12,704	75%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)						
<ul style="list-style-type: none"><li>▪ Maintained the safe and compliant storage for mixed low-level waste and transuranic waste (FY 2003).</li><li>▪ Newly Generated Transuranic Waste Disposition: up to 5 m<sup>3</sup> of contact-handled transuranic waste and up to 7 m<sup>3</sup> of remote-handled transuranic waste was accepted, verified, collected, and transported to transuranic waste storage facilities (FY 2003).</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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- 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)						
<ul style="list-style-type: none"> <li>▪ 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).</li> <li>▪ Continue the David Witherspoon, Inc. site cleanups (September 2004).</li> <li>▪ Complete Atomic City Auto Parts (September 2005).</li> </ul>						

**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
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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 <sup>3</sup> )	0	0	0	32,979	32,979	100%
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)</b> <ul style="list-style-type: none"> <li>▪ Continued management, surveillance, inspection, testing, and maintenance of the East Tennessee Technology Park defense facilities (FY 2003).</li> <li>▪ Perform surveillance and maintenance on the centrifuge facilities (FY 2003/September 2004/September 2005).</li> <li>▪ Complete centrifuge equipment removal from K-25 and K-27 (September 2004).</li> <li>▪ Continue management, surveillance of the East Tennessee Technology Park. (September 2005).</li> <li>▪ Begin decontamination and decommissioning of the centrifuge facilities (September 2005).</li> </ul>						

**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
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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
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**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<sup>3</sup> 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
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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)						
<ul style="list-style-type: none"> <li>▪ Continued debris/empty fuel canister removal (FY 2003).</li> <li>▪ Complete the transfer of all K-East fuel to K-West Basin for subsequent processing and removal (May 2004).</li> <li>▪ Complete K Basin sludge removal (August 2004).</li> <li>▪ Initiate full scale K-East Basin water removal (September 2004).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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<sup>3</sup> 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.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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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 9<sup>th</sup> 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%

**Defense Site Acceleration Completion/  
2012 Accelerated Completions**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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(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
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**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
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Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)</b> <ul style="list-style-type: none"> <li>▪ Placed first structural steel for low-activity waste Facility and High-Level Waste Facility (FY 2003).</li> <li>▪ Initiated construction on Pretreatment Facility, Steam Plant, and Chiller/Compressor Facilities (Balance of Facilities) (FY 2003).</li> <li>▪ 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).</li> <li>▪ Continue design and engineering to 75 percent complete (September 2004).</li> <li>▪ Continue the Waste Treatment and Immobilization Plant construction to 30 percent complete (September 2004).</li> <li>▪ Initiate construction of the Analytical Laboratory (June 2005).</li> <li>▪ Complete 45 percent of facility construction (September 2005).</li> </ul>						

**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
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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
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- 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%
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)</b>						
<ul style="list-style-type: none"> <li>▪ Restarted HB-Line Phase II and began conversion of plutonium residue solutions to plutonium oxide from the Scrap Recovery Facility (FY 2003).</li> <li>▪ Completed suspension planning for F Area nuclear materials processing facilities, began implementing the suspension plan (FY 2003).</li> </ul>						



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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
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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<sup>3</sup> 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 <sup>3</sup> )	306	1,400	1,400	3,406	9,200	37%
Low-Level and Mixed Low-Level Disposed (m <sup>3</sup> )	10	0	0	469	483	97%
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)</b>						
<ul style="list-style-type: none"><li>▪ Began shipments of high-wattage transuranic waste under Nuclear Regulatory Commission Revision 19a, which reduces the number of shipments significantly (FY 2003).</li><li>▪ Accelerated transuranic waste shipments to the Waste Isolation Pilot Plant, from one to two per week (FY 2003).</li><li>▪ Treated and disposed of 10 m<sup>3</sup> of mixed low-level waste leaving an inventory of less than 25 m<sup>3</sup> of legacy mixed low-level waste (FY 2003).</li><li>▪ Decrease legacy transuranic waste by 618 m<sup>3</sup> (September 2004).</li><li>▪ Decrease legacy transuranic waste volume by 1,400 m<sup>3</sup> (September 2005).</li><li>▪ Initiate retrieval of legacy transuranic waste stored below ground (September 2005).</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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
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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)						
<ul style="list-style-type: none"><li>▪ Constructed, installed, and operated Building 830-SRC groundwater and soil vapor extraction and treatment facility in the Building 832 Canyon Operable Unit (FY 2003).</li><li>▪ Buildout and upgrade of the Building 834-SRC groundwater and soil vapor treatment facility in the Building 834 Operable Unit (FY 2003).</li><li>▪ Constructed, installed, and operated Building 817-SRC groundwater extraction and treatment facility in the High Explosives Process Area Operable Unit (FY 2003).</li><li>▪ Installed monitoring wells for Building 812 and conduct surface soil sampling for area characterization (FY 2003).</li><li>▪ Completed the Remedial Investigation for the Pit 7 Complex (FY 2003).</li><li>▪ Completed Building 854 Draft Interim Remedial Design Report (FY 2003).</li><li>▪ 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).</li><li>▪ Continue operation and maintenance of 16 operating groundwater treatment systems at the Lawrence Livermore National Laboratory (September 2004).</li><li>▪ Remove contaminated surface soil and sand pile at Building 850 (September 2005).</li><li>▪ Construct, install, and operate groundwater extraction and treatment facility in the source area of HE Process Area Operable Unit (Building 829) (September 2005).</li><li>▪ Construct, install, and operate groundwater extraction and treatment facility in the proximal area of HE Process Area Operable Unit (Building 817) (September 2005).</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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<sup>3</sup>—198 m<sup>3</sup> in FY 2004 and 197 m<sup>3</sup> 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<sup>3</sup>) will consist of 58 oversized boxes, 248 drums of classified material.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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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 <sup>3</sup> )	0	198	197	395	734	54%
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)</b> <ul style="list-style-type: none"> <li>▪ Implemented and maintained nuclear safety authorization basis documents (FY 2003).</li> <li>▪ Initiate shipments of legacy transuranic waste to the Waste Isolation Pilot Plant (September 2004).</li> <li>▪ Continue shipments of legacy transuranic waste to the Waste Isolation Pilot Plant (September 2005).</li> </ul>						

**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
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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)						
<ul style="list-style-type: none"> <li>▪ 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).</li> </ul>						



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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)						
<ul style="list-style-type: none"> <li>▪ Developed Statement of Work and Cost Estimates for Zone 10 Ruins and Building 12-24 Complex and prepared design work (FY 2003).</li> <li>▪ Complete demolition of Zone 10 Ruins and initiate actions for the demolition of Building 12-24 Complex (September 2004).</li> <li>▪ Complete the decontamination and decommissioning of Building 12-24 Complex (September 2005).</li> <li>▪ Complete the demolition of Zone 10 Ruins (September 2005).</li> </ul>						

<b>Total, 2012 Accelerated Completions.....</b>	<b>2,102,613</b>	<b>2,199,338</b>	<b>2,150,641</b>
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### Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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**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)**

**Defense Site Acceleration Completion/  
2012 Accelerated Completions**

**FY 2005 Congressional Budget**

FY 2005 vs. FY 2004 (\$000)
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<ul style="list-style-type: none"> <li>▪ Decrease reflects completion of consolidation of EM-owned spent nuclear fuel to the Idaho Nuclear Technology and Engineering Center.....</li> </ul>	-12,027
<b>ID-0013 / Solid Waste Stabilization and Disposition</b>	
<ul style="list-style-type: none"> <li>▪ 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.....</li> </ul>	-122,024
<b>ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012</b>	
<ul style="list-style-type: none"> <li>▪ 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.....</li> </ul>	-1,543
<b>ID-0030B / Soil and Water Remediation-2012</b>	
<ul style="list-style-type: none"> <li>▪ 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. ....</li> </ul>	22,398
<b>ID-0040B / Nuclear Facility D&amp;D-2012</b>	
<ul style="list-style-type: none"> <li>▪ Decrease reflects completion of Test Area North 607 deactivation and an increase in Power Burst Facility reactor deactivation. ....</li> </ul>	-1,048
<b>ID-0050B / Non-Nuclear Facility D&amp;D-2012</b>	
<ul style="list-style-type: none"> <li>▪ 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...</li> </ul>	18,627
<b>OR-0013B / Solid Waste Stabilization and Disposition-2012</b>	
<ul style="list-style-type: none"> <li>▪ Decrease reflects efficiencies in operations, the reduction of mixed waste storage because of the completion of the mixed low-level waste treatment and disposition....</li> </ul>	-7,485
<b>OR-0031 / Soil and Water Remediation-Offsites</b>	
<ul style="list-style-type: none"> <li>▪ 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.....</li> </ul>	6,182
<b>OR-0043 / Nuclear Facility D&amp;D-East Tennessee Technology Park (Defense)</b>	
<ul style="list-style-type: none"> <li>▪ Increase reflects the start of the Centrifuge Facilities D&amp;D Project.....</li> </ul>	1,493

FY 2005 vs. FY 2004 (\$000)
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**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)
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**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

<b>Total Funding Change, 2012 Accelerated Completions.....</b>	<b>-48,697</b>
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## 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 / Transportation-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%
<b>Total, 2035 Accelerated Completions.....</b>	<b>1,811,563</b>	<b>1,918,375</b>	<b>1,893,339</b>	<b>-25,036</b>	<b>-1.3%</b>

## 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
<b>Carlsbad</b>					
Waste Isolation Pilot Plant.....	178,164	183,020	204,167	21,147	11.6%
<b>Idaho</b>					
Idaho National Laboratory.....	0	439	0	-439	-100.0%
<b>Los Alamos Site Office</b>					
Los Alamos National Laboratory.....	71,453	70,890	79,692	8,802	12.4%
<b>Nevada Site Office</b>					
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%
<b>Total, Nevada Site Office.....</b>	<b>81,669</b>	<b>74,358</b>	<b>85,954</b>	<b>11,596</b>	<b>15.6%</b>
<b>NNSA Service Center</b>					
Separations Process Research Unit.....	716	5,411	5,708	297	5.5%
<b>Total, NNSA Service Center.....</b>	<b>716</b>	<b>5,411</b>	<b>5,708</b>	<b>297</b>	<b>5.5%</b>
<b>Oak Ridge</b>					
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%
<b>Total, Oak Ridge.....</b>	<b>70,248</b>	<b>55,105</b>	<b>48,639</b>	<b>-6,466</b>	<b>-11.7%</b>
<b>Richland</b>					
Hanford Site.....	263,475	323,057	385,616	62,559	19.4%
<b>River Protection.....</b>	<b>427,820</b>	<b>401,898</b>	<b>348,570</b>	<b>-53,328</b>	<b>-13.3%</b>
<b>Savannah River Site.....</b>	<b>718,018</b>	<b>804,197</b>	<b>734,993</b>	<b>-69,204</b>	<b>-8.6%</b>
<b>Total, 2035 Accelerated Completions.....</b>	<b>1,811,563</b>	<b>1,918,375</b>	<b>1,893,339</b>	<b>-25,036</b>	<b>-1.3%</b>



## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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
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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<sup>3</sup> 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
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- 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)						
<ul style="list-style-type: none"> <li>▪ 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).</li> <li>▪ Completed inter-site shipments from the Energy Technology Engineering Center, Missouri University Research Reactor (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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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
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- 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%
<b>Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)</b> <ul style="list-style-type: none"> <li>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).</li> <li>Completed design and started construction of the 9201-2 Water Treatment System (FY 2003).</li> <li>Completed Upper East Fork Poplar Creek Sitewide Soils Focused Feasibility Study and initiated preparation of the Proposed Plan (FY 2003).</li> <li>Completed boneyard/burnyard (FY 2003).</li> <li>Complete the construction of the 9201-2 Water Treatment System to remediate mercury contamination in surface water (September 2004).</li> <li>Complete Upper East Fork Poplar Creek soils record of decision (September 2005).</li> </ul>						

**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 Gunitite Tanks and numerous smaller inactive liquid low-level waste tanks throughout the laboratory and demolition of the former Metal Recovery Facility. The strategy for

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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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%

**Defense Site Acceleration Completion/  
2035 Accelerated Completions**

**FY 2005 Congressional Budget**



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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:

**Defense Site Acceleration Completion/  
2035 Accelerated Completions**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- **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<sup>3</sup>. Through FY 2003, Hanford has disposed of approximately 31,600 m<sup>3</sup> 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<sup>3</sup>. Through FY 2003, Hanford has disposed of approximately 1,200 m<sup>3</sup> of mixed low-level waste. Near-term performance incentive milestones include treatment and/or disposal of 7,000 m<sup>3</sup> 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<sup>3</sup>. As of September 30, 2003, Hanford has shipped 337 m<sup>3</sup> 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<sup>3</sup> 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
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- 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<sup>3</sup> of on-site generated low-level waste.
- Mixed Low-Level Waste: Treat 1,200 m<sup>3</sup> and dispose of approximately 2,300 m<sup>3</sup> 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<sup>3</sup>. 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 <sup>3</sup> )	238	200	983	1,520	28,369	5%
Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )	3,634	3,323	3,875	43,680	69,391	63%

(dollars in thousands)

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

- Low-Level Waste: Disposed of 1,846 m<sup>3</sup> of on-site and off-site generated low-level waste (FY 2003).
- Mixed Low-Level Waste: Treated and disposed 1,788 m<sup>3</sup> 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<sup>3</sup> on-site and off-site generated low-level waste (September 2004).
- Mixed Low-Level Waste: Dispose of 1,877 m<sup>3</sup> of mixed low-level waste to reduce inventory (September 2004).
- Transuranic Waste: Shipped 238 m<sup>3</sup> in FY 2003, 160 m<sup>3</sup> more than planned, and will ship 200 m<sup>3</sup> 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<sup>3</sup> 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
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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
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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)						
<ul style="list-style-type: none"><li>▪ Completed first draft Record of Decision for waste site remediation on Central Plateau (FY 2003).</li><li>▪ Completed final testing and began full operations of the in-situ redox manipulation groundwater treatment system (FY 2003).</li><li>▪ Began decommissioning of high-risk wells (FY 2003).</li><li>▪ Upgraded and operated the groundwater interim action remediation systems in the River Corridor and on the Central Plateau Areas (FY 2003).</li><li>▪ Prevented contaminants from reaching the groundwater by repairing four major leaking water lines (FY 2003).</li><li>▪ Installed 12 of 60 wells to complete integrated monitoring network (FY 2003).</li><li>▪ Implemented actions for completion of remediation at three groundwater plume contamination sites (FY 2003).</li><li>▪ Perform groundwater and vadose zone sampling and analysis for 1,000 plus wells on the Hanford Site (September 2004).</li><li>▪ Complete installation of high priority wells in 200 Area to gather additional data to support groundwater remediation strategy development by 2006 (September 2004).</li><li>▪ Complete decommissioning of 140 high-risk wells (September 2005).</li><li>▪ Complete waste site remediation of two record of decisions and three feasibility studies (September 2005).</li><li>▪ Develop final remedial alternative for N Springs and U-Plant 1 (September 2005).</li><li>▪ Complete installation of high priority wells (September 2005).</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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<sup>3</sup> 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
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- 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 618-11 burial 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)						
<ul style="list-style-type: none"> <li>▪ Completed Radon Holdup System disposition (FY 2003).</li> <li>▪ Dispositioned six facilities, railcars, and heavy equipment (FY 2003).</li> <li>▪ 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).</li> </ul>						



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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<sup>3</sup> of low-level waste and 1 m<sup>3</sup> 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
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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						
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY2005)</b> <ul style="list-style-type: none"> <li>Provided on-going operations of the Hanford Site solid waste disposal facilities (low-level waste and mixed low-level waste) (FY 2003).</li> <li>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).</li> <li>Provide on-going operations of the Hanford Sites waste disposal facilities for the low-level and mixed low-level waste (September 2005).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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- 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 <sup>3</sup> )	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)						
<ul style="list-style-type: none"> <li>▪ Reduced total single-shell tank liquid waste to two percent to support final retrieval and closure activities (FY 2003).</li> <li>▪ 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).</li> <li>▪ Completed Interim Stabilization of 244-AR Vault (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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**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
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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)						
<ul style="list-style-type: none"> <li>▪ Initiated shipment of highly enriched uranium ingots off-site (FY 2003).</li> <li>▪ Completed receipt and placement in storage at K-Area Materials Storage of all remaining Rocky Flats plutonium and highly enriched uranium items (FY 2003).</li> <li>▪ Initiate Design Safety Analysis assessment for the 235-F material storage area (January 2004).</li> <li>▪ Continue to operate K-Area Material Storage facility and complete optimization of storage configuration studies (September 2004).</li> <li>▪ Complete Design Safety Analysis assessment for 235-F facility (December 2004).</li> <li>▪ Continue operation of K Area Material Storage facility including intrasite material transfers (September 2005).</li> <li>▪ Initiate operations for 235-F expanded storage capability (September 2005).</li> </ul>						



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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
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Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)</b> <ul style="list-style-type: none"> <li>▪ Continued to receive spent nuclear fuel as scheduled for storage into L-Basin, awaiting disposition (FY 2003).</li> <li>▪ Remaining cask shipments of about 206 assemblies of Mk16/22 spent nuclear fuel will be made to H-Canyon for stabilization (March 2004).</li> <li>▪ Maintain capability to receive and store spent nuclear fuel at the Savannah River Site in support of non-proliferation goals (September 2005).</li> </ul>						

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

- Ship 4,000 drums (840 m<sup>3</sup>) 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<sup>3</sup>, in addition to disposal of newly generated waste received.
- Reduce the legacy hazardous waste inventory to 30 m<sup>3</sup>, 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 <sup>3</sup> )	1,263	840	840	3,139	15,326	20%
Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )	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<sup>3</sup> 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<sup>3</sup>) (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<sup>3</sup>) (September 2004).

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Dispose of 10,744 m<sup>3</sup> 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<sup>3</sup>) (September 2005).
- Dispose of 10,364 m<sup>3</sup> 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
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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
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- 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
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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 <sup>3</sup> )	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)						
<ul style="list-style-type: none"> <li>▪ Closed ten remaining solvent tanks at Old Radioactive Waste Burial Ground (FY 2003).</li> <li>▪ Completed base injection pilot testing at the F-Area Seepage Basin Groundwater Unit to demonstrate in place treatment of metals (FY 2003).</li> <li>▪ Designed the remedial action for the General Separations Area Consolidated Unit including the Old Radioactive Waste Burial Ground (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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)						
<ul style="list-style-type: none"><li>▪ Decommissioned and demolished 23 industrial facilities, removed two nuclear facilities, and decommissioned and demolished five radioactive facilities (FY 2003).</li><li>▪ Completed the evaporation of 1 million gallons of basin water (FY 2003).</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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 <sup>3</sup> )	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)						
<ul style="list-style-type: none"> <li>▪ Started Voluntary Corrective Measures plan for Outfall at Technical Area-21 Potential Release Site linked to plutonium processing (FY 2003).</li> <li>▪ Installed permeable reactive barrier in Mortandad Canyon to protect groundwater resources (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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:

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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- 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 Rainier 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
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- 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<sup>3</sup>. 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
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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<sup>3</sup> 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)						
<ul style="list-style-type: none"><li>▪ 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).</li><li>▪ Continue to dispose low-level waste from complex-wide generators in support of closure of other EM sites estimated at 99,100 m<sup>3</sup> (September 2004).</li><li>▪ Continue to dispose of low-level waste from complex-wide generators in support of closure of other EM sites estimated at 83,000 m<sup>3</sup> (September 2005).</li></ul>						



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**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<sup>3</sup> 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 <sup>3</sup> )	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
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**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<sup>3</sup> 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)
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**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)
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**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)
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**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

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**Total Funding Change, 2035 Accelerated Completions..... -25,036**

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# 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%
<b>Total, Capital Operating Expenses.....</b>	<b>43,670</b>	<b>82,287</b>	<b>66,301</b>	<b>(15,986)</b>	<b>-19.4%</b>

## Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior-Year Appropriations	FY 2003	FY 2004	FY 2005	Unappropriated Balance
<b>Defense Site Acceleration Completion</b>						
<b>2006 Accelerated Completions</b>						
02-D-420, Pu Packaging and Stabilization, SR, SR-0011A.....	21,958	20,000	1,958	0	0	0
<b>Defense Site Acceleration Completion</b>						
<b>2012 Accelerated Completions</b>						
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
<b>Total, 2012 Accelerated Completions...</b>	<b>N/A</b>	<b>1,101,880</b>	<b>691,096</b>	<b>711,644</b>	<b>713,640</b>	<b>N/A</b>
<b>2035 Accelerated Completions</b>						
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
<b>Total, 2035 Accelerated Completions...</b>	<b>N/A</b>	<b>0</b>	<b>14,862</b>	<b>85,209</b>	<b>43,827</b>	<b>N/A</b>



# 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				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
(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 .....	<u>40,900</u>	<u>N/A</u>
Subtotal construction costs .....	45,750	N/A
Total Estimated cost.....	<u>45,750</u>	<u>N/A</u>
Other Project Costs		
Other Project Costs .....	27,870	N/A
Total Project Cost.....	<u>73,620</u>	<u>N/A</u>

## 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 ( <i>operating from FY 2004 through FY 2007</i> ) .....	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				Total Estimated Cost	Total Project Cost
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2001 Budget Request (Title 1 Baseline) <sup>a</sup> .....	4Q 1998	2Q 2005	1Q 2001	1Q 2007	5,466,000 (\$000)	12,488,000 (\$000)
FY 2002 Budget Request <sup>b</sup> .....	"	"	3Q 2002	"	4,350,000	4,350,000
FY 2003 Budget Request.....	"	"	"	"	"	"
FY 2004 Budget Request.....	"	"	4Q 2002	"	"	"
FY 2003 Congressional Notification	"	"	"	3Q 2008 <sup>c</sup>	5,781,000	5,781,000
FY 2005 Budget Request.....	"	"	"	"	"	"

<sup>a</sup> Total Project Cost/Total Estimated Cost based upon Privatization concept and included plant operations through FY 2018.

<sup>b</sup> The FY 2002 Total Project Cost/Total Estimated Cost based on traditional government construction contract.

<sup>c</sup> 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 <sup>a</sup>	370,974	370,974
2001	401,171 <sup>b</sup>	401,171	226,311
2002	665,000	665,000	488,469
2003	690,000 <sup>c</sup>	690,000	713,000
2004	686,036 <sup>d</sup>	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

<sup>a</sup> 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.

<sup>b</sup> Reflects FY 2001 Rescission of \$829,000 and FY 2001 Supplemental Appropriation of \$25,000,000. The original appropriation was \$377,000,000.

<sup>c</sup> Reflects approved reprogramming to increase the FY 2003 Appropriation from \$606,018,433 to \$690,000,000 to meet project requirements.

<sup>d</sup> 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<sup>a</sup>

	(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.....	<u>4,856,000</u>	<u>3,465,000</u>
Contingency.....	550,000	500,000
Contractor Fee.....	225,000	335,000
Contract Subtotal.....	<u>5,631,000</u>	<u>4,300,000</u>
DOE Contingency and Technical and Programmatic Risk Assessment.....	100,000	0
Interim Contract Operations During Transition from Privatization.....	50,000	50,000
Total.....	<u>5,781,000</u>	<u>4,350,000</u>

#### 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.

<sup>a</sup> 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
<b>Contract Milestones</b>	
Start of Construction	July 10, 2002 <b>A</b>
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
<b>Current Forecast Milestones</b>	
Start Construction of the Pretreatment Facility .....	Nov. 26, 2002 <b>A</b>
Start Construction of the High-Level Waste Facility.....	July 10, 2002 <b>A</b>
Start Construction of the Low Activity Waste Facility ...	July 10, 2002 <b>A</b>
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.) <sup>a</sup> .....	385,000	114,000
Total related annual funding (from completion of commissioning in FY 2010) .....	385,000	114,000

<sup>a</sup> 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		
FY 2003 Congressional Amendment <i>(Preliminary Baseline Estimate)</i> .....	3Q 2003	2Q 2004	1Q 2004	2Q 2006	(\$000) 86,000	(\$000) 90,800
FY 2004 Congressional Request.....	1Q 2003	3Q 2003	3Q 2003	“	“	“
FY 2005 Congressional Request <i>(Acquisition Performance Baseline)</i>	3Q 2003	1Q 2004	2Q 2004	“	71,826	78,000

### 2. Financial Schedule<sup>a</sup>

(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

<sup>a</sup> 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, Contingencies (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<sup>a</sup>

(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 ( <i>operating from FY 2006 through FY 2026</i> ) <sup>b</sup> .....	500	500

<sup>a</sup> Design funding appropriated in line item 03-D-414, Project Engineering and Design.

<sup>b</sup> Annual costs in FY 2003 dollars.

# Safeguards and Security

## Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Safeguards and Security					
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
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**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
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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
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**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
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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
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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).

**Defense Site Acceleration Completion/  
Safeguards and Security**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- 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
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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
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**Total, Safeguards and Security.....** 254,747    291,124    265,059

### Detailed Funding Schedule

(dollars in thousands)

FY 2003	FY 2004	FY 2005	\$ Change	% Change
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#### 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%
<b>Subtotal, Physical Security.....</b>	<b>3,226</b>	<b>3,403</b>	<b>4,065</b>	<b>662</b>	<b>19.5%</b>
Cyber Security.....	36	38	40	2	5.3%
<b>Total, Carlsbad Area Office.....</b>	<b>3,262</b>	<b>3,441</b>	<b>4,105</b>	<b>664</b>	<b>19.3%</b>

#### 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%
<b>Subtotal, Physical Security.....</b>	<b>17,035</b>	<b>19,698</b>	<b>20,799</b>	<b>1,101</b>	<b>5.6%</b>
Cyber Security.....	940	970	1,227	257	26.5%
<b>Total, Oak Ridge/East Tennessee Technology Park.....</b>	<b>17,975</b>	<b>20,668</b>	<b>22,026</b>	<b>1,358</b>	<b>6.6%</b>

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Ohio/Fernald</b>					
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%
<b>Ohio/Miamisburg</b>					
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%
<b>Ohio/West Valley</b>					
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%
<b>Paducah</b>					
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
<b>Portsmouth</b>					
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%
<b>Richland Operations Office</b>					
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%
<b>Rocky Flats Field Office</b>					
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
<b>Savannah River Operations Office</b>					
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%
<b>Subtotal, Physical Security.....</b>	<b>107,355</b>	<b>138,976</b>	<b>134,687</b>	<b>-4,289</b>	<b>-3.1%</b>
Cyber Security.....	2,345	4,383	2,601	-1,782	-40.7%
<b>Total, Savannah River Operations Office.....</b>	<b>109,700</b>	<b>143,359</b>	<b>137,288</b>	<b>-6,071</b>	<b>-4.2%</b>
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%
<b>Total, Safeguards and Security.....</b>	<b>254,625</b>	<b>291,003</b>	<b>264,916</b>	<b>-26,087</b>	<b>-9.0%</b>

### 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%
<b>Total, Safeguards and Security.....</b>	<b>254,625</b>	<b>291,003</b>	<b>264,916</b>	<b>-26,087</b>	<b>-9.0%</b>

## Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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**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)
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**SR-0020 / Safeguards and Security – Savannah River**

<ul style="list-style-type: none"> <li>▪ 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.....</li> </ul>	-6,071
<b>Total Funding Change, Safeguards and Security.....</b>	<b>-26,065</b>

**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%
<b>Total, Capital Operating Expenses.....</b>	<b>111</b>	<b>27,718</b>	<b>150</b>	<b>-27,568</b>	<b>-99.5%</b>

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 <sup>a</sup>	49,446 <sup>b</sup>	45,593	-3,853	-7.8%
Small Business Innovative Research Program .....	0 <sup>c</sup>	1,670	1,549	-121	-7.2%
Total, Technology Development and Deployment .....	113,679	66,116 <sup>d</sup>	60,142 <sup>e</sup>	-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

<sup>a</sup> 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.

<sup>b</sup> Includes \$40,709,000 in Congressional requirements for projects in addition to the Alternative Projects described.

<sup>c</sup> 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.

<sup>d</sup> Final distribution of funds by program area will change based upon final receipt, review, selection, and award of technical proposals.

<sup>e</sup> 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
<b>Carlsbad Field Office</b>					
Carlsbad Field Office (NM) .....	1,767	0	0	0	0.0%
<b>Chicago Operations Office</b>					
Argonne National Laboratory-West (IL) .....	96	0	0	0	0.0%
Chicago Operations Office (IL).....	517	0	0	0	0.0%
<b>Total, Chicago Operations Office .....</b>	<b>613</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0%</b>
<b>Idaho Operations Office</b>					
Idaho National Laboratory (ID) .....	212	0	0	0	0.0%
Idaho Operations Office (ID).....	12,000	0	0	0	0.0%
<b>Total, Idaho Operations Office .....</b>	<b>12,212</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0%</b>
<b>Los Alamos Site Office</b>					
Los Alamos National Laboratory (NM) .....	582	0	0	0	0.0%
Nevada Site Office (NV) .....	2,500	497	0	-497	-100.0%
<b>NNSA Service Center</b>					
NNSA Service Center (NM) .....	2,175	0	0	0	0.0%
Sandia National Laboratories (NM) .....	123	0	0	0	0.0%
<b>Total, NNSA Service Center .....</b>	<b>2,298</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0%</b>
<b>Oak Ridge Operations Office</b>					
Oak Ridge Operations Office (TN) .....	7,154	0	3,500	3,500	100.0%
<b>Ohio Field Office</b>					
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%
<b>Total, Ohio Field Office.....</b>	<b>10,000</b>	<b>5,000</b>	<b>3,000</b>	<b>-2,000</b>	<b>-40.0%</b>
<b>Richland Operations Office</b>					
Pacific Northwest Laboratory (WA) .....	1,500	0	0	0	0.0%
Richland Operations Office (WA) .....	397	0	0	0	0.0%
<b>Total, Richland Operations Office.....</b>	<b>1,897</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0%</b>
<b>Office of River Protection</b>					
River Protection (WA) .....	2,000	0	0	0	0.0%
<b>Rocky Flats Field Office</b>					
Rocky Flats Environmental Technology Site (CO) .	10,000	5,000	1,500	-3,500	-70.0%
<b>Savannah River Operations Office</b>					
Savannah River Site (SC) .....	8,546	0	0	0	0.0%

**Defense Site Acceleration Completion/  
Technology Development and Deployment**

**FY 2005 Congressional Budget**

(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 <sup>a</sup>	60,142 <sup>b</sup>	-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:

---

<sup>a</sup> 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.

<sup>b</sup> 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<sup>a</sup> 49,446<sup>b</sup> 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.

<sup>a</sup> Includes \$34,500,000 in Congressional requirements for projects in addition to the Alternative Projects scope.

<sup>b</sup> 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 support 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<sup>a</sup>    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).

<sup>a</sup> \$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.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

- 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 melter 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 attenuation, 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).

<b>Total, Technology Development and Deployment</b>	<b>113,679</b>	<b>66,116</b>	<b>60,142</b>
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### 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 |
|------------------------------|------|

<b>Total Funding Change, Technology Development and Deployment .....</b>	<b>-5,974</b>
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# 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
---------	---------	---------

<b>High-Level Waste Proposal.....</b>	<b>0</b>	<b>0</b>	<b>350,000</b>
---------------------------------------	----------	----------	----------------

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.

<b>Total, High-Level Waste Proposal .....</b>	<b>0</b>	<b>0</b>	<b>350,000</b>
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### 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 |
|---|--|---------|

<b>Total Funding Change, High-Level Waste Proposal .....</b>		<b>350,000</b>
--	--	----------------

**Defense  
Environmental  
Services**

**Defense  
Environmental  
Services**

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## **Defense Environmental Services**

### **Proposed Appropriation Language**

For Department of Energy expenses necessary for defense-related environmental services activities, and classified activities, that indirectly support the accelerated cleanup and closure mission at environmental management sites, including the purchase, construction, and acquisition of plant and capital equipment and other necessary expenses, and the purchase of not to exceed [one ambulance] *three ambulances* for replacement only, [\$991,144,000] *\$982,470,000*, to remain available until expended. (Energy and Water Development Appropriations Act, 2004.)

### **Explanation of Change**

None.





# Defense Environmental Services

## 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 Environmental Services					
Non-Closure Environmental					
Activities.....	327,188	253,024	-6,106	246,918	187,864
Community and Regulatory Support ..	67,956	61,570	-710	60,860	60,547
Program Direction .....	279,723	287,144	-10,634	276,510	271,059
Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund .....	432,731	452,000	-2,667	449,333	463,000
Subtotal, Defense Environmental Services	1,107,598	1,053,738	-20,117 <sup>a/</sup>	1,033,621	982,470
Use of Prior Year Balances.....	-1,820	-20,000	-1,011	-21,011	0
Total, Defense Environmental Services	1,105,778	1,033,738	-21,128	1,012,610	982,470

### 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"

<sup>a/</sup> Reflects the following:

- Rescission reduction of \$5,848,000;
- Transfer of \$6,236,000 to the Office of Science for the Environmental Management staff at the Pacific Northwest National Laboratory;
- Transfer of \$739,000 to the Office of the Chief Information Officer to support the transition of desktop, e-mail, and related network Extended Common Integrated Environment services to align with the Department corporate support;
- Transfer of \$734,000 to the National Nuclear Security Administration for the transfer of the Off-Site Source Recovery Program;
- Transfer of \$1,573,000 to the Office of Legacy Management for the payment of pensions and benefits to former contractor personnel at the Pinellas Site;
- Transfer \$6,695,000 to the Office of Civilian Radioactive Waste Management due to transfer of responsibility for the Foreign Research Reactor Spent Nuclear Fuel Program;
- Transfer of \$377,000 to the Office of Civilian Radioactive Waste Management due to the transfer of the National Spent Nuclear Fuel Program to the Repository Program;
- Transfer of \$334,000 to the Office of Legacy Management for records management support of Formerly Utilized Sites Remedial Action Program Considered Sites;
- Transfer of \$165,000 to the Office of Legacy Management for cost liability and recovery review of claims brought by the private parties under the Comprehensive Environmental Response, Compensation, and Liability Act where DOE is identified as a potentially responsible party.
- Transfer of \$845,000 to the Office of Legacy Management for Environmental Justice activities and the Massie Chairs of Excellence;
- Reflects an accounting adjustment transfer of \$3,429,000 from the Defense Site Acceleration Completion 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 Environmental Services appropriation indirectly supports the primary mission of accelerated risk reduction and closure. This appropriation also funds defense service activities performed by the Environmental Management programs for other Department goals and objectives. This appropriation includes four programs: Non-Closure Environmental Activities; Community and Regulatory Support; Program Direction; and Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.

The FY 2005 Request for the Defense Environmental Services appropriation is \$982,470,000, a decrease of \$30,140,000 from the comparable FY 2004 appropriation of \$1,012,610,000.

## **Benefits**

This appropriation provides funding for defense related activities that indirectly support the primary EM mission of the accelerated risk reduction and environmental cleanup of sites contaminated as a result of nuclear weapons production and nuclear research. The appropriation also funds services provided by EM in support of other Departmental missions and objectives such as management of non-EM newly generated waste and consolidation of nuclear materials.

As the EM cleanup 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. These indirect support activities ensure that EM's primary cleanup mission and other DOE missions and objectives proceed in an efficient and responsible manner.

## Non-Closure Environmental Activities

### Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
HQ-GJ-0102 / Rocky Flats Wildlife Refuge and Museum.....	1,269	1,235	478	-757	-61.3%
HQ-HLW-0014X / Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository.....	5,017	0	0	0	0.0%
HQ-MS-0100 / Policy, Management, and Technical Support.....	116,712	77,024	75,688	-1,336	-1.7%
HQ-OPS-0900 / Pre-2004 Completions.....	3,700	0	0	0	0.0%
HQ-SNF-0012X / Spent Nuclear Fuel Stabilization and Disposition-Storage Operations Awaiting Geologic Repository.....	29,173	29,973	25,452	-4,521	-15.1%
HQ-SNF-0012Y / Spent Nuclear Fuel Stabilization and Disposition-New Upgraded Facilities Awaiting Geologic Repository.....	53,052	43,162	0	-43,162	-100.0%
HQ-SW-0013X / Solid Waste Stabilization and Disposition-Science Current Generation.....	24,659	20,281	18,378	-1,903	-9.4%
HQ-SW-0013Y / Solid Waste Stabilization and Disposition-National Nuclear Security Administration Current Generation.....	45,287	41,944	41,789	-155	-0.4%
OR-0101 / Oak Ridge Contract/Post-Closure Liabilities/Administration.....	15,678	16,582	18,709	2,127	12.8%
RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities.....	130	2,466	2,300	-166	-6.7%
SR-0100 / Non-Closure Mission Support	13,242	14,251	5,070	-9,181	-64.4%
VL-FAO-0100-D / Nuclear Material Stewardship (Defense).....	18,336	0	0	0	0.0%
VL-SV-0100 / South Valley Superfund.....	933	0	0	0	0.0%
<b>Total, Non-Closure Environmental Activities.....</b>	<b>327,188</b>	<b>246,918</b>	<b>187,864</b>	<b>-59,054</b>	<b>-23.9%</b>

### Description

The Non-Closure Environmental Activities program funds ongoing activities that indirectly support the Environmental Management accelerated cleanup and closure mission. These include national crosscutting initiatives, policy development, and coordination and integration of mission activities across the complex. Also included are services provided by EM in support of other Department missions and objectives. These include management of newly generated non-EM waste.

### Benefits

This account provides funding for defense related activities that indirectly support the primary EM cleanup mission and includes national crosscutting initiatives, policy development and coordination and

integration of mission activities across the complex. Also included are services provided by EM in support of other Departmental missions and objectives such as management of non-EM newly generated waste and the consolidation of nuclear materials.

As the EM cleanup 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. The integration, policy development, crosscutting and other activities funded by this account ensures that the EM's primary cleanup mission and other DOE objectives proceed in a consistent, responsible and efficient manner.

### Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Oak Ridge Operations Office					
Oak Ridge Reservation.....	15,678	16,582	18,709	2,127	12.8%
Rocky Flats Field Office					
Rocky Flats Field Office.....	130	2,466	2,300	-166	-6.7%
Savannah River Operations Office					
Savannah River Operations Office	13,242	14,251	5,070	-9,181	-64.4%
Headquarters					
Grand Junction.....	1,269	1,235	478	-757	-61.3%
Hanford.....	0	3,429	3,498	69	2.0%
Headquarters.....	120,412	77,024	75,688	-1,336	-1.7%
Idaho National Laboratory.....	63,132	55,277	10,617	-44,660	-80.8%
Lawrence Livermore National Laboratory.....	20,891	20,395	22,000	1,605	7.9%
Oak Ridge National Laboratory...	24,659	20,281	18,378	-1,903	-9.4%
Office of River Protection.....	5,017	0	0	0	0.0%
Savannah River Site.....	19,093	14,429	11,337	-3,092	-21.4%
Y-12 Plant.....	24,396	21,549	19,789	-1,760	-8.2%
Subtotal, Headquarters.....	278,869	213,619	161,785	-51,834	-24.3%
NNSA Service Center					
NNSA Service Center.....	18,336	0	0	0	0.0%
South Valley Site.....	933	0	0	0	0.0%
Subtotal, NNSA Service Center....	19,269	0	0	0	0.0%
Total, Non-Closure Environmental Activities	327,188	246,918	187,864	-59,054	-23.9%

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**HQ-GJ-0102 / Rocky Flats Wildlife Refuge and Museum (life-cycle estimate \$3,539K) . . . . . 1,269 1,235 478**

This PBS supports the transition activities leading to the establishment of a National Wildlife Refuge on the Rocky Flats Site as required in the Rocky Flats National Wildlife Refuge Act of 2001.

Transition activities include preparation of a Memorandum of Understanding between the DOE and the United States Fish and Wildlife Service, development of a Comprehensive Conservation Plan by the Fish and Wildlife Service, and a report to Congress by DOE on the establishment of a Rocky Flats Museum.

The DOE and the Fish and Wildlife Service are finalizing the draft Memorandum of Understanding for transferring administrative control of the site from DOE to the Fish and Wildlife Service. The Fish and Wildlife Service is developing a Comprehensive Conservation Plan for management of the refuge, to be finalized by December 2004. The DOE will provide an annual report to Congress on the funding required to implement the Rocky Flats Refuge Act.

The DOE, in consultation with the city of Arvada, other local communities, and the Colorado State Historical Society will provide a report to Congress by December 2004, on the development, siting, and any other issues relating to the development and construction of the Rocky Flats Museum. The final end state for this PBS will be the transfer of the Rocky Flats Museum to the Fish and Wildlife Service currently planned to coincide with the Rocky Flats closure on December 15, 2006.

In FY 2005, the following activities are planned to support the Rocky Flats Wildlife Refuge and Museum:

- Provide the Annual Report to Congress in December 2004.
- The Fish and Wildlife Service will provide technical assistance and guidance to DOE to help ensure that the cleanup and closure of Rocky Flats is consistent with the purposes of the Refuge.
- The Fish and Wildlife Service will publish the Comprehensive Conservation Plan for the Fish and Wildlife Service post-closure management of the Rocky Flats Wildlife Refuge in December 2004.
- The Department of Energy will provide a report to Congress on issues related to development and construction of the Rocky Flats Museum.

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)						
<ul style="list-style-type: none"> <li>▪ DOE provided the annual report to Congress in June 2003. The United States Fish and Wildlife Service provided technical assistance and guidance to DOE to help ensure that the cleanup and closure of Rocky Flats is consistent with the purposes of the Refuge (FY 2003).</li> <li>▪ Complete Memorandum of Understanding between DOE and the Department of Interior, Fish and Wildlife Service (September 2004).</li> <li>▪ Provide Annual Report to Congress on funding the Rocky Flats</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- |   |
|---|
| <p>Wildlife Refuge Act (December 2003/December 2004).</p> <ul style="list-style-type: none"> <li>Provide report to Congress on issues related to development and construction of the Rocky Flats Museum (December 2004).</li> </ul> |
|---|

**HQ-HLW-0014X / Radioactive Liquid Tank Waste**

<b>Stabilization and Disposition-Storage Operations Awaiting Geologic Repository (life-cycle estimate \$116,834K) . . . . .</b>	<b>5,017</b>	<b>0</b>	<b>0</b>
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This PBS provides for the design, construction, and operation of Immobilized High-Level Waste storage facilities at the Hanford Site after 2010, which will store the Immobilized High-Level Waste canisters from the Waste Treatment and Immobilization Plant until shipped to an off-site geological repository. A facility will also be provided for loading Immobilized High-Level Waste canisters into off-site shipping casks for transportation to the off-site repository. The first canister will be shipped to the repository in 2012.

The end-state for this PBS occurs in 2032 when all the Immobilized High-Level Waste canisters are shipped to a geologic repository. To achieve the end-state, design, construction, and operation of future Immobilized High-Level Waste storage facilities may need to be constructed.

In FY 2005, the following activities are planned to support the accelerated cleanup at EM complex-wide sites.

- There are no activities scheduled for this PBS in FY 2005.

<b>HQ-MS-0100 / Policy, Management, and Technical Support (life-cycle estimate \$1,816,500K) . . . . .</b>	<b>116,712</b>	<b>77,024</b>	<b>75,688</b>
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This PBS provides management and direction for various crosscutting EM and DOE initiatives; establishes and implements national and departmental policy; conducts analyses and integration activities across the DOE complex; and provides for the SAFECOM program, one of the President’s electronic Government initiatives. Also, the scope of this PBS enables Headquarters and national programs to provide government-furnished services and items necessary to accelerate site cleanup and risk reduction efforts; assure pathways to disposition waste and materials; conduct transportation, packaging, and emergency preparedness activities; complete necessary policy analyses; and effectively communicate with the public and stakeholders regarding the EM program's activities. The scope of this PBS will be completed in 2035 or earlier.

In FY 2005, the following activities are planned to support the accelerated cleanup at EM complex-wide sites.

- Continue support of Tribal, State, and local government participation in EM through the State and Tribal Government Working Group, local officials exchange seminars, government-to-government interactions with the native American Tribes and grants with the National Governors Association.
- Provide EM Network Services, End User Services, HQ Corporate systems support, and architecture and planning support.
- Provide expertise in the areas of safety, health and security; as well as in emergency management, package certification, quality assurance, nuclear criticality safety, and risk management.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Instill safety awareness by utilizing the National Safety Council to conduct surveys, which will indicate whether and how EM's commitment to safety is working.
- Support various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program, and Consolidated Accounting Investment System.
- Support the Central Information Database, which integrates existing DOE information on rad and non-rad waste, contaminated media and facilities, spent nuclear fuel, materials inventory and toxic chemicals managed by EM, the National Nuclear Security Administration, the Office of Science, and the Office of Nuclear Energy.
- Provide support to various advisory groups to obtain technical assistance/expertise that indirectly support the EM mission objectives.
- Administer the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.
- Provide support for the SAFECOM program which will reduce costs by encouraging the consolidation of existing infrastructure and the elimination of redundant coverage sites and develop standards for baseline infrastructure elements to encourage economy-to-scale purchases and shared dispatch services.

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)						
<ul style="list-style-type: none"><li>▪ Enhanced Tribal, State, and local government participation in EM through the continuation of State and Tribal Government Working Group, local officials exchange seminars, government-to-government interactions with the Native American Tribes and grants with the National Governors Association (September 2003/ September 2004/September 2005).</li><li>▪ Provide EM Network Services, End User Services, HQ Corporate systems support, and architecture and planning support (September 2003).</li><li>▪ Provide expertise in the areas of safety, health and security; as well as in emergency management, package certification, quality assurance, analytical services, and risk management (September 2003/ September 2004/September 2005).</li><li>▪ Instill safety awareness by utilizing the National Safety Council to conduct surveys, which will indicate whether and how EM's commitment to safety is working (September 2003/ September 2004/September 2005).</li><li>▪ Provide support to various advisory groups to obtain technical assistance/expertise that indirectly support the EM mission</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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objectives (September 2003/ September 2004/September 2005).

- Support various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program, and Consolidated Accounting Investment System (September 2003/ September 2004/September 2005).
- Support the Central Information Database, which integrates existing DOE information on radioactive and non-radioactive waste, contaminated media and facilities, spent nuclear fuel, materials inventory and toxic chemicals managed by EM, the National Nuclear Security Administration, the Office of Science, and the Office of Nuclear Energy (September 2003/ September 2004/September 2005).
- Administer the EM and DOE-wide transportation and packaging responsibilities and Transportation Emergency Preparedness Program (September 2003/ September 2004/September 2005).

**HQ-OPS-0900 / Pre-2004 Completions (life-cycle estimate \$3,700K) . . . . . 3,700 0 0**

This PBS covers scope and funding for deactivation and decommissioning activities prior to FY 2004.

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)						
<ul style="list-style-type: none"> <li>▪ In FY 2003, Congress appropriated additional funding for deactivation and decommissioning of Excess Facilities. These funds were allocated to the field offices upon completion of their Performance Management Plans (FY 2003).</li> </ul>						

**HQ-SNF-0012X / Spent Nuclear Fuel Stabilization and Disposition-Storage Operations Awaiting Geologic Repository (life-cycle estimate \$2,322,451K) . . . . . 29,173 29,973 25,452**

.....  
 This PBS covers scope and funding for the storage of non-legacy spent nuclear fuel originating from non-DOE activities, such as foreign and domestic research reactor spent fuel and spent fuel from the Fort St. Vrain reactor. The storage sites include the Idaho National Laboratory, Richland, and the Savannah River Site. Legacy spent nuclear fuel originating from Atomic Energy Commission and DOE activities is covered in PBS ID-INL-0012B-D, PBS RL-0012, and PBS SR-0012, Spent Nuclear Fuel Stabilization and Disposition, for the respective sites.

IDAHO: The Idaho National Laboratory currently stores approximately 235 metric tonnes heavy metal of legacy and non-legacy spent nuclear fuel, and currently expects to receive an additional 70 metric tonnes heavy metal of legacy and non-legacy spent nuclear fuel for interim storage pending shipment to the monitored geologic repository, of which approximately 15 metric tonnes heavy metal of legacy



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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and non-legacy spent nuclear fuel is presently stored at the Fort St. Vrain Independent Spent Fuel Storage Installation in Colorado. (The management of this NRC-licensed facility and the SNF inventory stored there has transferred from the Office of Environmental Management to the Office of Civilian Radioactive Waste Management.) The end-state of this project is the safe receipt of all legacy and non-legacy spent nuclear fuel identified within DOE's long range plans, the safe storage of that spent nuclear fuel, and the safe packaging and transferring of the spent nuclear fuel to the monitored geologic repository. The project will be complete, and the environmental and security risks eliminated, when all legacy and non-legacy spent nuclear fuel has been shipped to the monitored geologic repository by January 1, 2035, in accordance with both the Idaho Settlement Agreement and the Performance Management Plan for accelerating cleanup of the Idaho National Laboratory.

Under this PBS, the Idaho National Laboratory receives, stores, and prepares a variety of non-legacy spent nuclear fuel for disposition. This project includes the following activities: 1) receive, store, and prepare foreign research reactor fuel for disposition, 2) receive, store, and prepare domestic research reactor fuel for disposition and shipment (a portion) to other site locations, and 3) operations of the Spent Nuclear Fuel Dry Storage Project, beginning in FY 2006, to repackage spent nuclear fuel into repository-acceptable standard canisters. To date, the Idaho National Laboratory has received twelve foreign research reactor shipments from six different countries including Romania, Slovenia and South Korea. The Idaho National Laboratory anticipates receiving approximately five cask shipments annually through 2009 from both foreign and domestic reactor sources, including receipts in FY 2003 and FY 2004 from West Valley and Oak Ridge, as well as from several universities. After FY 2009, three cask shipments are expected to be received each year from the domestic research reactor program through FY 2034. This PBS supports the United States nuclear weapons nonproliferation policy concerning foreign research reactor spent nuclear fuel and DOE programmatic spent nuclear fuel management policy regarding the safe, interim storage of spent nuclear fuel awaiting monitored geologic repository disposition (FY 2003 \$10,080,000; FY 2004 \$12,115,000; FY 2005 \$10,617,000). In FY 2005, the following activities related to non-legacy spent nuclear fuel are planned to support the accelerated cleanup of the Idaho National Laboratory:

- Complete receipt of one domestic research reactor shipment from SUNY-Buffalo.
- Complete receipt of two domestic research reactor shipments (two casks) from Sandia National Laboratory.
- Complete receipt of two foreign research reactor shipments (two casks) from countries not yet determined.
- Complete transfers of Peach Bottom Spent Nuclear Fuel from Chemical Processing Plant-749, equivalent to two standard canisters, to Foster Wheeler Spent Nuclear Fuel Dry Storage Project for hot operations testing of the privatized facility.
- Initiate preparations and planning for FY 2006 receipt of three domestic research reactor shipments and from two foreign research reactor shipments sites not yet determined.

RICHLAND: Richland activities will include operation of the 200 Area Interim Storage Area to receive and store non-legacy spent nuclear fuel. This PBS will include a portion of the costs for

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Canister Storage Building operations, based on a prorated share related to the estimated amount of non-legacy spent nuclear fuel being stored (5 percent) (FY 2003 \$0; FY 2004 \$3,429,000; FY 2005 \$3,498,000).

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

- Operate the 200 Area Interim Storage Area to receive and store EM non-legacy spent nuclear fuel.

SAVANNAH RIVER: In 1996, a decision was made to receive foreign research reactor fuel at Savannah River when the record of decision for the Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel Environmental Impact Statement was issued. Up to 17,800 foreign research reactor spent nuclear fuel elements may be returned to the Savannah River Site by 2009. That number has since been reduced due to some foreign countries electing not to participate. Spent nuclear fuel will also be received at the Savannah River Site from government and domestic research reactors in addition to the referenced foreign research reactor sources. The receipts are expected to average about 60 casks per year until 2009. The receipt rate will vary after 2009 consistent with the operation of government and domestic research reactors. As specified in the Performance Management Plan, domestic research reactor receipts may continue through 2012. The scope of this PBS includes programmatic and physical support efforts related to safe receipt, storage and preparation for final disposition of non-legacy spent nuclear fuel inventories. It also includes the receipt (from the Receiving Basin for Off-site Fuel) of some non-legacy spent nuclear fuel for consolidation and storage in L-Basin (completed in October 2003). The end-state of this project is the safe receipt and storage of all non-legacy spent nuclear fuel sent to the Savannah River Site, and the safe preparation of the non-legacy spent nuclear fuel for final disposition in the monitored geologic repository in accordance with the Performance Management Plan for accelerating cleanup of the Savannah River Site.

Project activities include cask receipt in L-Disassembly Basin, cask unloading and preparation for underwater storage, and surveillance and maintenance required to maintain select systems in the L-Reactor building. A basin deionization system will be operated in support of fuel storage and water chemistry control requirements.

A Treatment and Storage Facility (Direct Co-Disposal Facility) and other disposition alternatives have been proposed in the Performance Management Plan for this material. Funding for the project will be requested in the outyears. Various options for spent nuclear fuel disposition are being evaluated. These activities fully support the accelerated cleanup objective of dispositioning the non-legacy spent nuclear fuel under EM cognizance to 2012 (FY 2003 \$19,093,000; FY 2004 \$14,429,000; FY 2005 \$11,337,000).

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

- The current cask receipt schedule indicates off site spent nuclear fuel receipts activity of 27 casks containing 852 foreign research reactor assemblies and 19 casks containing 47 domestic research reactor assemblies. 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 facility's authorization basis. Basin operation activities, including continued operation of deionization systems and fuel handling (loading and unloading capability) will be focused on maintaining the capability to receive (at a 7 cask/month rate) and store spent

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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nuclear fuel. The installation of spent nuclear fuel storage racks to accommodate the projected inventory requirements continues. Additional spent nuclear fuel storage rack installation is planned to continue through FY 2006.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
SNF Packaged for Final Disposition (MTHM)	0	0	0	0	253	0%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"><li>▪ Receive one shipment of foreign research reactor from Japan and place in dry storage at the Idaho Nuclear Technology and Engineering Center Irradiated Fuel Storage Facility (ID/FY 2003).</li><li>▪ Receive five shipments of Oak Ridge Peach Bottom spent nuclear fuel from Oak Ridge Reservation at the Irradiated Fuel Storage Facility and Chemical Processing Plant-749 for interim dry storage (ID/September 2004).</li><li>▪ Receive one shipment of domestic research reactor spent nuclear fuel from General Atomics and place in interim dry storage in the Irradiated Fuel Storage Facility (ID/FY 2003).</li><li>▪ Complete one shipment of domestic research reactor spent nuclear fuel from Texas A&amp;M University to Argonne National Laboratory-East (ID/FY 2003).</li><li>▪ Complete receipt of West Valley spent nuclear fuel shipments (2 casks on rail) (ID/FY 2003).</li><li>▪ Receive one shipment of domestic research reactor spent nuclear fuel from Cornell University (ID/September 2004).</li><li>▪ Receive one shipment of foreign research reactor spent nuclear fuel (ID/September 2004).</li><li>▪ Receive two foreign research reactor spent nuclear fuel shipments (ID/September 2005).</li><li>▪ Receive three Domestic Research Reactor spent nuclear fuel shipments (ID/September 2005).</li><li>▪ Begin receiving Research Reactor Spent Nuclear Fuel returns (Foreign Research Reactor/Domestic Research Reactor) into L Basin in FY 1997. Since then nearly 7,400 assemblies of foreign research reactor, domestic research reactor, and Receiving Basin Off-site Fuel spent nuclear fuel have been received in addition to the 1,582 assemblies of the Savannah River Site irradiated legacy spent nuclear fuel already in storage. In FY 2003, spent nuclear fuel in domestic research reactor receipts totaled 12 casks of the original 22 cask projection. There were no foreign research reactor shipments received in FY 2003 a reduction from the original projection of 16 casks and 425 assemblies. Spent nuclear fuel in eight Japanese casks received in late FY 2002 were unloaded and stored in FY 2003. The reduction in FY 2003 domestic research</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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reactor receipts is primarily due to the elevation of the Terrorist Alert Level. Other factors affecting the schedule for off-site Research Reactor Spent Nuclear Fuel returns include changes in the Nuclear Regulatory Commissioner's licensee's responsibilities for conducting domestic shipments including route selection and approval and enhanced security measures (SR/FY 2003).

- The Japanese were also unable to resolve Nuclear Liability Insurance issues with the Panama Canal Authority for the casks to support a FY 2003 shipment. The organizations responsible for OSIRIS and ISIS reactors in France and the Siemens Argonaut Reactor (SAR-GRAZ) in Austria delayed entering into a contract with DOE-Savannah River (SR/FY 2003).
- Reschedule the Swedish and German Foreign Research Reactors shipments due to the delay in shipments of fuel from the Japanese, French, and Austrian reactors. Reschedule of the FY 2003 foreign research reactor receipts into FY 2004 at the request of the foreign research reactor operators (SR/FY 2003).
- Complete the Westinghouse Savannah River Company planning and analysis activities for the receipt of these spent fuels (SR/FY 2003).
- Continue the installation of spent nuclear fuel storage racks to accommodate the projected inventory requirements through FY 2006 (SR/FY 2003).
- The FY 2002 receipts totaled 57 casks containing 1,612 assemblies. The base funding covers required surveillance and maintenance activities to ensure compliance with Federal regulations and the facility's authorization basis (SR / September 2003/September 2004).
- Nine High Flux Isotope Reactor cores are scheduled for receipt or have been received (September 2003).
- Sixty-six offsite casks (40 foreign research reactor, 26 domestic research reactor) containing 1,443 assemblies (1,255 foreign research reactor, 188 domestic research reactor) of spent nuclear fuel and 15 High Flux Isotope Reactor cores are scheduled for receipt (September 2004).
- Thirty-eight offsite casks (18 foreign research reactor, 20 domestic research reactor) containing 635 assemblies (580 foreign research reactor, 55 domestic research reactor) of spent nuclear fuel (September 2005).

**HQ-SNF-0012Y / Spent Nuclear Fuel Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository (life-cycle estimate \$163,560K) .....**

**53,052      43,162      0**

This PBS provides for the design, licensing and construction of a privatization spent nuclear fuel dry transfer and storage facility at the Idaho National Laboratory. This project is needed to provide core capability to support/replace old legacy facilities not capable of meeting the disposition strategy for

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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the Idaho National Laboratory spent nuclear fuel, and provides an efficient, cost-effective facility to condition, package into road ready Nuclear Regulatory Commission licensed standard canisters, and dry store spent nuclear fuel prior to shipment and disposal in the monitored geologic repository. Operation of this facility is estimated to significantly reduce the Idaho National Laboratory spent nuclear fuel program life cycle cost. This PBS consolidates the Idaho National Laboratory spent nuclear fuel by transferring the fuel from wet (underwater) storage to dry storage, which reduces environmental risk, increases the safeguard and security stature of the fuel, and reduces storage costs.

The future end state will be achieved when the Nuclear Regulatory Commission license is granted, the dry storage facility has been constructed, cold and hot start-up are complete, and the amortized capital cost for the facility is paid as fuel transfers are completed in FY 2007. Construction of this new dry storage facility and transfer of fuel to it eliminates the potential for leaking radioactively contaminated water and reduces the potential for corrosion of the fuel. This initiative removes the spent nuclear fuel from wet storage 11 years ahead of the 2023 Settlement Agreement date. The facility will be operated beginning in FY 2006 under a separate PBS (HQ-SNF-0012X).

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

- No funding is requested for this PBS 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/FY 2005)						
<ul style="list-style-type: none"> <li>▪ Publish the draft Environmental Impact Statement for public review and comment. The project team received and responded to two Nuclear Regulatory Commission Requests for Additional Information on the facility Safety Analysis Report and one Request for Additional Information on the Environmental Report (FY 2003).</li> <li>▪ Maintain the design documents current with the updated Safety Analysis Report throughout the Nuclear Regulatory Commission license review period to incorporate comments made by the Nuclear Regulatory Commission and public on the Safety Analysis report and the Environmental Impact Statement (FY 2003/September 2004).</li> <li>▪ Receive the Nuclear Regulatory Commission license and begin construction (September 2004).</li> </ul>						

**HQ-SW-0013X / Solid Waste Stabilization and Disposition-  
Science Current Generation (life-cycle estimate \$147,905K) .      24,659      20,281      18,378**

This PBS scope collects, stores, treats, and disposes of newly generated low-level, mixed low-level waste, hazardous, and sanitary waste for the Office of Science in Oak Ridge. Both newly generated low-level waste (DOE Order 435.1) and hazardous waste (Resource Conservation and Recovery Act)

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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require disposal within one year of generation. This project includes the operation of the Liquid Low-Level Waste System, Process Waste System, the Off-gas Collection and Treatment System, and storage facilities for low-level, hazardous and mixed wastes.

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

- Oak Ridge National Laboratory Liquid Low-Level Waste Operations - Provide regulatory compliant operation of the liquid low-level waste collection, transfer, evaporator, and storage system with an operation goal of 375,000 gallons of evaporator throughput.
- Oak Ridge National Laboratory Gaseous Waste Operations - Provide regulatory compliant operation of the Gaseous Waste Collection and Treatment System with an operational goal of continuous ventilation service to Oak Ridge National Laboratory and EM facilities except during periods of scheduled routine maintenance.
- Oak Ridge National Laboratory Process Waste Operations - Provide regulatory compliant operation of the Process Waste Collection/Transfer System with an operational goal of 180,000,000 gallons discharged.
- Newly generated mixed and low-level waste at the Oak Ridge National Laboratory that is not treated on-site will be treated and disposed of off-site at Envirocare, the Nevada Test Site, or Broad Spectrum Treat Contractors, etc.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
LLW/MLLW Disposed (m <sup>3</sup> )	590	341	0	3,636	4,064	89%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ Collection and transport, acceptance and verification and disposition of newly generated Mixed Waste, Low-Level Waste and Hazardous Waste generated by the Office of Science (FY 2003).</li> <li>▪ Oak Ridge National Laboratory Liquid Low Level Waste Operations                             <ul style="list-style-type: none"> <li>• Provide regulatory compliant operation of the liquid low-level waste collection, transfer, evaporator, and storage system with an operation goal of 490,000 gallons of evaporator throughput. Complete work on the liquid low-level waste System Documented Safety Analysis Technical Safety Requirement documents (FY 2003).</li> </ul> </li> <li>▪ Oak Ridge National Laboratory Gaseous Waste Operations                             <ul style="list-style-type: none"> <li>• Provide regulatory compliant operation of the Gaseous Waste Collection and Treatment System with and operational goal of continuous ventilation service to Oak Ridge National Laboratory and EM facilities except during periods of scheduled routine maintenance (September 2003/ September 2004/September 2005).</li> </ul> </li> <li>▪ Oak Ridge National Laboratory Process Waste Operations                             <ul style="list-style-type: none"> <li>• Provide regulatory compliant operation of the Process Waste</li> </ul> </li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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<p>Collection/Transfer System with an operational goal of 180,000,000 gallons discharged (September 2003/September 2004/September 2005).</p>
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**HQ-SW-0013Y / Solid Waste Stabilization and Disposition-  
National Nuclear Security Administration Current  
Generation (life-cycle estimate \$467,645K) . . . . .**

<b>45,287</b>	<b>41,944</b>	<b>41,789</b>
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This PBS covers scope and funding for the storage, treatment, and disposal of newly generated low-level, mixed low-level, hazardous, and sanitary wastes for the National Nuclear Security Administration. This activity is located at the Lawrence Livermore National Laboratory and the Y-12 Plant Facility at Oak Ridge.

OAK RIDGE (Y-12 Plant): This PBS scope collects, stores, treats, and disposes of newly generated low-level, mixed low-level, hazardous, and sanitary waste for the National Nuclear Security Administration in Oak Ridge. 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 includes operation of the West End Treatment Facility, the Central Pollution Control Facility, the Ground Water Treatment Facility, the Uranium Chip Oxidation Facility, the East End Mercury Treatment System, the Central Mercury Treatment System, and three storage facilities (FY 2003 \$24,396,000; FY 2004 \$21,549,000; FY 2005 \$19,789,000).

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

- Collect, store, treat, and dispose of newly generated Y-12 mixed waste, low-level waste, hazardous waste, and sanitary waste from the National Nuclear Security Administration in Oak Ridge at the beginning of FY 2005.

LAWRENCE LIVERMORE NATIONAL LABORATORY: This PBS scope covers activities necessary to manage and implement ongoing and planned waste operations at the Lawrence Livermore National Laboratory Site. Newly generated waste responsibilities conducted by the Radioactive and Hazardous Waste Management Division at the Lawrence Livermore National Laboratory are to ensure hazardous, radioactive and mixed wastes are stored, treated, certified, and shipped to off-site disposal safely and in compliance with Federal, State, and local regulations, DOE Orders, and Lawrence Livermore National Laboratory policies and procedures. These activities are performed in an efficient and cost-effective manner; thereby, reducing human and environmental risks, and decreasing DOE and Lawrence Livermore National Laboratory liability.

Waste management operations involve the treatment, storage, processing, and certification for disposal of newly generated low-level waste, mixed low-level waste, combined low-level waste, a mixture of non-Resource Conservation and Recovery Act hazardous with low-level waste, transuranic waste, mixed transuranic waste, non-Resource Conservation and Recovery Act hazardous waste, and hazardous waste. Six active Lawrence Livermore National Laboratory waste treatment and storage facilities are operational; four are located at the Livermore Main Site and two at Site 300. In addition, there are several Consolidation Waste Accumulation Areas that enable direct shipping operations from these locations to off-site treatment, storage, and disposal facilities within 90 days of generation, thereby streamlining the waste handling process. Current operations also include a portion of the

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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recently completed Decontamination and Waste Treatment Facility construction (FY 2003 \$20,891,000; FY 2004 \$20,395,000; FY 2005 \$22,000,000).

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

- Newly generated waste activities includes ongoing waste operations conducted by the Radioactive and Hazardous Waste Management Division to ensure hazardous, radioactive and mixed wastes are stored, treated, certified, and disposed of safely and in compliance with Federal, State, and local regulations; DOE Orders; and the Lawrence Livermore National Laboratory policies and procedures.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
LLW/MLLW Disposed (m <sup>3</sup> )	5,593	1,176	0	12,137	12,137	100%
TRU Waste Shipped for Disposal at WIPP (m <sup>3</sup> )	0	105	0	105	105	100%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"><li>▪ Started operation of a new Category 3 Decontamination and Waste Treatment Facility (LLNL / FY 2003).</li><li>▪ Exceeded low-level waste Disposal Forecasted to the Nevada Test Site (LLNL / FY 2003).</li><li>▪ Shipped mixed low-level waste to Toxic Substances Control Act Incinerator for Treatment (LLNL / FY 2003).</li><li>▪ Startup of the Decontamination Waste Treatment Facility (LLNL / FY 2003/FY 2004/FY 2005).</li><li>▪ Collection and transport, acceptance and verification and disposition of newly generated Mixed Waste, Low-Level Waste and Hazardous Waste generated by the National Nuclear Security Administration (OR / FY 2003).</li><li>▪ Treated all wastewater and oxidized all depleted uranium chips generated at the Y-12 National Security Complex (FY 2003).</li><li>▪ Startup of Decontamination and Waste Treatment Facility for treatment of Legacy and Newly Generated Wastes was accomplished (LLNL / September 2003)</li><li>▪ Ship newly generated National Nuclear Security Administration waste in accordance with forecasted volumes to the Nevada Test Site (LLNL / FY 2003/September 2004/September 2005).</li><li>▪ Collect, store, treat and dispose of newly generated low-level, mixed low-level waste, hazardous, transuranic and sanitary waste for the National Nuclear Security Administration in Oak Ridge (OR / September 2003/September 2004).</li></ul>						



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**OR-0101 / Oak Ridge Contract/Post-Closure**

**Liabilities/Administration (life-cycle estimate \$249,898K)**

**15,678      16,582      18,709**

This PBS scope in conjunction with PBS OR-0102 supports DOE-Oak Ridge program management, National Center of Excellence for Metal Recycle, Lockheed Martin Energy Systems contract closeout, post-retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits. These activities require Defense Environmental Services and Uranium Enrichment Decontamination and Decommissioning Fund support.

Administration of the National Center of Excellence for Metal Recycle facilitates the cost-effective recycle of clean and decontaminated metals and equipment at DOE sites across the country.

Administration of the Sample Management Office supports audits of commercial laboratories used by the EM program in Oak Ridge and coordinates sampling in support of closure activities. The Lockheed Martin Energy Systems contract closeout provides funds for the termination of the Lockheed Martin Energy Systems contract. FY 2004 will be the last year of the Lockheed Martin Energy Systems closeout requirement. This project includes activities and expenses associated with post-retirement life and medical benefits and long-term disability benefits to transitioned Bechtel Jacobs Company employees who supported enrichment facilities programs while working as first or second tier subcontractors. The scope also covers pre-April 1, 1998, retiree costs and employees on long-term disabilities prior to April 1, 1998, who were associated with enrichment facilities programs. Severance costs for Bechtel Jacobs Company grandfathered employees and workforce transition employees are included in this project. Also included is a task for legacy documents and litigations to provide support for processing legacy workers' compensation claims and the associated records that must be provided, as well as the cost of risk management and legal staff supporting this effort. The scope also includes pension contributions which are required beginning in FY 2004 due to the stock market declines since 2001.

In FY 2005, the following activities are planned to support Oak Ridge.

- Severance cost, post-retirement life and medical benefits, and long-term disability benefits will be paid as required. In addition, a contribution will be made to the Pension Plan for grandfathered employees. The Sample Management Office will continue to operate, and Legal/Risk Management will continue to process legacy workers' compensation claims.

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)						
<ul style="list-style-type: none"> <li>Post-retirement, long-term disability, and severance benefits were paid as required. Legal and Risk Management, along with the third party administrator, processed and settled/denied 50 percent of the legacy workers' compensation benefits outstanding. The Sample Management Office continued all activities within the scope of the organization (September 2003).</li> <li>Support provided to the DOE Oak Ridge Program Management, National Center of Excellence for Metal Recycle, Lockheed Martin</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Energy Systems contract closeout, post-retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits (September 2004).

- Support provided to the DOE Oak Ridge Program Management, National Center of Excellence for Metal Recycle, post-retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits (September 2005).

**RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities (life-cycle estimate \$2,772,214K) . . . . . 130 2,466 2,300**

The scope of this PBS is to provide support for site litigation and for post-closure contract liabilities. Site litigation support provides for legal expenses relating to the continuing class actions and other civil litigation activities of former site management and operating and existing site contractors under the litigation and claims clause of those contracts. This support does not include closure contract litigation support incurred by the current site closure contractor.

Post-closure contract liabilities support provides for projected pension, retiree medical and life insurance, and workmen's compensation requirements subsequent to site closure. The full scope and extent of these activities will be more fully identified as closure becomes imminent. The current scope of these activities is defined under Federal Accounting Standard 87 (Employers' Accounting for Pension), Federal Accounting Standard 106 (Employers' Accounting for Post-Retirement Benefits Other Than Pension), and estimated workmen's compensation. The projected end date for this activity is 2070.

In FY 2005, the following activities are planned to support Rocky Flats.

- Support site litigation activities and former site management and operating and existing site contractor contract closeouts.

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)						
<ul style="list-style-type: none"> <li>Support site litigation activities and former site management and operations, and existing site contractor contract closeouts (FY 2003/September 2004/September 2005).</li> </ul>						

**SR-0100 / Non-Closure Mission Support (life-cycle estimate \$578,476K) . . . . . 13,242 14,251 5,070**

This PBS provides various support activities to Savannah River. This support may include such things as forest management, geological surveys, and a multi-disciplinary research program focusing on environmental issues significant to the State of South Carolina.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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In FY 2005, the following activities are planned to support the accelerated cleanup of Savannah River.

- Support environmental activities, geological services for groundwater flow monitoring, forestry, archaeology requirements and natural resources management.
- Efforts will be to identify and manage National Historic Preservation Act requirements associated with excess Savannah River Site structures planned to be demolished on an accelerated basis.

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)						
<ul style="list-style-type: none"><li>■ Successfully manage Savannah River Site lands and natural resources in full compliance with Federal and state regulatory requirements (September 2003/September 2004/September 2005).</li><li>■ Manage a comprehensive fire management program that successfully protects the Savannah River Site from both on-site and off-site wildland fires (September 2003/September 2004/September 2005).</li><li>■ Successfully manage Savannah River Site compliance with all Federal and state cultural resources management laws, regulations, and executive orders as verified by the South Carolina State Historic Preservation Office (September 2003/September 2004/September 2005).</li><li>■ Successfully manage Savannah River Site compliance with DOE Policy No. 141.1 pertaining to archaeological, historical, and Native American resources and issues. The Savannah River Archaeological Research Program helps meet long-term cultural resources compliance responsibilities (September 2003/September 2004/September 2005).</li><li>■ Successfully manage lands, natural resources, and public access for the Savannah River Site Crackerneck Wildlife Management and Ecological Reserve (September 2003/September 2004/September 2005).</li><li>■ Provide game law enforcement support and also provided technical assistance for the Savannah River Site natural resource management programs (September 2003/September 2004).</li><li>■ Provide soil and erosion control technical assistance, training programs, and soil mapping to support Savannah River Site operations (September 2003/September 2004/September 2005).</li></ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**VL-FAO-0100-D / Nuclear Material Stewardship (Defense)** **18,336** **0** **0**  
**(life-cycle estimate \$107,197K) .....**

The Nuclear Material Stewardship Project resolves issues concerning the management and disposition of EM nuclear materials.

The 94-1 Research and Development Project is driven by Defense Nuclear Facilities Safety Board Recommendation 94-1. This provides direct support to the EM closure and storage sites (Rocky Flats, Hanford and Savannah River) by supporting their site-specific needs in thermal stabilization, packaging, shipping, and storage of plutonium-bearing materials in 3013 containers. As the stabilization and packaging effort is completed by 2003 at Rocky Flats, 2005 at Hanford and 2006 at Savannah River, focus and support will shift to the long-term storage mission at Savannah River to ensure that the materials maintain a safe configuration until final disposition. This latter portion of the 94-1 Research and Development Project will not be complete until all materials have been removed from storage at Savannah River for final disposition by 2017. There is no direct FY 2005 request because services will be requested and funding provided by DOE sites on an as needed basis.

This PBS also includes Albuquerque Nuclear Materials Stewardship Project Office, which was established to support closure of EM sites by providing field management of EM's Nuclear Materials Disposition Program. This ensures safe interim storage and consolidation of nuclear materials by integrating transportation and storage of nuclear materials, and expediting removal of nuclear materials from facilities and sites. The office has developed recommendations for disposition of nuclear materials and direct funding completed in FY 2003. Services from the Nuclear Materials Stewardship Project Office after FY 2003 will be requested and funded by other sites on an as needed basis.

In FY 2005, no funding is requested.

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)						
<ul style="list-style-type: none"> <li>▪ 94-1 Research and Development Project <ul style="list-style-type: none"> <li>• Evaluate gas generation mechanism/model, develop/validate moisture measurement techniques (FY 2003).</li> <li>• Evaluate corrosion mechanisms for can failure modes (FY 2003).</li> <li>• Receive can prototypes for headspace gas analysis/destructive analysis (FY 2003).</li> <li>• Finish development/implementation of "prompt gamma" at EM sites (FY 2003).</li> </ul> </li> <li>▪ Nuclear Materials Stewardship Project Office <ul style="list-style-type: none"> <li>• Identify Hanford packaging alternatives (FY 2003).</li> </ul> </li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Complete thermal treatment and gas generation analysis for the Rocky Flats Environmental Technology Site Plutonium-239 and classify waste profile for the Rocky Flats Environmental Technology Site dummy pits (FY 2003).

**VL-SV-0100 / South Valley Superfund Site (life-cycle estimate \$2,820K) ..... 933 0 0**

The DOE is a Potentially Responsible Party for contamination at the South Valley Superfund Site and has participated in and funded its share of soil and groundwater remediation at the site since 1993.

Remedial activities for solvent contaminated soil at the site were completed in FY 1993 and remedial construction activities for contaminated groundwater were completed in FY 1996. Since 1998, DOE's 43 percent share of the on-going groundwater remedial efforts has been funded by the Department of Justice through its Judgment Fund. Since FY 2000 DOE has been responding to a natural resources damages lawsuit brought by the State of New Mexico against DOE, DOE's former operating contractor, and others. In this capacity, DOE has provided technical assistance to the Department of Justice and, pursuant to contractual obligations, funded its contractor's legal expenses. Although the State's suit has been dismissed against DOE, it continues against the contractor.

DOE will continue to be responsible for the contractor's legal expenses, as well as any settlement costs or compensatory damages awarded. At the conclusion of the litigation process, DOE's direct involvement in the site will end. It is anticipated that the Department of Justice will continue to fund DOE's share of remediation costs. When the litigation has ended, DOE's role is anticipated to be limited to providing technical assistance to the Department of Justice in its administration of the Judgment Fund, but will not require funding through this PBS.

- No funding is being requested for this PBS in 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	1	1	100%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>■ As DOE was dismissed from the lawsuit in early FY 2003, DOE-Albuquerque assistance to the Department of Justice will not be needed. However, DOE will continue to fund the contractor's legal defense (FY 2003).</li> <li>■ Provide funding for contractor's legal defense (September 2003).</li> </ul>						

**Total, Non-Closure Environmental Activities ..... 327,188 246,918 187,864**

## Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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<b>HQ-GJ-0102 / Rocky Flats Wildlife Refuge and Museum</b>	
■ Decrease reflects completion of the Memorandum of Understanding for site transfer .	-757
<b>HQ-MS-0100 / Policy, Management, and Technical Support</b>	
■ No significant change.....	-1,336
<b>HQ-SNF-0012X / Spent Nuclear Fuel Stabilization and Disposition-Storage Operations Awaiting Geologic Repository</b>	
■ IDAHO: Somewhat reduced activity on domestic and foreign research reactor spent nuclear fuel receipts is anticipated in FY 2005 (\$-1,498,000).	
■ RICHLAND: No significant change (\$+69,000).	
■ SAVANNAH RIVER: Decrease is due to the closure of one spent nuclear fuel storage basin (\$-3,092,000)	
Net Changes .....	-4,521
<b>HQ-SNF-0012Y / Spent Nuclear Fuel Stabilization and Disposition-New Upgraded Facilities Awaiting Geologic Repository</b>	
■ Decrease due to last increment of funding for privatized project at Idaho received in FY 2004.....	-43,162
<b>HQ-SW-0013X / Solid Waste Stabilization and Disposition-Science Current Generation</b>	
■ Decrease in funding is due to less newly generated waste disposed .....	-1,903
<b>HQ-SW-0013Y / Solid Waste Stabilization and Disposition-National Nuclear Security Administration Current Generation</b>	
■ Oak Ridge (Y-12 Plant): In FY 2005 the funding of newly generated waste disposition and waste treatment operations at Y-12 is included in this PBS. No significant change (\$-1,760,000)	
■ Lawrence Livermore National Laboratory: The increase is due to a larger volume of newly generated waste being processed at the recently opened Decontamination and Waste Treatment Facility (\$+1,605,000)	
Net Change.....	-155
<b>OR-0101 / Oak Ridge Contract/Post-Closure Liabilities/Administration</b>	
■ Increase in pension plan payment in FY 2005 .....	2,127
<b>RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities</b>	
■ No significant change.....	-166

FY 2005 vs. FY 2004 (\$000)
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**SR-0100 / Non-Closure Mission Support**

■ Reflects reduction in mission support activities at Savannah River .....	-9,181
Total Funding Change, Non-Closure Environmental Activities .....	<u>-59,054</u>





# Community and Regulatory Support

## Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
CB-0100 / U.S./Mexico/Border/Material Partnership Initiative.....	2,447	2,982	0	-2,982	-100.0%
CB-0101 / Economic Assistance to the State of New Mexico.....	26,611	19,308	23,340	4,032	20.9%
ID-0100 / Idaho Community and Regulatory Support.....	3,335	2,782	3,412	630	22.6%
OR-0100 / Oak Ridge Reservation Community and Regulatory Support (Defense).....	3,934	3,936	3,970	34	0.9%
OH-FN-0101 / Fernald Community and Regulatory Support.....	0	1,262	1,253	-9	-0.7%
OH-MB-0101 / Miamisburg Community and Regulatory Support.....	0	1,112	1,487	375	33.7%
RL-0100 / Richland Community and Regulatory Support.....	15,140	11,278	13,759	2,481	22.0%
RF-0101 / Rocky Flats Community and Regulatory Support.....	2,979	2,795	3,050	255	9.1%
SR-0101 / Savannah River Community and Regulatory Support.....	7,711	6,118	7,256	1,138	18.6%
VL-FAO-0101 / Miscellaneous Programs and Agreements-in-Principle.....	3,240	3,776	1,731	-2,045	-54.2%
VL-NV-0100 / Nevada Community and Regulatory Support.....	2,307	5,460	1,229	-4,231	-77.5%
VL-FOO-0100-D / Oakland Community and Regulatory Support (Defense).....	252	51	60	9	17.6%
<b>Total, Community and Regulatory Support.....</b>	<b>67,956</b>	<b>60,860</b>	<b>60,547</b>	<b>-313</b>	<b>-0.5%</b>

### Description

The Community and Regulatory Support program funds activities that are indirectly related to on-the-ground cleanup results but are none the less integral to EM's ability to conduct cleanup at its sites (e.g., Agreements-in-Principle with state regulators and tribal nations, Site-Specific Advisory Boards, etc.). These important activities must be maintained at an appropriate level to ensure that maximum funding is directed to real cleanup while also supporting the necessary level of stakeholder participation.

### Benefits

This program provides funding for activities that promote active involvement in EM's planning and decision-making processes. In addition, these activities provide state, tribal, and local governments and other interested stakeholders with opportunities for meaningful involvement in managing the cleanup and closure of the country's former nuclear weapons complex.

By providing opportunities for active involvement in DOE's planning processes, these activities facilitate and increase stakeholder communication and minimize misunderstanding. These activities

also provide forums where issues can be discussed and resolved in an efficient and cooperative manner, which decreases the chances of costly legal or regulatory actions being taken against the Department.

### Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Carlsbad Field Office					
Carlsbad Field Office.....	29,058	22,290	23,340	1,050	4.7%
Idaho Operations Office					
Idaho National Laboratory.....	3,335	2,782	3,412	630	22.6%
Nevada Site Office					
Nevada Site Office.....	2,307	5,460	1,229	-4,231	-77.5%
Oak Ridge Operations Office					
Oak Ridge Reservation.....	3,934	3,936	3,970	34	0.9%
Ohio Field Office					
Fernald.....	0	1,262	1,253	-9	-0.7%
Miamisburg.....	0	1,112	1,487	375	33.7%
Subtotal, Ohio Field Office.....	0	2,374	2,740	366	15.4%
Richland Operations Office					
Richland Operations Office.....	15,140	11,278	13,759	2,481	22.0%
Rocky Flats Field Office					
Rocky Flats Field Office.....	2,979	2,795	3,050	255	9.1%
Savannah River Operations Office					
Savannah River Operations Office	7,711	6,118	7,256	1,138	18.6%
NNSA Service Center					
Subtotal, NNSA Service Center....	3,492	3,827	1,791	-2,036	-53.2%
Total, Community and Regulatory Support.....	67,956	60,860	60,547	-313	-0.5%

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**CB-0100 / U.S./Mexico/Border/Material Partnership Initiative (life-cycle estimate \$5,834K) . . . . .** **2,447      2,982      0**

There are significant energy and environmental needs for the communities along the 2,000-mile United States-Mexico border region, extending from Brownsville, Texas, and Matamoros, Mexico, to San Diego, California, and Tijuana, Mexico. These needs include: 1) public health; 2) energy generation and efficiency; 3) storage, treatment, and disposal of hazardous waste.

This initiative supports the improvement of human health conditions and environmental security along the United States-Mexico border. By leveraging the results of DOE technology programs, the Carlsbad Field Office will work with industry and the national laboratories to deploy technologies that have been developed under DOE sponsorship to help meet current and future environmental needs; create new technology commercialization opportunities; enhance environmental and economic security; and help reduce public health risks and associated long-term health care costs and negative impacts on student learning.

Those technologies include brick kilns, tire recycling, emergency response capabilities, subsurface contaminant detection, southwest ground water border initiative, transportation security enhancements, metal plating hazardous waste management innovations, and centralized hazardous materials facilities, personal ice cooling suits for emergency responders, solar distillers, Quick Slab plume, sediment plume for water quality, and Maya Blue. This project was established for a five-year period, and will end in FY 2006. As of August 2003, 13 technologies have been deployed.

In FY 2005, no activities are planned to support the accelerated cleanup of transuranic waste.

- No FY 2005 funding is requested.

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)						
<ul style="list-style-type: none"> <li>■ Technologies deployed in 2003 along the United States/Mexico border to help enhance the human health, environmental security, and economic development of the area include: reduction of airborne emissions, non-invasive characterization of soils containing contaminants, and improvement of emergency response to industrial and municipal accidents (FY 2003).</li> </ul>						

**CB-0101 / Economic Assistance to the State of New Mexico (life-cycle estimate \$246,044K) . . . . .** **26,611      19,308      23,340**

The Waste Isolation Pilot Plant Land Withdrawal Act (P.L. 102-579) authorizes payments to the State

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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of New Mexico in the amount of \$20,000,000 plus inflation for each of the 14 fiscal years beginning with FY 1998. The purpose of this funding is for road improvements in connection with the Waste Isolation Pilot Plant.

A portion of the payment: 1) will be made available to units of local government in Lea and Eddy counties in the state and 2) can also be provided for independent Environment Assessments and Economic Studies associated with the Waste Isolation Pilot Plant. The DOE has made six annual payments to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act. The requirement under P.L. 102-579 will be completed in FY 2011.

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

- Provide funding to the State of New Mexico as required by Public Law 102-579.

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)						
<ul style="list-style-type: none"> <li>■ Funding has been provided annually as required by the Waste Isolation Pilot Plant Land Withdrawal Act. Numerous improvements have been made to roads in the transportation corridor to Waste Isolation Pilot Plant. Of special significance was the widening from two lanes to four lanes of approximately 180 miles of US 285 from Carlsbad, NM to Clines Corner, New Mexico. Bonds were issued for this improvement, and this annual payment is used in part to make payment on those bonds. In 2003, the State of New Mexico contributed funds for improvement of Canyon Street that will enable the City of Carlsbad to obtain designation of the street as a truck route, providing a safer turning lane through a less congested area, for shipments to access US 62/180 to the Waste Isolation Pilot Plant site (FY 2003).</li> <li>■ Funding is provided to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act. This will allow for payments on the previously issued highway bonds, and provide funds for maintenance of roads along the Waste Isolation Pilot Plant routes as truck volume increases due to accelerated waste disposal rates (FY 2004/FY 2005).</li> </ul>						

**ID-0100 / Idaho Community and Regulatory Support** **3,335**      **2,782**      **3,412**  
**(life-cycle estimate \$172,343)** .....

This PBS encompasses work in three major areas for environmental regulatory oversight and stakeholder interactions and support that enables effective mission accomplishment. 1) State of Idaho Department of Environmental Quality Grant and Air Operating Permitting Fees. All industries subject to Clean Air Act Title V regulations are required to pay fees to support the state authorized program to

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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be in compliance with the regulations. Technical assistance by the Idaho Department of Environmental Quality for compliance support and assistance on hazardous waste management project completion activities is also included. 2) The United States Geological Survey performs groundwater monitoring and subsurface investigation on the regional (Eastern Snake River Plain Aquifer) and subregional (Laboratory-wide) scale for the Idaho National Laboratory. The management and operating contractor monitors for compliance and immediate impacts only. The United States Geological Survey groundwater monitoring, conducted on the Idaho National Laboratory and off-site, supports the Idaho National Laboratory and cleanup activities by providing understanding of the effects of past waste disposal and defining the capacity of the geohydraulic system to accept and assimilate the waste, providing surveillance data, and providing an independent source of groundwater information for stakeholders. The United States Geological Survey monitoring information is used by EM programs for making site-remediation decisions and performing risk assessments necessary for accelerated cleanup. 3) The Idaho National Laboratory Citizens Advisory Board is chartered by the DOE as an EM Site-Specific Advisory Board. The Citizens Advisory Board provides informed recommendations to DOE-Idaho, Environmental Protection Agency Region 10, and the State of Idaho regarding the full scope of EM issues as well as some DOE complex-wide issues, including environmental restoration, waste management, and economic aspects.

The benefits of this work allow the DOE to reflect public values and concerns in remediation decisions. The Department of Environmental Quality task will be complete when the Idaho National Laboratory no longer has any operating hazardous waste management facilities and no non-Title V emission regulations to adhere to. Any other remaining scope will continue through the end of site operations.

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

- The Idaho Department of Environmental Quality grant will fund technical assistance to enable obtaining hazardous waste management closure plans, such as the Test Area North Mercury Sumps Final Closure Plan and other tank closures; and permits or modifications such as the Idaho Nuclear Technology and Engineering Center Calcined Solids Storage Facility and the Sodium Bearing Waste Project. The grant will also pay fees to maintain the Title V Operating Permit and technical assistance for air quality compliance.
- The United States Geological Survey will continue to provide expert analysis of contaminants and transport mechanisms affecting the Snake River Plain Aquifer. The work will provide information for decision-making and risk assessment development regarding the following: necessity and extent of contaminant remediation, decontamination and decommissioning, the quantities of residual wastes to remain at Idaho National Laboratory facilities, and defining the capacity of the geohydraulic system to accept and assimilate the waste, providing data used to meet DOE surveillance requirements, and providing an independent source of groundwater information to stakeholders.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- The Citizens Advisory Board will continue to provide recommendations and advice on EM issues and cleanup plans.

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)						
<ul style="list-style-type: none"><li>■ Resolved technical issues to obtain approval of hazardous waste management permits (e.g. Waste Calcine Facility [post-closure] and Glovebox Excavator Method waste storage) and closure plans (e.g. Test Area North Intermediate-Level Radioactive Waste Management System and Idaho Nuclear Technology and Engineering Center High Level Waste Tanks) (FY 2003).</li><li>■ Provided technical assistance toward compliance with Clean Air Act permitting requirements and continued work on the Title V operating permit required by the state of Idaho (FY 2003).</li><li>■ Supported the United States Geological Survey investigation of contaminants and transport mechanisms in the Snake River Plain Aquifer through groundwater sampling, subsurface investigation, and expert analysis. Two additional coreholes were drilled to help determine the geological structure affecting contaminant transport. The United States Geological Survey published reports/articles on geological structure, subsurface contaminants, and transport mechanisms for use by the EM to support site remediation decisions and risk assessments (FY 2003).</li><li>■ Supported Citizen Advisory Board to obtain recommendations and advice regarding EM strategies, including Sodium Bearing Waste treatment approach, management of inter-site waste shipments, and the Long Term Stewardship Program (FY 2003).</li><li>■ The Department of Environmental Quality grant will enable obtaining hazardous waste management closure plans for Test Area North Loss of Fluid Test Tanks/Sumps, and Idaho Nuclear Technology and Engineering Center Tank Farm Tanks 184-186, Chemical Processing Plant-603 Basin Water Treatment System Closure, permits or modifications for Liquid Waste Treatment System and High-Level Waste Evaporator (September 2004).</li><li>■ The Citizens Advisory Board will hold six bi-monthly two-day meetings and will continue to provide recommendations and advice on issues and accelerated cleanup plans (FY 2004).</li></ul>						



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Update, if necessary, the multi-jurisdictional plan for the Oak Ridge Reservation.
- Coordinate and conduct drills and exercises in accordance with the multi-jurisdictional plan or other regulation requirements.
- Maintain emergency communications capabilities for notification, emergency management and information distribution relating to Oak Ridge Reservation emergencies.
- Continue activities by the Site-Specific Advisory Board sponsored by DOE EM to assist in the required public participation activities.

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)						
<ul style="list-style-type: none"><li>▪ Completed media monitoring activities planned for FY 2003 (FY 2003).</li><li>▪ Completed FY 2002 media monitoring report (FY 2003).</li><li>▪ Completed annual reporting to the public on management and operating activities (FY 2003).</li><li>▪ Completed FY 2004 media monitoring plan (FY 2003).</li><li>▪ Participated in the Natural Resource Damage Assessment program for the Oak Ridge Reservation (FY 2003).</li><li>▪ Participated in the Watts Bar Interagency Working Group formed to monitor, evaluate, and make recommendations relative to potential sediment disturbance activities within the Watts Bar Reservoir down stream of the DOE facilities at Oak Ridge (FY 2003).</li><li>▪ Completed review and approval of Comprehensive Environmental Resource and Conservation Act Federal Facility Agreements documents produced by the Department of Energy (FY 2003).</li><li>▪ Participated in the emergency preparedness training exercises (FY 2003).</li><li>▪ Completed the multi-jurisdictional plan for the Oak Ridge Reservation. Includes the organizations, authorities, and responsibilities for local governments response and the authorities and responsibilities for the Tennessee State government (FY 2003).</li><li>▪ Maintained emergency communications capabilities for notification, emergency management and information distribution relating to Oak Ridge Reservation emergencies (FY 2003).</li></ul>						



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Coordinated and conducted drills and exercises in accordance with the multi-jurisdictional plan or other regulatory requirements. Recommendations and advice prepared by the Site-Specific Advisory Board on several topics concerning the cleanup activities, stewardship and waste management (September 2003).
- Provide financial support to the State of Tennessee for conducting annual oversight, monitoring, and reporting (September 2003/ September 2004/2005).
- Continue activities by the Site-Specific Advisory Board sponsored by DOE EM to assist in public participation activities (September 2005).
- Continue annual monitoring, reporting, and emergency planning activities (September 2004).

**OH-FN-0101 / Fernald Community and Regulatory Support (life-cycle estimate \$14,695K) . . . . . 0 1,262 1,253**

The scope of work in the Community and Regulatory Support Project includes support for the Fernald Citizens Advisory Board, Ohio Environmental Protection Agency, and Payment-in-Lieu-of-Taxes. The Fernald Citizens Advisory Board is a group of volunteer Fernald area residents who provide input on the remediation activities and future use of the Fernald property. This project provides for a technical facilitator and technical, graphics, administration, and logistical support to keep the Fernald Citizens Advisory Board operational. It also provides for similar activities to support the oversight role of the Ohio Environmental Protection Agency. This physical completion of these activities will be no later than December 31, 2006.

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

- Continue technical support to the Fernald Citizens Advisory Board. Although in FY 2005 the project will be very close to completion, the Fernald Citizens Advisory Board will continue to play a key role in the oversight of the project and continue to help in the planning for long-term stewardship.
- Continue to provide funding to the Ohio Environmental Protection Agency in its role of overseeing the clean-up of the site.

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)						
<ul style="list-style-type: none"> <li>▪ Facilitated 12 meetings of Fernald Citizens Advisory Board (September 2003).</li> <li>▪ Facilitation for bi-monthly meetings of the Fernald Citizens Advisory Board and a payment-in-lieu-of-taxes for FY 2004 (approximately \$50,000 based on previous years) (September 2004).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- The Ohio Environmental Protection Agency will conduct review and assessment of reports and various documents, final remedial actions, remedial design and implementation, and site restoration. In addition, the Ohio Environmental Protection Agency will also conduct oversight of environmental monitoring programs, participate in national dialogues and forums, and conduct public meetings. The planned activities for FY 2004 are consistent with the Fernald's accelerated cleanup strategy in the site's Performance Management Plan (September 2004).
- Facilitate meetings of Fernald Citizens Advisory board (September 2005).
- The Ohio Environmental Protection Agency will review and assess final remedial actions, remedial designs, and implementation, and conduct oversight of environmental monitoring programs (September 2005).

**OH-MB-0101 / Miamisburg Community and Regulatory Support (life-cycle estimate \$8,471K) . . . . . 0 1,112 1,487**

This PBS scope contains all costs associated with the Ohio Environmental Protection Agency oversight of site remediation activities in addition to Payment-in-Lieu-of-Taxes to Montgomery County, Ohio.

After site closure occurs by the end of 2006, all obligations under this PBS will cease.

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

- Level of effort support will be provided by the Ohio Environmental Protection Agency and Payment-in-Lieu-of-Taxes payments will be made to Montgomery County, Ohio.

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)						
<ul style="list-style-type: none"> <li>▪ Level of effort support provided by the Ohio Environmental Protection Agency to continue review of regulatory documents and Payment-in-Lieu-of-Taxes payments made to Montgomery County (September 2003/September 2004/September 2005).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**RL-0100 / Richland Community and Regulatory Support (life-cycle estimate \$328,088K) . . . . .** **15,140      11,278      13,759**

The scope of this PBS is to provide regulatory and stakeholder support, and assistance payments to offset lost property taxes (i.e., payment-in-lieu-of-taxes). The activities included in this PBS are: 1) Regulatory costs as required by Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, Tri-Party Agreement, Clean Air Act, and other State and local laws and regulations. These include payment of the Resource Conservation and Recovery Act Mixed Waste fee and the Comprehensive Environmental Response, Compensation, and Liability Act grant to the Washington State Department of Ecology as required by the Tri-Party Agreement, reimbursement to Washington State Department of Health for their costs associated with fulfilling their Clean Air Act responsibilities as well as other miscellaneous air monitoring support activities, payment of waste discharge permit fees to Washington State Department of Ecology and other miscellaneous permits and fees; 2) Costs associated with the Hanford Advisory Board, which satisfies Comprehensive Environmental Response, Compensation, and Liability Act/Resource Conservation and Recovery Act requirements for public involvement; 3) Costs associated with grants to Washington State and Oregon State for their participation in Hanford related activities including emergency preparedness activities; and 4) Payments-in-Lieu-of-Taxes made to the three host counties where the Hanford reservation is located.

These activities fulfill regulatory requirements necessary for the continuation of site activities. This PBS scope will end upon completion of the Hanford EM mission in 2035.

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

- Reimburse regulators for costs incurred monitoring compliance with the Tri-Party Agreement and other regulatory requirements.
- Provide support for the Hanford Advisory Board.
- Provide payment in-lieu-of taxes to three host counties of the Hanford site.
- Provide grants to Washington and Oregon for oversight activities.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS						
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)</b>						
<ul style="list-style-type: none"> <li>▪ Made \$3,619,000 in Payments in Lieu of Taxes to Benton, Franklin and Grant counties (FY 2003).</li> <li>▪ Provided \$5,294,000 to Washington State Department of Ecology for Resource Conservation and Recovery Act and Comprehensive Environmental Resource and Conservation Act activities (FY 2003).</li> <li>▪ Funded \$1,513,000 of required waste permits, air permits and other required permits and licenses (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Continued to fund a grant to the Oregon Office of Energy and to fund the Hanford Advisory Board (FY 2003).
- Continued to make other grants to the Washington Department of Health and Washington Military Department (FY 2003).
- Continue to make grants to Washington State for emergency preparedness, regulatory oversight, permits, and fees (September 2004).
- Continue to make Payments-in-Lieu of Taxes to Benton, Franklin, and Grant counties (September 2004).
- Continue to fund activities of the Oregon Department of Energy and the Hanford Advisory Board (September 2004).
- Support activities required by the Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, Tri-Party Agreement, Clean Air Act, and other State and local laws and regulations (FY 2004/FY 2005).
- Support Hanford Advisory Board activity (FY 2005).
- Support Washington State and Oregon State emergency preparedness and other activities related to Hanford clean up (FY 2005).
- Provide Payment-in-Lieu-of-Taxes to three counties (Benton, Franklin, and Grant) (FY 2005).

**RF-0101 / Rocky Flats Community and Regulatory Support (life-cycle estimate \$38,242K) . . . . . 2,979 2,795 3,050**

The scope of this PBS is to provide support for educational and financial assistance agreements with other federal, state, and local entities. Examples of these agreements follow. Closure grant to the Colorado Department of Public Health and Environment to provide technical and regulatory oversight of closure related activities to implement the Rocky Flats Cleanup Agreement; Interagency Agreement with the Department of Interior for Fish and Wildlife Service Cooperative Management of the approximately 800 acre Rock Creek Reserve portion of the Site Buffer Zone; grant to the Rocky Flats Citizens Advisory Board, the site specific advisory board constituted in accordance with the Federal Advisory Committee Act to review and provide recommendations related to closure activities and decisions; Cooperative Agreement with the City of Westminster to support the Big Dry Creek Watershed Association to implement a watershed monitoring and management approach for headwaters originating on, and waters crossing, the Site to integrate the Site water management with the downstream cities and authorities watershed approach; grant to the Pueblo Community College for equipment transfer to schools; and grants to Historical Black Colleges and Universities and to Native American universities and colleges. The end date for this activity is December 2006.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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In FY 2005, the following activities are planned to support the accelerated cleanup of Rocky Flats.

- Provide educational and financial assistance up to the agreed upon level of support. Support to the Colorado Department of Public Health and Environment, the U.S. Fish and Wildlife Service, the City of Westminster, the Pueblo Community College (SEEDS Program), the Rocky Flats Citizens Advisory Board, and other entities will continue commensurate with the site closure responsibilities of these organizations.

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)						
<ul style="list-style-type: none"> <li>■ Provided educational and financial assistance up to the agreed upon level of support. For Fiscal Year 2002 and 2003 Rocky Flats provided support to Historical Black Colleges and Universities such as Fort Valley State, the Colorado Department of Public Health and Environment, the United States Fish and Wildlife Service, the City of Westminster, the Rocky Flats Citizens Advisory Board, and the Pueblo Community College (September 2003).</li> <li>■ Facilitated consultation with the environmental regulatory agencies and the community to develop, obtain regulatory approval and to implement remediation and restoration activities to meet Rocky Flats Cleanup Agreement milestones towards Site closure and to implement cost-effective best environmental management practices (September 2003).</li> <li>■ Provide educational and financial assistance up to the agreed upon level of support. Support to the Colorado Department of Public Health and Environment, the U.S. Fish and Wildlife Service, the City of Westminster, the Pueblo Community College (SEEDS Program), the Rocky Flats Citizens Advisory Board, and other entities will continue commensurate with the site closure responsibilities of these organizations (September 2005).</li> </ul>						

**SR-0101 / Savannah River Community and Regulatory Support (life-cycle estimate \$266,142K) . . . . . 7,711 6,118 7,256**

This project provides independent environmental monitoring, emergency management activities, and Payments-in-Lieu-of-Taxes (Aiken, Allendale, and Barnwell Counties). Funding to the States of South Carolina and Georgia provides for independent environmental monitoring and emergency management activities under either an Agreement-in-Principle or grant. Independent State monitoring and emergency management activities verify Savannah River Site in reporting results and supports public awareness for their off-site risks from Savannah River Site operations to stakeholders. The project also supports the South Carolina Department of Health and Environmental Control for oversight and implementation of the Federal Facility Agreement. The South Carolina Department of Health and Environmental Control reviews primary and secondary documents listed in the Federal Facility Agreement and coordinates public participation processes prescribed by Comprehensive



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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national laboratories for environmental education and technology, benefiting the entire DOE complex. The goal is to develop the human resources and technologies necessary for achieving environmental restoration, waste minimization, and pollution prevention. The Consortium for Environmental Education and Technology Development provides courses and degrees in environmental disciplines; a Design Contest for universities throughout the nation, allowing students to form networks that could result in theoretical and hands-on solutions to major environmental issues facing DOE and others; and numerous community outreach programs. Research projects benefit universities, national laboratories, DOE, and industry by ensuring technologies are correctly applied to site specific needs. No funds are requested for the Consortium for Environmental Education and Technology Development in FY 2004 and beyond.

This PBS also includes the New Mexico, Texas, and Missouri Agreements-in-Principle between DOE and the respective state-designated lead agencies to provide environmental oversight and monitoring for independent verification of DOE compliance with federal, state, and local laws, including regulations at Los Alamos National Laboratory, Sandia National Laboratories/New Mexico, the Waste Isolation Pilot Plant, the Inhalation Toxicology Laboratory, the Pantex Plant, and the Kansas City Plant, to help assure activities are protective of public health and environment. The Agreement-in-Principle provides support to the states to evaluate the adequacy of DOE activities related to environmental monitoring and conduct periodic state monitoring of discharges, emissions, or biological parameters for verifying the effectiveness of DOE programs. The Agreements-in-Principle are necessary to support accelerated completions at the DOE sites and are projected to continue for the duration of the environmental restoration projects within these states. Environmental Management support of each Agreement-in-Principle will terminate when all facilities in a state have been transferred to the Landlord Program. The project end-date is 2015 when the EM mission at the Los Alamos National Laboratory is to be completed.

In FY 2005, the following activities are planned.

- Continue monitoring environmental restoration, waste management, and environmental quality activities and perform public outreach to support the New Mexico, Texas and Missouri Agreements-in-Principle. Continue legacy waste management oversight and monitoring at the Los Alamos National Laboratory and the Sandia National Laboratories; and conduct expanded storm water monitoring at the Los Alamos National Laboratory as a follow-up from the Cerro Grande fire.

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)						
■ Consortium for Environmental Education and Technology Development						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- < Continued research projects, college level education, Design Contest, and outreach activities (FY 2003).
- < Conducted Waste Management Education and Research Consortium research projects, college level education, design contest, and outreach activities (September 2003).
- New Mexico Agreement-in-Principle
  - < Responded to public demand by continuing the effort to make environmental data available on the New Mexico Environment Department web page (FY 2003).
  - < Conducted waste management oversight at both Sandia National Laboratories and the Los Alamos National Laboratory since on-going operations at these sites represent a potential risk to surrounding communities and therefore benefit from independent oversight. Expand storm water monitoring efforts at the Los Alamos National Laboratory in aftermath of severe drought in region and impacts of Cerro Grande fire. With the Los Alamos National Laboratory, study effectiveness of erosion controls at potential release sites (FY 2003).
  - < Continue legacy waste management activities oversight and monitoring at the Los Alamos National Laboratory and the Sandia National Laboratories; conduct expanded storm water monitoring at the Los Alamos National Laboratory as a follow-up from the Cerro Grande fire (September 2003/September 2004/September 2005).
  - < Complete an independent assessment of potential health risks due to possibility of increased transport of contaminants from the Los Alamos National Laboratory resulting from the Cerro Grande Fire; completed pilot study of Los Alamos/Pueblo Canyons stream morphology; established a baseline for parameters for predicting sediment movement because the canyons contain radioactive legacy wastes; and reached agreement with citizen groups at Sandia National Laboratories/New Mexico regarding long-term stewardship planning topics in support of the New Mexico Agreement-in-Principle (September 2003/September 2004).
- Texas and Missouri Agreements-in-Principle
  - < Continue monitoring of environmental restoration, waste management, and environmental quality activities and perform public outreach to support the Texas and Missouri Agreements-in-Principle (September 2003/September 2004/September 2005).

**VL-NV-0100 / Nevada Community and Regulatory Support (life-cycle estimate \$90,026K) . . . . . 2,307 5,460 1,229**

Nevada Community and Regulatory Support provides for various agreements and grants with states, universities, and other entities where Nevada's environmental management activities are occurring or



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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are scheduled as the result of previous nuclear testing activities. Funding supports regulator oversight of the Nevada Test Site and Nevada off-site EM activities within the states including surveillance and monitoring activities, research to accelerate project activities, and stakeholder involvement efforts. The Nevada Community and Regulatory Support activities will incrementally decrease as closure is achieved at specific locations off the Nevada Test Site, and as projects on the site are completed. This scope will be completed when EM responsibilities have been completed. Subsequent community and regulatory support efforts will be conducted and funded by the National Nuclear Security Administration for the Nevada Test Site.

The National Nuclear Security Administration/Nevada EM program has a strong, cooperative relationship with its State regulators who have been firm, fair, and reasonable in their requirements and requests. The Department of Energy/Nevada conducts these proactive, cooperative relationships, not only with regulators but with other stakeholders to demonstrate the commitment of ensuring that risk reduction at all of its sites will be achieved cost-effectively and efficiently, while effectively protecting workers, the public, and the environment and proactively addressing State regulator and stakeholder concerns. These relationships will ensure activities remain highly focused on opportunities for further acceleration, address the highest risk activities, and proceed cost-effectively and efficiently in accordance with applicable regulations and requirements, Integrated Safety Management, and sound project management principles and practices.

Funding is provided to the following organizations: the State of Alaska Department of Environmental Conservation; the Aleutian/Pribilof Islands Association; the State of Mississippi Department of Environmental Quality and Department of Health; the State of Nevada Division of Environmental Protection, Division of Emergency Management, and Department of Human Resources; and the University of Nevada at Reno and the University of Nevada at Las Vegas.

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

- The Nevada Site Office will continue positive, proactive relationships with State regulators and stakeholders and will:
  - < Work closely with State regulators and stakeholders to ensure issues and concerns are addressed and to ensure the States and stakeholders are informed of EM activities.
  - < Complete all regulatory-required milestones as planned.
  - < Meet regularly with State regulators and stakeholders to keep channels of communication open.
  - < Appropriately fund State regulators and appropriate stakeholder involvement initiatives.
  - < Require its federal and contractor staff to provide appropriate support of regulator and stakeholder initiatives.
  - < Work closely with the Citizens Advisory Board to ensure all issues and concerns are addressed.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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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)						
<ul style="list-style-type: none"> <li>▪ Support Nevada Community and Regulatory Support activities to ensure the continuation of current positive, proactive relationships with State regulators and stakeholders (September 2003/ September 2004/September 2005).</li> <li>▪ Work closely with State regulators and stakeholders to ensure issues/concerns are addressed and to ensure the States and stakeholders are informed of Nevada Site Office EM activities stakeholders (September 2003/September 2004/ September 2005).</li> <li>▪ Appropriately fund State regulators and appropriate stakeholder involvement initiatives stakeholders (September 2003/ September 2004/September 2005).</li> </ul>						

**VL-FOO-0100-D / Oakland Community and Regulatory Support (Defense) (life-cycle estimate \$5,080K) . . . . . 252 51 60**

This PBS provides funding for grants to the Regional Water Quality Control Board and the California Department of Toxic Substances Control to provide oversight of the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act programs at the Lawrence Livermore National Laboratory Livermore Site and Site 300 to support tribal universities and college activities related to environmental cleanup.

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

- Continue support of State regulatory oversight of EM programs at the Defense sites. This includes the review of data and documentation associated with waste management and environmental restoration activities. Also involves active participation in a review endorsement of EM accelerated site closure proposals by DOE when requested.

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)						
<ul style="list-style-type: none"> <li>▪ Since 1994 and through 2002, adequate funding of the Grants to State of California have ensured their continued participation and oversight of the cleanup programs at the defense funded sites; which allowed DOE to meet all Resource Conservation and Recovery Act and Comprehensive Environmental Resource and Conservation Act mandated targets and milestones (September 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Provide state regulatory oversight of legacy waste management and environmental restoration activities at two Lawrence Livermore National Laboratory sites (September 2004/September 2005).
- Provide state review of data and documentation associated with environmental cleanup at two Lawrence Livermore National Laboratory sites (September 2004/September 2005).
- Grants are paid to the State of California regulatory agencies (as specified in the Federal Facility Agreement) for the participation and oversight of the cleanup programs (September 2003/September 2004/September 2005).

<b>Total, Community and Regulatory Support .....</b>	<b>67,956</b>	<b>60,860</b>	<b>60,547</b>
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### Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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#### CB-0100 / U.S./Mexico/Border/Material Partnership Initiative

- The decrease in funding is due to the elimination of resources for this activity..... -2,982

#### CB-0101 / Economic Assistance to the State of New Mexico

- Increase needed to meet requirements in the Waste Isolation Pilot Plant Land Withdrawal Act (P.L. 102-579) ..... 4,032

#### ID-0100 / Idaho Community and Regulatory Support

- Increase reflects escalation and full funding for air permitting fees, which were earmarked to be paid in the Defense 2035 Accelerated Completions account in FY 2004 contrary to normal convention ..... 630

#### OR-0100 / Oak Ridge Reservation Community and Regulatory Support (Defense)

- No significant change..... 34

#### OH-FN-0101 / Fernald Community and Regulatory Support

- Decrease in funding is due to alignment of oversight and Citizens Advisory Board involvement as the site approaches closure ..... -9

#### OH-MB-0101 / Miamisburg Community and Regulatory Support

- Increase in oversight activities is due to volume of remedial actions and associated regulatory documentation in FY 2005 ..... 375

#### RL-0100 / Richland Community and Regulatory Support

- Increase in funding is to accommodate States Aid in Principal assistance as well as various permits, fees, and payments, including Payments-in-Lieu-of-Taxes to the host counties associated with accelerated cleanup activities ..... 2,481

FY 2005 vs. FY 2004 (\$000)
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<b>RF-0101 / Rocky Flats Community and Regulatory Support</b>	
■ No significant change.....	255
<b>SR-0101 / Savannah River Community and Regulatory Support</b>	
■ Increase in funding is to accommodate States Aid in Principal assistance as well as various permits, fees, and payments, including Payments-in-Lieu-of-Taxes to the host counties associated with accelerated cleanup activities .....	1,138
<b>VL-FAO-0101 / Miscellaneous Programs and Agreements-in-Principle</b>	
■ The decrease in funding is due to the reduction of workscope with the Consortium for Environmental Education and Technology Development .....	-2,045
<b>VL-NV-0100 / Nevada Community and Regulatory Support</b>	
■ Decrease in funding is attributable to results from FY 2004 Congressional earmarks not being included in the FY 2005 request .....	-4,231
<b>VL-FOO-0100-D / Oakland Community and Regulatory Support (Defense)</b>	
■ No significant change.....	9
Total Funding Change, Community and Regulatory Support.....	-313

## Program Direction

### Funding Profile by Category

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Carlsbad</b>					
Salaries and Benefits...	4,992	5,328	5,642	314	5.9%
Travel...	357	333	337	4	1.2%
Support Services...	0	0	0	0	0.0%
Other Related Expenses...	2,149	1,796	1,819	23	1.3%
<b>Total, Carlsbad...</b>	<b>7,498</b>	<b>7,457</b>	<b>7,798</b>	<b>341</b>	<b>4.6%</b>
Full-Time Equivalents...	48	50	50	0	0.0%
<b>Chicago</b>					
Salaries and Benefits...	5,060	2,362	2,501	139	5.9%
Travel...	169	160	162	2	1.3%
Support Services...	2,175	1,421	1,439	18	1.3%
Other Related Expenses...	1,397	798	808	10	1.3%
<b>Total, Chicago...</b>	<b>8,801</b>	<b>4,741</b>	<b>4,910</b>	<b>169</b>	<b>3.6%</b>
Full-Time Equivalents...	44	20	20	0	0.0%
<b>Idaho</b>					
Salaries and Benefits...	9,088	8,666	8,503	-163	-1.9%
Travel...	159	157	152	-5	-3.2%
Support Services...	0	0	0	0	0.0%
Other Related Expenses...	37	37	36	-1	-2.7%
<b>Total, Idaho</b>	<b>9,284</b>	<b>8,860</b>	<b>8,691</b>	<b>-169</b>	<b>-1.9%</b>
Full-Time Equivalents...	71	66	63	-3	-4.5%
<b>Oak Ridge</b>					
Salaries and Benefits...	14,916	13,722	11,966	-1,756	-12.8%
Travel...	335	282	242	-40	-14.2%
Support Services...	799	1,145	983	-162	-14.1%
Other Related Expenses...	1,467	2,146	1,842	-304	-14.2%
<b>Total, Oak Ridge</b>	<b>17,517</b>	<b>17,295</b>	<b>15,033</b>	<b>-2,262</b>	<b>-13.1%</b>
Full-Time Equivalents...	132	118	100	-18	-15.3%

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Portsmouth Paducah Project Office					
Salaries and Benefits...	2,584	4,718	4,996	278	5.9%
Travel...	36	197	200	3	1.5%
Support Services...	165	1,966	1,992	26	1.3%
Other Related Expenses...	323	929	941	12	1.3%
Total, Portsmouth Paducah	3,108	7,810	8,129	319	4.1%
Full-Time Equivalents...	19	34	34	0	0.0%
Ohio					
Salaries and Benefits...	17,574	18,571	6,043	-12,528	-67.5%
Travel...	480	428	133	-295	-68.9%
Support Services...	1,313	1,273	396	-877	-68.9%
Other Related Expenses...	1,450	1,351	421	-930	-68.8%
Total, Ohio	20,817	21,623	6,993	-14,630	-67.7%
Full-Time Equivalents...	174	179	55	-124	-69.3%
Richland					
Salaries and Benefits...	32,411	31,081	28,829	-2,252	-7.2%
Travel...	771	739	656	-83	-11.2%
Support Services...	4,387	2,457	2,180	-277	-11.3%
Other Related Expenses...	10,145	9,771	8,669	-1,102	-11.3%
Total, Richland	47,714	44,048	40,334	-3,714	-8.4%
Full-Time Equivalents...	300	290	254	-36	-12.4%
River Protection					
Salaries and Benefits...	13,455	13,705	13,088	-617	-4.5%
Travel...	283	364	340	-24	-6.6%
Support Services...	1,745	1,736	1,622	-114	-6.6%
Other Related Expenses...	2,235	3,472	3,244	-228	-6.6%
Total, River Protection	17,718	19,277	18,294	-983	-5.1%
Full-Time Equivalents...	117	116	107	-9	-7.8%
Rocky Flats					
Salaries and Benefits...	20,193	20,274	688	-19,586	-96.6%
Travel...	380	291	9	-282	-96.9%
Support Services...	1,300	969	31	-938	-96.8%
Other Related Expenses...	1,381	996	32	-964	-96.8%
Total, Rocky Flats	23,254	22,530	760	-21,770	-96.6%
Full-Time Equivalents...	159	156	5	-151	-96.8%

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Savannah River</b>					
Salaries and Benefits...	38,509	40,466	39,664	-802	-2.0%
Travel...	1,237	963	903	-60	-6.2%
Support Services...	2,606	2,212	2,075	-137	-6.2%
Other Related Expenses...	5,740	5,412	5,076	-336	-6.2%
<b>Total, Savannah River</b>	<b>48,092</b>	<b>49,053</b>	<b>47,718</b>	<b>-1,335</b>	<b>-2.7%</b>
Full-Time Equivalents...	397	403	373	-30	-7.4%
<b><u>NNSA Service Center</u></b>					
<b>Albuquerque</b>					
Salaries and Benefits...	4,860	3,994	3,663	-331	-8.3%
Travel...	314	255	237	-18	-7.1%
Support Services...	1,121	912	847	-65	-7.1%
Other Related Expenses...	30	25	23	-2	-8.0%
<b>Total, Albuquerque...</b>	<b>6,325</b>	<b>5,186</b>	<b>4,770</b>	<b>-416</b>	<b>-8.0%</b>
Full-Time Equivalents...	45	36	33	-3	-8.3%
<b>Nevada</b>					
Salaries and Benefits...	3,094	3,195	3,384	189	5.9%
Travel...	164	160	162	2	1.3%
Support Services...	1,148	1,119	1,134	15	1.3%
Other Related Expenses...	127	124	126	2	1.6%
<b>Total, Nevada</b>	<b>4,533</b>	<b>4,598</b>	<b>4,806</b>	<b>208</b>	<b>4.5%</b>
Full-Time Equivalents...	34	34	34	0	0.0%
<b>Oakland</b>					
Salaries and Benefits...	5,076	5,343	5,658	315	5.9%
Travel...	142	116	118	2	1.7%
Support Services...	618	509	516	7	1.4%
Other Related Expenses...	1,986	2,096	2,123	27	1.3%
<b>Total, Oakland</b>	<b>7,822</b>	<b>8,064</b>	<b>8,415</b>	<b>351</b>	<b>4.4%</b>
Full-Time Equivalents...	54	55	55	0	0.0%
<b>Subtotal, Field</b>					
Salaries and Benefits...	171,812	171,425	134,625	-36,800	-21.5%
Travel...	4,827	4,445	3,651	-794	-17.9%
Support Services...	17,377	15,719	13,215	-2,504	-15.9%
Other Related Expenses...	28,467	28,953	25,160	-3,793	-13.1%
<b>Total, Field</b>	<b>222,483</b>	<b>220,542</b>	<b>176,651</b>	<b>-43,891</b>	<b>-19.9%</b>
Full-Time Equivalents...	1,594	1,557	1,183	-374	-24.0%

(dollars in thousands/whole FTEs)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Headquarters</b>					
Salaries and Benefits...	37,692	38,420	40,608	2,188	5.7%
Travel...	1,762	1,537	1,557	20	1.3%
Support Services...	9,909	8,428	8,516	88	1.0%
Other Related Expenses...	14,705	12,936	13,104	168	1.3%
<b>Total, Headquarters</b>	<b>64,068</b>	<b>61,321</b>	<b>63,785</b>	<b>2,464</b>	<b>4.0%</b>
Full-Time Equivalents...	349	345	345	0	0.0%
<b>Consolidated Business Center</b>					
Salaries and Benefits...	0	0	14,754	14,754	0.0%
Travel...	0	0	3,671	3,671	0.0%
Support Services...	0	0	4,000	4,000	0.0%
Other Related Expenses...	0	0	8,198	8,198	0.0%
<b>Total, Con. Business Center</b>	<b>0</b>	<b>0</b>	<b>30,623</b>	<b>30,623</b>	<b>0.0%</b>
Full-Time Equivalents...	0	0	127	127	0.0%
<b>Subtotal, Environmental Management</b>					
Salaries and Benefits...	209,504	209,845	189,987	-19,858	-9.5%
Travel...	6,589	5,982	8,879	2,897	48.4%
Support Services...	27,286	24,147	25,731	1,584	6.6%
Other Related Expenses...	43,172	41,889	46,462	4,573	10.9%
<b>Subtotal, Program Direction</b>	<b>286,551</b>	<b>281,863</b>	<b>271,059</b>	<b>-10,804</b>	<b>-3.8%</b>
Full-Time Equivalents...	1,943	1,902	1,655	-247	-13.0%
<b>Use of Prior Balances/Rescission</b>					
Salaries and Benefits...	-1,576	-3,618	0	3,618	-100.0%
Travel...	-46	-41	0	41	-100.0%
Support Services...	-4,845	0	0	0	0.0%
Other Related Expenses...	-361	-1,694	0	1,694	-100.0%
<b>Total, Use of Prior Year Balances</b>	<b>-6,828</b>	<b>-5,353</b>	<b>0</b>	<b>5,353</b>	<b>-100.0%</b>
Full-Time Equivalents...	0	0	0	0	0.0%
<b>Total, Environmental Management</b>					
Salaries and Benefits...	207,928	206,227	189,987	-16,240	-7.9%
Travel...	6,543	5,941	8,879	2,938	49.5%
Support Services...	22,441	24,147	25,731	1,584	6.6%
Other Related Expenses...	42,811	40,195	46,462	6,267	15.6%
<b>Total, Program Direction</b>	<b>279,723</b>	<b>276,510</b>	<b>271,059</b>	<b>-5,451</b>	<b>-2.0%</b>
Full-Time Equivalents...	1,943	1,902	1,655	-247	-13.0%



## **Description**

Program Direction provides for the Federal workforce responsible for the overall direction and administrative support of the Environmental Management (EM) program, including both Headquarters and field personnel. The EM mission of protecting human health and the environment is carried out by a workforce composed largely of contractors, although there are a variety of functions that are inherently governmental (e.g., program management, contract administration, and interagency and international coordination) that require a dedicated Federal workforce.

The role of the Headquarters Federal workforce is to provide leadership, establish and implement national policy, conduct analyses and integrate activities across sites. Increasing standards of accountability for program performance and spending require Headquarters staff to closely analyze budget requests, track expenditures, and compile Congressionally mandated and other program plans (e.g., life cycle baselines, five-year plans, and future land use plans). Also, interactions with non-DOE government entities (e.g., participation in International Atomic Energy Agency activities, and negotiations with foreign embassies and reactor operators) are most appropriately performed by Federal employees rather than contractors. Finally, Headquarters personnel assess the progress of planned program activities in order to report to Congress, Federal, State and local governments, Indian Tribes, citizen groups and the public on the status of EM programs.

Field personnel are responsible and directly accountable for implementing the EM program within the framework established by Headquarters policy and guidance. In addition, the field is responsible for the day-to-day oversight of the Department's facilities, the facility contractors and other support contractors, as well as construction and test activities that support EM activities for DOE. The field office personnel are responsible for planning and implementing performance improvement programs and the technical programs needed to comply with standards and regulations. They are also responsible for the preparation of regulatory documents and interaction with the regulators who have oversight of facility operations. The field staffing level includes personnel supporting the analytical laboratories.

Program Direction has been grouped into four categories:

- Salaries and benefits for FY 2005 provide for 345 Federal full-time equivalents at Headquarters (employees based in Germantown, Maryland and Washington, DC), 1,183 Federal full-time equivalents under the Operations/Field/Site Offices located throughout the United States, and 127 full-time equivalent employees at the Environmental Management Consolidated Business Center. In addition, funding is provided for workers compensation payments to the Department of Labor, benefits associated with permanent change of station, transit subsidies and incentive awards.
- Travel includes all costs of transportation, subsistence, and incidental travel expenses of EM's Federal employees in accordance with Federal Travel Regulations. This also includes travel costs associated with permanent change of duty station.
- Support Services includes technical and administrative support, program management and integration, management information and support systems, performance systems, and cost/schedule studies. Program management includes support for organizational and strategic planning; coordination and interaction with other Federal, State and local government agencies and private industrial concerns; performance measurement; and cost assessment.

Technical support services include, but are not limited to, determining feasibility of design considerations; development of specifications, system definition, system review and reliability analyses; trade-off analyses; economic and environmental analyses which may be used in DOE's preparation of environmental impact statements; and test and evaluation, surveys or reviews to improve the effectiveness, efficiency and economy of technical operations.

Management support services include, but are not limited to, analyses of workload and work flow; directives management studies; automated data processing; manpower systems analyses; assistance in the preparation of program plans; training and education; analyses of Departmental management processes; and any other reports or analyses directed toward improving the effectiveness, efficiency and economy of management and general administrative services.

- Other related expenses include training the Federal workforce, rental of office space, building maintenance, telephone and network communication costs, utilities, computer/video support, printing and graphics, photocopying, postage, office supplies and equipment, and contractual services required for permanent change of duty station at Headquarters and the Operation/Field/Site Offices. A Working Capital Fund established at Headquarters allocates the costs of common administrative services to the recipient Headquarters organizations. Activities supported by the Working Capital Fund include automated office support, telephone services, postage, printing and graphics, supplies, photocopying, building occupancy, payroll processing, and contract closeouts. Also included are expenses related to the storage of household goods and the buying/selling of homes in conjunction with directed permanent change of station.

### **Significant Program Shifts**

- *Transfers to Other Department of Energy Organizations.* The FY 2005 Environmental Management Program Direction budget reflects the following transfers to other Department of Energy Organizations: 46 Full-time Equivalent Employees (FTEs) to the Office of Science for the Pacific Northwest National Laboratory Site Office; 6 FTEs to the Office of Information Management for information technology functions; and 2 FTE to the National Nuclear Security Administration for the Off-Site Source Recovery Program. The Office of Environmental Management will also transfer to the Office of Legacy Management 1 FTE for Formerly Utilized Sites Remediation Program records maintenance, 1 FTE for cost liability and recovery review, and 2 FTEs for the Environmental Justice Program and the Massie Chairs of Excellence. To the Office of Civilian Radioactive Waste Management, the Office of Environmental Management will transfer 5 FTEs for the Domestic and Foreign Research Reactor Spent Nuclear Fuel Receipts Program and 3 FTEs for the National Spent Nuclear Fuel Program.
- *Consolidated Business Center:* The Assistant Secretary for Environmental Management will consolidate business functions for closure sites and some smaller sites. The EM Consolidated Business Center (CBC) is scheduled to be open late in FY 2004, with the majority of startup activities to occur in FY 2005. FY 2005 startup requirements include funding to move personnel to the CBC (permanent change of station) and initial support services requirements essential during staff-up in FY 2005. Due to the late opening in FY 2004, resources will be derived from within the Environmental Management Program Direction funding total. FY 2005 is shown as fully funded.
- *Portsmouth/Paducah Project Office:* Starting in FY 2004, a new field office was established to oversee nuclear waste cleanup activities at the Portsmouth and Paducah Gaseous Diffusion Plants in Ohio and Kentucky.

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
207,928	206,227	189,987

**Salaries and Benefits**

Provides funding for 1,655 full-time equivalent employees in FY 2005 with the responsibility for the overall direction and administrative support of the EM program, including both Headquarters and field personnel. The federal workforce performs a variety of functions that are inherently governmental such as program management, contract administration, and interagency and international coordination.

**Travel**

6,543            5,941            8,879

Includes all costs of transportation of persons, subsistence of travelers, and incidental travel expenses in accordance with Federal travel regulations that are directly chargeable to EM.

**Support Services**

22,441            24,147            25,731

Provides for technical and administrative support for cost effective short-term/intermittent requirements not available form within the Federal workforce.

**Other Related Expenses**

42,811            40,195            46,462

Provides for the physical and administrative support to the Federal workforce at both Headquarters and the field. The level of support provided by EM varies at each site depending on EM's role in relation to other Departmental programs. Examples of the type of support that may be provided include rents and utilities, supplies, printing, maintenance and repair of government vehicles and equipment; maintenance and renovations of buildings; janitorial and custodial services; transit operations (shuttle bus); alarm protection systems; employee health services; and other vendor services, including those associated with contractual services for permanent change of duty station. At Headquarters, administrative costs are included in the Working Capital Fund, which EM contributes to through this account. This category also includes the cost of training the Federal workforce. Significant portions of these expenditures are fixed in nature and do not change in relation to the workforce. Also included are expenses related to the storage of household goods and the buying/selling of homes in conjunction with directed permanent change of station.

Total, Program Direction

279,723	276,510	271,059
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## Explanation of Funding Changes

FY 2005 vs FY 2004 (\$000)
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### Salaries and Benefits

Reflects government-wide increase for pay and personnel related costs for 1,655 full-time equivalent employees. 10,541

Reflects the cost reduction attained by reducing the EM workforce by 247 full-time equivalent employees from the FY 2004 level. (26,781)

### Travel

Reflects reduced travel requirements due to decrease in staffing. -587

Reflects increased requirements for permanent change of station (to include travel and transportation) to standup the Consolidated Business Center for the first full year of operation. 3,525

### Support Services

Reflects management initiative to limit non-labor related spending complex-wide. -2,416

Incorporates support service requirements at the Consolidated Business Center required for continued FY 2005 standup activities 4,000

### Other Related Expenses

Slight increase in other related expenses covers funding needed for fixed price costs and services. 1,619

Reflects increased requirements for permanent change of station (to include storage of household goods and costs associated with buying and selling homes) to standup the Consolidated Business Center for the first full year of operation. 4,648

**Total Funding Change, Program Direction** (5,451)

## Support Services by Category

(dollars in thousands)					
	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Technical Support					
Economic and Environmental Analysis	10,631	12,592	10,445	-2,147	-17.1%
Test and Evaluation	2,090	1,923	1,845	-78	-4.1%
<b>Total, Technical Support</b>	12,721	14,515	12,290	-2,225	-15.3%
Management Support Services					
Directives Management Studies	3,549	3,306	3,060	-246	-7.4%
Training and Education	574	584	574	-10	-1.7%
Reports and Analyses Management and General Administrative Services	5,597	5,742	9,807	4,065	70.8%
<b>Total, Management Support Services</b>	9,720	9,632	13,441	3,809	39.5%
<b>Total, Support Services</b>	22,441	24,147	25,731	1,584	6.6%

## Other Related Expenses by Category

(dollars in thousands)					
	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Training	3,039	2,737	2,777	40	1.5%
Working Capital Fund	6,170	7,478	6,973	-505	-6.8%
Printing and Reproduction	574	481	582	101	21.0%
Rent to GSA	9,725	8,272	8,650	378	4.6%
Communication, Utilities, Misc.	2,908	3,273	3,970	697	21.3%
Other Services	20,395	17,954	23,510	5,556	30.9%
<b>Subtotal, Other Related Expenses</b>	42,811	40,195	46,462	6,267	15.6%
<b>Total, Other Related Expenses</b>	42,811	40,195	46,462	6,267	15.6%



# Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund

## Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
HQ-DD-0100 / Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.....	432,731	449,333	463,000	13,667	3.0%
<b>Total, Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.....</b>	<b>432,731</b>	<b>449,333</b>	<b>463,000</b>	<b>13,667</b>	<b>3.0%</b>

### Description

The Defense Environmental Services, Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, funds the Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992 (The Act). The Act authorizes annual fund contributions to come from both a special assessment on domestic utilities and annual congressional appropriations. This fund is responsible for maintaining, decontaminating, decommissioning, and otherwise remediating uranium processing facilities. This includes the environmental management responsibilities at the nation's three gaseous diffusion plants at Paducah, Kentucky; Portsmouth, Ohio; and Oak Ridge, Tennessee.

### Benefits

This account provides funding for environmental management responsibilities at the nation's three gaseous diffusion plants. The appropriation also provides funding for reimbursement of licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites.

As the cleanup and decommissioning at the gaseous diffusion plants progresses, (as well as the cleanup at uranium/thorium processing sites), the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed, the financial resources needed to maintain site infrastructure will also be reduced.

### Detailed Program Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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<b>HQ-DD-0100 / Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund (life-cycle estimate \$4,725,543K) .....</b>	<b>432,731</b>	<b>449,333</b>	<b>463,000</b>
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The Energy Policy Act of 1992 created the Uranium Enrichment Decontamination and Decommissioning Fund to pay for the cost of cleanup of the gaseous diffusion facilities located in Oak

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. The fund also covers the Federal cost to reimburse operating uranium or thorium processing site licensees for the costs of their environmental cleanup at designated sites, subject to a specific reimbursement limit. The Department compensates site owners on a per-ton basis for the restoration costs for those tailings attributable to the Federal Government. The Act authorizes annual contributions to the fund of \$518,233,233 (amended August 2002) adjusted for inflation, from two sources: up to \$150,000,000 from a special assessment on domestic utilities based on the ratio of their separate work unit purchases from the Department to total purchases from the Department including those produced for defense purposes, with the remainder of required funding to come from annual Congressional appropriations. The purpose of this activity is to provide the annual Federal contribution. The last year of contribution is FY 2007.

In FY 2005, the following activities are planned to support the Uranium Enrichment Decontamination and Decommissioning Fund.

- Provide the FY 2005 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992.

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

- Provide the FY 2003 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992 (FY 2003).
- Make annual Federal contributions into the Fund as required by the Act (September 2003/September 2004/September 2005).

<b>Total, Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.....</b>	<b>432,731</b>	<b>449,333</b>	<b>463,000</b>
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**Explanation of Funding Changes**

FY 2005 vs. FY 2004 (\$000)
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**HQ-DD-0100 / Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund**

- Change is based on the Office of Management and Budget estimates ..... 13,667

Total Funding Change, Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund .....	<b>13,667</b>
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**Non-Defense Site  
Acceleration  
Completion**

**Non-Defense Site  
Acceleration  
Completion**

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# **Non-Defense Site Acceleration Completion**

## **Proposed Appropriation Language**

*For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary for non-defense environmental management site acceleration completion 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, \$151,850,000 to remain available until expended.*

## **Explanation of Change**

None.



# Non-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
Non-Defense Site Acceleration Completion					
2006 Accelerated Completions.....	53,972	48,677	-265	48,412	45,435
2012 Accelerated Completions.....	109,323	119,750	-671	119,079	98,191
2035 Accelerated Completions.....	4,289	4,948	-28	4,920	8,224
Subtotal, Non-Defense Site Acceleration Completion.....	167,584	173,375	-964 <sup>a</sup>	172,411	151,850
Use of Prior Year Balances.....	0	-10,000	0	-10,000	0
Total, Defense Environmental Services	167,584	163,375	-964	162,411	151,850

### Public Law Authorizations:

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

Public Law 95-604, "Uranium Mill Tailing Radiation Control Act of 1979"

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

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

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

<sup>a</sup> Reflects rescission reduction of \$964,000.

## 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.

## Benefits

This appropriation provides funding to accelerate risk reduction and environmental cleanup at sites contaminated as a result of 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.

The Environmental Management program is responsible for managing and addressing the environmental legacy resulting from the production of nuclear weapons and nuclear energy 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 Non-Defense Site Acceleration Completion appropriation provides for the accelerated cleanup and risk reduction of sites used for civilian energy research. This appropriation includes three programs: 2006 Accelerated Completions; 2012 Accelerated Completions; and 2035 Accelerated Completions.

The FY 2005 request for the Non-Defense Site Acceleration Completion appropriation is \$151,850,000, a decrease of \$20,561,000, from the comparable FY 2004 Comparable appropriation of \$172,411,000.



## 2006 Accelerated Completions

### Funding Schedule by Activity

(dollars in thousands)					
	FY 2003	FY 2004	FY 2005	\$ Change	% Change
CH-ANLE-0030/Soil and Water Remediation-Argonne National Laboratory-East.....	2,863	1,521	404	-1,117	-73.4%
CH-ANLW-0030/Soil and Water Remediation-Argonne National Laboratory-West.....	386	0	0	0	0.0%
CH-BRNL-0030/Soil and Water Remediation-Brookhaven National Laboratory.....	25,976	30,226	29,017	-1,209	-4.0%
CH-BRNL-0040/Nuclear Facility Decontamination and Decommissioning-Brookhaven Graphite Research Reactor.....	8,748	7,180	8,453	1,273	17.7%
CH-PPPL-0030/Soil and Water Remediation-Princeton Site A/B.....	0	124	0	-124	-100.0%
OH-WV-0012/Spent Nuclear Fuel Stabilization and Disposition-West Valley.....	3,571	0	0	0	0.0%
VL-ITL-0030/Soil and Water Remediation-Inhalation Toxicology Laboratory.....	1,065	476	491	15	3.2%
VL-GA-0012/Spent Nuclear Fuel Stabilization and Disposition-General Atomics.....	1,575	0	0	0	0.0%
VL-LBNL-0030/Soil and Water Remediation-Lawrence Berkeley National Laboratory.....	3,134	3,228	4,070	842	26.1%
VL-LEHR-0040/Nuclear Facility Decontamination and Decommissioning-Laboratory for Energy-Related Health Research.....	4,049	3,273	500	-2,773	-84.7%
VL-SLAC-0030/Soil and Water Remediation-Stanford Linear Accelerator Center.....	2,605	2,384	2,500	116	4.9%
<b>Total, 2006 Accelerated Completions.....</b>	<b>53,972</b>	<b>48,412</b>	<b>45,435</b>	<b>-2,977</b>	<b>-6.1%</b>

### Description

The Non-Defense Site Acceleration Completion appropriation, 2006 Accelerated Completions program provides funding for completing cleanup and closing facilities contaminated as a result of nuclear energy research and development. This program includes all geographic sites with a planned closure date of 2006 or earlier (e.g., Stanford Linear Accelerator Center). In addition, this program provides funding for Environmental Management sites where overall site cleanup will not be completed by 2006 but certain non-defense cleanup projects within a site (e.g., soil contamination remediated, all waste shipped off-site) will be completed by 2006.

## Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at non-defense 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
<b>Chicago</b>					
Argonne National Laboratory – East.....	2,863	1,521	404	-1,117	-73.4%
Argonne National Laboratory – West.....	386	0	0	0	0.0%
Brookhaven National Laboratory.....	34,724	37,406	37,470	64	0.2%
Princeton Plasma Physics Laboratory.....	0	124	0	-124	-100.0%
<b>Total, Chicago Operations Office.....</b>	<b>37,973</b>	<b>39,051</b>	<b>37,874</b>	<b>-1,177</b>	<b>-3.0%</b>
<b>NNSA Service Center</b>					
Inhalation Toxicology Laboratory.....	1,065	476	491	15	3.2%
General Atomics.....	1,575	0	0	0	0.0%
Lawrence Berkeley National Laboratory..	3,134	3,228	4,070	842	26.1%
Laboratory for Energy-Related Health Research.....	4,049	3,273	500	-2,773	-84.7%
Stanford Linear Accelerator Center.....	2,605	2,384	2,500	116	4.9%
<b>Total, NNSA Service Center.....</b>	<b>12,428</b>	<b>9,361</b>	<b>7,561</b>	<b>-1,800</b>	<b>-19.2%</b>
<b>Ohio</b>					
West Valley Demonstration Project.....	3,571	0	0	0	0.0%
<b>Total, 2006 Accelerated Completions.....</b>	<b>53,972</b>	<b>48,412</b>	<b>45,435</b>	<b>-2,977</b>	<b>-6.1%</b>

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**CH-ANLE-0030 / Soil and Water Remediation-Argonne**

**National Laboratory -East (life-cycle estimate \$28,341K)..... 2,863 1,521 404**

Contamination of groundwater, sediment, and soils has occurred at Argonne National Laboratory-East as a result of past laboratory operations and spills. Contaminants of concern include volatile organic compounds, petroleum hydrocarbons, metals, polychlorinated biphenyl compounds, and a variety of radioisotopes. This PBS involves investigation and remedial activities at the Argonne National Laboratory-East to reduce risk to human health and the environment at the release sites and thus comply with corrective action requirements of the Resource Conservation and Recovery Act Part B permit issued by the Illinois Environmental Protection Agency. The remaining Resource Conservation Recovery Act solid waste management units/release sites will be completed in FY 2004. Most field work was completed in FY 2003 with requests to the Illinois Environmental Protection Agency for all appropriate "No Further Actions". Regulator acceptance and, therefore, EM completion is expected in early FY 2004. However, residual contamination will remain at several areas of the Argonne National Laboratory-East site, which will require continued monitoring and/or remediation system operation, under institutional control (Land Use Control Memorandum of Agreement).

The EM end-state of this project will be reached when the remaining Resource Conservation and Recovery Act solid waste management units/release site remedies are installed; the Illinois Environmental Protection Agency has formally issued all "No Further Actions"; the remediation systems are operational; and maintenance activities have been integrated into the site monitoring and surveillance program conducted by the site landlord (Office of Science) at Argonne National Laboratory-East. Continuing operation and maintenance activities for the remediation systems are expected to be transferred to the landlord after FY 2004.

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

- Conduct continuing long-term response actions, such as operation and maintenance of remedial system, hydraulic containment, and groundwater monitoring.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites).....	4	0	0	443	443	100%

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

- Received 11 No Further Actions (including the 320 Area Shooting Range and Building 34-Liquid Mixed Waste Treatment) from the Illinois Environmental Protection Agency for a total of 52 No Further Actions for the Remedial Action Program at Argonne National Laboratory East (FY 2003).

**Non-Defense Site Acceleration Completion/  
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(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- For the 317 Area North and Deep Vaults (Solid Waste Management Units 743 and 747), the phytoremediation plantation was deployed over the area formerly occupied by the 317 Area Concrete Storage Pad (FY 2003).
- Submitted the final construction report for the 570 Area Unlined Holding Basin to DOE and the Illinois Environmental Protection Agency (FY 2003).
- Completed lime sludge recycling (FY 2003).
- Complete all remedial activities at the Argonne National Laboratory-East (September 2004).
- Continue operation and maintenance activities (September 2005).

**CH-ANLW-0030 / Soil and Water Remediation-Argonne**

**National Laboratory-West (life-cycle estimate \$7,939K)..... 386 0 0**

Past operations of the Experimental Breeder Reactor II and associated facilities at Argonne National Laboratory-West have resulted in contaminated surface soils and sediments. Primary contaminants of concern include cesium-137 and heavy metals. This PBS involves remediation activities at the Argonne National Laboratory-West Waste Area Group 9 to assess and reduce risk, as well as to comply with the Federal Facilities Agreement/Consent Order. All planned soil remediation activities were completed (geographic site completion) in FY 2001. Continuing operation and maintenance activities (related to the phytoremediation activities of vegetation planting and harvesting), monitoring, and verification sampling were completed in FY 2003.

The end-state of this project, completion of phytoremediation operation and maintenance activities (i.e., vegetation harvesting), and verification sampling was accomplished in FY 2003. The tasks of monitoring and maintaining restricted areas, and enforcing institutional controls are expected to be transferred to the landlord (Office of Nuclear Energy) during FY 2004.

- No planned activities and funds are requested 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	37	37	100%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ Conducted verification sampling of soil at release sites where phytoremediation had been implemented to ensure all remediation goals had been met (FY 2003).</li> <li>▪ Disposed of all harvested plant matter (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**CH-BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory (life-cycle estimate \$195,943K)..... 25,976 30,226 29,017**

Historical practices and discharges, as well as past spills, have resulted in the contamination of groundwater, sediments, and soils at Brookhaven National Laboratory. As a result, off-site and onsite groundwater has become contaminated with volatile organic compounds, in addition to onsite radionuclides such as tritium and strontium-90. Historical discharges from Brookhaven National Laboratory's Sewage Treatment Plant have resulted in elevated levels of metals, primarily mercury, and radionuclides (e.g. cesium-137), in the Peconic River sediments both on and off-site. Some soils at Brookhaven National Laboratory are contaminated with radionuclides (primarily cesium-137 and strontium-90) and chemicals (primarily mercury) due to historical practices and spills. This PBS addresses the accelerated cleanup of these contaminated areas based on known or potential risks to human health and the environment at the Brookhaven National Laboratory. These areas are being remediated under a Comprehensive Environmental Response, Compensation, and Liability Act Interagency Agreement between DOE, the United States Environmental Protection Agency, and the New York State Department of Environmental Conservation. Strategic Initiative 1 in the Brookhaven National Laboratory Performance Management Plan accelerates the completion of the groundwater and soils cleanup projects by one year from FY 2006 to FY 2005. Strategic Initiative 2 accelerates Peconic River Remedy Selection and Cleanup with completion in FY 2005. Strategic Initiative 5 is DOE's commitment to plan and implement an effective monitoring and remediation system operation program at Brookhaven National Laboratory. These initiatives accelerate Brookhaven National Laboratory soil and groundwater cleanup projects and also provide for a risk-based remedy selection process for the Peconic River cleanup. In combination, these initiatives will accelerate the completion of the Brookhaven National Laboratory environmental cleanup program by over one year (from FY 2006 to FY 2005) and will support completion of all EM cleanup at Brookhaven (including the Brookhaven Graphite Research Reactor and High Flux Beam Reactor) by the end of FY 2008.

The projected end-state of this project is that 17 groundwater treatment systems will be built and operating and that all required non-reactor facility decontamination and decommissioning, soil cleanup and Peconic River remediation will be complete by the end of FY 2005. Continuing activities such as groundwater monitoring and groundwater treatment system operations and maintenance would be underway and will be transferred to the landlord (Office of Science) in FY 2006. Groundwater cleanup is Brookhaven National Laboratory's highest priority because it is located above Long Island's sole source aquifer, which provides the only source of drinking water for residents. Cleanup consists of the installation of groundwater treatment systems both on and off site, continued monitoring, source term removal, and natural attenuation. Identified contaminated Peconic River sediments and soils will be excavated and disposed. The operable units are in various stages of completion and many cleanup activities have been completed. Three landfills have been capped and numerous contaminated cesspools, storage tanks and contaminated soils have been removed with off-site disposal. Ten groundwater treatment systems have been built and are operating.

FY 2004 activities include the construction of several off-site groundwater treatment systems, the initiation of soil cleanup at the old Hazardous Waste Management Facility, and the disposition of remaining chemical holes soils and legacy wastes in support of Strategic Initiative 1, the acceleration of

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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groundwater and soil cleanup at Brookhaven National Laboratory. The initiation of Peconic River cleanup in FY 2004 supports Strategic Initiative 2 to complete cleanup by FY 2005. Continuing site-wide monitoring and reporting activities in FY 2004 and beyond support Strategic Initiative 5, DOE's commitment to plan and implement an effective monitoring and remediation system operation program at Brookhaven National Laboratory.

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

- In support of Strategic Initiative 1, Accelerate Groundwater and Soils Cleanup: Complete all remaining scope, including achieving operational status for all groundwater treatment systems; complete soils remediation; complete disposal of remaining EM legacy waste.
- In support of Strategic Initiative 2, Accelerate Peconic River Remedy Selection and Cleanup: Complete the Peconic River cleanup.
- In support of Strategic Initiative 5, Cost-effective Long Term Stewardship: Continue site wide monitoring, data management and reporting activities.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Radioactive Facility Completions (Number of Facilities).....	0	0	3	3	3	100%
Remediation Complete (Number of Release Sites).....	0	0	8	75	75	100%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/ FY 2005)						
<ul style="list-style-type: none"> <li>▪ Completed design and construction and began operation of the Western South Boundary and Strontium 90 Pilot Study groundwater treatment systems (FY 2003).</li> <li>▪ Completed final designs, and started construction of the Long Island Power Authority Airport, North Street, North Street East, and Industrial Park East groundwater treatment systems (FY 2003).</li> <li>▪ Strategic Initiative 2, Accelerated Peconic River Remedy Selection and Cleanup, prepared human health risk assessment to determine the risks of contaminants and prepared a feasibility study to evaluate the effectiveness of various cleanup options to support the selection of a final remedy. Submitted draft Record of Decision to regulators (FY 2003).</li> <li>▪ Completed cleanup of the Sewage Treatment Plant (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Complete construction of the Airport/Long Island Power Authority Groundwater Treatment System (March 2004).
- Complete Operable Unit I remediation (April 2005).

**CH-BRNL-0040 / Nuclear Facility Decontamination and Decommissioning-Brookhaven Graphite Research Reactor**

**(life-cycle estimate \$53,221K)..... 8,748 7,180 8,453**

The Brookhaven Graphite Research Reactor was the world's first research reactor constructed solely for the peaceful use of atomic energy. The Reactor operated from 1950 to 1969. During the initial deactivation of the Reactor in 1969-1972, the spent reactor fuel was removed from the reactor and shipped to DOE's Savannah River Site. Also, the water within the spent fuel canal was pumped to Brookhaven National Laboratory's Waste Concentration Facility for storage and processing. These actions removed the majority (more than 95%) of the radioactive material from the facility. However, the reactor core (graphite moderator) contains residual contamination and the spent fuel canal and cooling air ducts are contaminated with fission products, such as strontium-90 and cesium-137. This PBS scope characterizes, stabilizes, decontaminates and decommissions the Brookhaven Graphite Research Reactor to remove or isolate sources of contamination and reduce any potential risk to human health and the environment. The Brookhaven Graphite Research Reactor is an Area of Concern under the Brookhaven National Laboratory Comprehensive Environmental Response, Compensation, and Liability Act Interagency Agreement. The acceleration of the end-state decision and decontamination and decommissioning of the Brookhaven Graphite Research Reactor is identified as Strategic Initiative 3 in the Brookhaven National Laboratory Performance Management Plan. This initiative accelerates the end-state determination and Record of Decision for the Brookhaven Graphite Research Reactor by up to one year (from FY 2005 to FY 2004), allowing completion of decontamination and decommissioning by the end of FY 2005, and contributing to completion of all EM scope at Brookhaven (including the High Flux Beam Reactor) by the end of FY 2008.

The end-state of this project will be decided with the approval of the Record of Decision for the Brookhaven Graphite Research Reactor. Continuing activities, such as access controls and surveillance and maintenance for the Brookhaven Graphite Research Reactor will be transferred to the landlord (Office of Science) in FY 2006. This project was recently reassessed and work tasks resequenced to reduce technical, programmatic, and environmental risks, thereby increasing confidence that the project will be completed in a safe, cost-effective, and timely manner. Corrective actions resulting from the assessment have integrated parts of the project scope to ensure a comprehensive and efficient regulatory strategy; accelerated the end-state decision and Record of Decision by nearly one year; and corrected scope omissions, including lack of a comprehensive risk assessment and supporting engineering information for end-state discussions.

The project is currently assessing the disposition of key Brookhaven Graphite Research Reactor structures such as the pile, the reactor building, below grade ducts, and the canal. A Risk Assessment, Feasibility Study, and Proposed Remedial Action Plan will be prepared to provide a foundation for the remaining remediation. To date, the following structures have been remediated: pile fans and sump removed, pile sealed, Building 701 isolated from Building 703, above grade structures of canal and

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FY 2003	FY 2004	FY 2005
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water treatment houses demolished, dismantled and shipped to the above grade ducts for disposal, coolers removed from the below grade ducts, remediated below grade piping to and from the canal and portions of the canal walls, and completed characterization of Building 701, the pile, remaining soils, and the above grade and below grade ducts.

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

- Work activities will be conducted to complete actions described in the Record of Decision which include further remediation on the below grade portions of the canal, the below grade ducts, and Building 701, as required. Verification and final status surveys will be conducted and closure reports written.

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	3	7	7	100%
Remediation Complete (Number of Release Sites).....	0	0	0	1	1	100%

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

- Completed planning for and initiated removal action for a large fraction of the source term remaining in the below grade ducts Filters and Liners (FY 2003).
- Submit Brookhaven Graphite Research Reactor Draft Record of Decision to the regulators to determine final end-state for Brookhaven Graphite Research Reactor (January 2004).
- Complete removal of below ground piping (April 2004).
- DOE submit draft below grade duct completion report to regulators, demonstrating completion of decontamination and decommissioning, for review and comment (July 2005).

**CH-PPPL-0030 / Soil and Water Remediation-Princeton Site A/B (life-cycle estimate \$554K)..... 0 124 0**

Potentially Responsible Party payments are required to cover DOE's responsibility, as a previous lessee, for a portion of the characterization/remediation costs for cleanup of soil and groundwater volatile organic compounds contamination at Princeton University's Site A/B, in accordance with the New Jersey Department of Environmental Protection/Princeton University Memorandum of Understanding and DOE/Princeton University Memorandum of Agreement. Potentially Responsible Party payments began in 1995 and are expected to continue through FY 2004.

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(dollars in thousands)

FY 2003	FY 2004	FY 2005
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In FY 2005, the following activities are planned to support the Princeton Site A/B.

- No activities are 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)						
<ul style="list-style-type: none"> <li>▪ Payment of DOE's annual portion, as a Potentially Responsible Party, for characterization and remediation costs (September 2004).</li> </ul>						

**OH-WV-0012 / Spent Nuclear Fuel Stabilization and Disposition-West Valley (life-cycle estimate \$29,403K)..... 3,571 0 0**

The West Valley Demonstration Project Spent Nuclear Fuel project encompassed activities required to safely manage and store 125 Spent Nuclear Fuel assemblies, prepare them for shipment to the Idaho National Engineering and Environmental Laboratory per a joint agreement between the states of New York and Idaho, and deactivate/decontaminate the Fuel Receiving and Storage Facility where the assemblies have been stored since the 1960's. Completion of these efforts reduced environmental and worker risk at the site and helped position the Project to support initiation of a closure contract for Project decommissioning planned to begin in 2005, consistent with the West Valley Demonstration Project accelerated plan for completion.

The Spent Nuclear Fuel was shipped to the Idaho National Engineering and Environmental Laboratory in July 2003, and the Fuel Receiving and Storage Facility was deactivated and decontaminated.

- The required activities within this PBS were completed by the end of FY 2003.

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)						
<ul style="list-style-type: none"> <li>▪ Completed decontamination and deactivation of the Fuel Receiving and Storage Facility (FY 2003).</li> <li>▪ Completed shipment of Spent Nuclear Fuel to the Idaho National Engineering and Environmental Laboratory (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**VL-ITL-0030 / Soil and Water Remediation-Inhalation**

**Toxicology Laboratory (life-cycle estimate \$7,910K)..... 1,065 476 491**

Remedial activities for contaminated soil and groundwater at the site were completed in 1997. Currently, the environmental management mission at the Inhalation Toxicology Laboratory is comprised of two projects: (a) groundwater monitoring and reporting and (b) legacy waste disposal. The groundwater monitoring is at two sites, the Sewage Lagoon Site and the Diesel Spill Site, pursuant to conditions imposed by the State. Monitoring is to continue until no contamination is observed above regulatory standards for four consecutive semiannual sampling events for the Lagoon Site and eight consecutive quarterly sampling events for the Diesel Site. Labs and facilities that are contaminated from DOE projects have been vacated and are in the process of being surveyed, decontaminated, and released for other research purposes. Legacy low-level radioactive waste and hazardous waste within the laboratories and facilities, is being identified and disposed of as funding permits.

In FY 2005, the following activities are planned to support the completion of the Environmental Management mission at the Inhalation Toxicology Laboratory.

- Pursuant to conditions of the New Mexico Environment Department, conduct and report on semi-annual groundwater monitoring for the Sewage Lagoon Site for eight wells for four parameters and annual monitoring for three wells for the same four parameters. Conduct and report on semi-annual groundwater monitoring for the Diesel Spill Site for one well for a variety of diesel related parameters.
- Collect, remove, characterize, bulk, package, and dispose of expired outdated, or unused chemicals. Unlabeled chemicals will be analyzed and characterized. Chemicals will be disposed as appropriate.
- Collect, characterize and package radioactive waste for disposal. Radioactive items to be removed include old research samples, tissue blocks, contaminated equipment and instruments, small gloveboxes, lab coats and other clothing and miscellaneous lab items. The labs will be surveyed and surfaces decontaminated.
- Complete all characterization and documentation and perform quality assurance procedures for shipment of one low-level waste container (35 m<sup>3</sup>). Perform required rad surveys of container and truck prior to release. Ship to the Nevada Test Site.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
LLW/MLLW Disposed (m <sup>3</sup> ).....	165	35	35	235	395	59%
Remediation Complete (Number of Release Sites).....	0	0	0	9	9	100%

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

- Disposed of 3 metric tons of hazardous waste through a commercial licensed chemical disposal company (FY 2003).

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**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Cleared eight more laboratories of low-level radioactive and hazardous waste (FY 2003).
- Conduct groundwater monitoring and reporting (September 2004/September 2005).
- Dispose of 35 m<sup>3</sup> of low-level waste (September 2004/September 2005).

**VL-GA-0012 / Spent Nuclear Fuel Stabilization and Disposition-General Atomics (life-cycle estimate \$13,629K)..... 1,575 0 0**

The General Atomic Hot Cell Facility is a privately-owned, Nuclear Regulatory Commission-licensed nuclear facility in LaJolla, California. In the 1950s, DOE contracted with General Atomics for various research programs. In the early 1990s, the DOE work was completed leaving the contaminated Hot Cell Facility to be decontaminated and decommissioned. This project consisted of the decontamination and decommissioning of the General Atomics Hot Cell Facility and cleanup of the associated yard area and disposition of stored DOE owned irradiated fuel materials. Hot Cell Facility decommissioning activities were completed in 2001. In FY 2003 irradiated fuel materials were shipped to the Idaho National Environmental and Engineering Laboratory for interim storage, completing all EM project scope at the site. Project end-state was accompanied with regulatory release for unrestricted use for the Hot Cell Facility yard area and the irradiated fuel materials storage area.

- No activities are planned in FY 2005.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
SNF Packaged for Final Disposition (MTHM).....	0	0	0	1	1	100%
LLW/MLLW Disposed (m <sup>3</sup> ).....	0	0	0	1716	1716	100%
Remediation Complete (Number of Release Sites).....	0	0	0	2	2	100%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/ FY2005)						
▪ Shipped irradiated fuel materials (FY 2003).						

**VL-LBNL-0030 / Soil and Water Remediation-Lawrence Berkeley National Laboratory (life-cycle estimate \$33,758K)... 3,134 3,228 4,070**

The activities performed under this PBS are directed at the investigation and clean up of past releases of hazardous and radioactive waste in soil and groundwater that may have occurred at Lawrence Berkeley National Laboratory and are under the purview of the Resource Conservation and Recovery Act. Lawrence Berkeley National Laboratory has completed its Resource Conservation and Recovery Act

**Non-Defense Site Acceleration Completion/ 2006 Accelerated Completions**

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(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Facility Investigation for 181 release sites to determine the amount and extent of contamination. Pilot testing to evaluate different remedial systems for use at Lawrence Berkeley National Laboratory will be completed in FY 2004. If successful, the results will be utilized to recommend full-scale remediation systems that will be constructed in FY 2005 and FY 2006. Lawrence Berkeley will meet the Environmental Management site end-state by reducing contaminants to acceptable levels or eliminating contamination in soil and completing construction to meet remediation objectives in groundwater. The end-state of this project will be the completion of the final remediation systems in FY 2006 and the transfer of long-term surveillance and maintenance responsibilities to the site landlord, the Office of Science beginning in FY 2007.

Operation of treatment systems will be transferred to the site landlord, the Office of Science, after completion of construction in FY 2006. The site landlord will continue surveillance and monitoring of the site.

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

- Obtain regulatory approval of the Corrective Measures Study, implement remedial actions and initiate construction of treatment systems, as identified for final corrective measures.
- Continue monitoring, maintenance and operations at the B-7 enhanced soil vapor extraction system, B-7 soil flushing system, B-64 soil flushing system, and B-7, B-25, B-58 and B-53/58 trenches groundwater treatment systems.
- Complete construction of in-situ chemical oxidation groundwater system at B-71 and startup system at B-52 to treat volatile organic compounds.
- Begin application of hydrogen and oxygen release compounds at the B-69 Area, B-77 Area, and B-76/75 Area to treat low levels of contamination in groundwater.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites).....	23	5	6	172	181	95%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/ FY 2005)						
<ul style="list-style-type: none"> <li>▪ Continued Interim Corrective Measure operations to prevent off-site migration and removal of groundwater contaminant source areas (FY 2003).</li> <li>▪ Completed the soil removal action to excavate Polychlorinated Biphenyl/Tritium contaminated soil at B-75 (FY 2003).</li> <li>▪ The remaining inventory of legacy waste will be dispositioned (FY 2003).</li> <li>▪ Complete pilot remedial systems test construction (March 2004).</li> </ul>						

**Non-Defense Site Acceleration Completion/  
2006 Accelerated Completions**

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(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Implement remedial actions and construct treatment systems identified in corrective measures studies (September 2005).

**VL-LEHR-0040 / Nuclear Facility Decontamination and Decommissioning-Laboratory for Energy-Related Health Research (life-cycle estimate \$40,577K).....**

**4,049      3,273      500**

The Laboratory for Energy-Related Health Research conducted research from the 1950s through 1980s on the effects of radiation on humans by exposing dogs to various radionuclides. These research activities resulted in the chemical and radioactive contamination of the site and various facilities. This PBS involves the cleanup of the contamination and includes: 1) decontamination and decommissioning of radioactive contaminated facilities; 2) removal of on-site radioactive sources and wastes; 3) remediation and/or removal of soil contamination (radiological and/or hazardous) at southwest trenches, Radium and Strontium Treatment Systems, domestic septic tanks, outdoor dog pens (western and eastern dog pens) and DOE disposal box; 4) closure or removal of underground tanks; 5) verification of cleanup completion; and 6) post closure monitoring as required by the Comprehensive Environmental Response, Compensation and Liability Act for National Priority List sites.

The cleaned facilities and land will be returned to the University of California, Davis for continued use as an educational/research facility. The following removal actions have been completed: a time-critical removal action in the DOE disposal box area, and non-time-critical removal actions in the southwest trenches, the Radium and Strontium Treatment Systems, the western dog pens areas, and the domestic septic systems. These removal actions have eliminated the major risks at the site. Most of the legacy waste, including sources, and waste generated from the southwest trenches, DOE disposal box area, and the Radium and Strontium Treatment Systems have been disposed off-site. Since 1998, 5,050 cubic yards of low-level waste including remediated soil, 250 cubic yards of hazardous waste and 1 cubic yard of mixed waste have been disposed off-site.

The acceleration plan for cleanup of the site will result in completion by the end of FY 2005. The remaining cleanup work includes: disposal of all remaining remediation waste generated from the western dog pens and domestic septic systems (about 3,000 cubic yards); disposal or reusing southwest trench overburden soil (about 400 cubic yards); disposal of remaining sanitary waste (about 50 cubic yards); disposal of contaminated equipment and miscellaneous waste (about 50 cubic yards); disposal of thorium source; remediating the eastern dog pens (i.e., excavate the contaminated media or consummate an agreement for University of California, Davis to incorporate the eastern dog pen area into its landfill cap); transferring title of DOE-owned buildings to the University of California, Davis; and delisting DOE areas from the National Priority List.

In FY 2005, the following activities are planned to support the accelerated cleanup of Laboratory for the Energy-Related Health Research.

- Complete the Final Feasibility Study, Proposed Plan, Record of Decision, the Remedial Action Plan, and submit to regulators for approval.
- Initiate transfer of activities to the Office of Legacy Management.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- University of California and DOE to enter into negotiations on final responsibility for Long-Term Stewardship activities.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
LLW/MLLW Disposed (m <sup>3</sup> ).....	0	4	0	948	948	100%
Industrial Facility Completions (Number of Facilities).....	0	1	0	1	1	100%
Remediation Complete (Number of Release Sites).....	3	1	0	17	17	100%

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

- Completed remediation of three of the remaining four (out of 17) release sites (FY 2003).
- Majority of remaining remediation waste will be disposed off-site; begin remediation of the eastern dog pens area (the last major removal action); the last of the legacy waste sources will be disposed off-site (September 2004).
- Submit final Record of Decision and Remedial Action Plan to regulators (September 2005).

**VL-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center (life-cycle estimate \$20,599K)..... 2,605 2,384 2,500**

Activities in this PBS involve the cleanup of legacy contamination resulting from physics research mission operations over the past several decades at the Stanford Linear Accelerator Center. The EM mission includes the identification of chemical contaminants in soil and groundwater, and developing and implementing remedies to address these environmental concerns using Comprehensive Environmental Response, Compensation, and Liability Act technical guidance. The principle contaminants of concern include polychlorinated biphenyls, lead, and volatile organic compounds in soils and groundwater. There are no radiologically contaminated areas or contaminated buildings that require remediation at Stanford Linear Accelerator Center. Preliminary Site Assessments have identified 20 release sites requiring remediation.

The strategy to accelerate the completion of the project includes tasks which are being worked in parallel rather than in series, whenever possible. Installing and testing treatment systems initially, as presumptive remedies, are occurring at the same time as the remedial investigation/feasibility study reports are processed through the approval cycle. Soils contaminated with polychlorinated biphenyls are being characterized to determine the extent of the contamination and the work will be carried out through an interim removal action, before reports are submitted for approval to regulators. This will lower the overall risk at the site, and thus, reduce the number of potential issues with the proposed

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(dollars in thousands)

FY 2003	FY 2004	FY 2005
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remedial solution. The EM end-state is to return long-term surveillance and maintenance activities for remediated site areas to the Office of Science by the end of FY 2006.

In FY 2005, the following activities are planned to support the accelerated cleanup of Stanford Linear Accelerator Center.

- Complete construction of a groundwater treatment system at the Former Hazardous Waste Storage Area to control off-site migration of the southern plume.
- Complete construction of a dual phase vapor extraction and thermal treatment system to remove source contaminants in the northern portion of the Former Hazardous Waste Storage Area.
- Continue operation, surveillance and maintenance of on-going removal actions implemented in prior years.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites).....	0	3	0	19	20	95%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/ FY 2005)						
<ul style="list-style-type: none"> <li>▪ Stanford Linear Accelerator Center completed characterization of the final ten potential release sites from the 922 potential release sites identified in the Preliminary Site Wide Assessments (FY 2003).</li> <li>▪ Construct engineering controls at the IR6 Drainage Channel (September 2004).</li> <li>▪ Complete removal action at the Former Hazardous Waste Storage Area (September 2004).</li> <li>▪ Complete removal action at the Plating Shop (September 2004).</li> <li>▪ Complete construction and installation of groundwater treatment facilities at southern and northern portions of the Former Hazardous Waste Storage Area (September 2005).</li> <li>▪ Complete Lower Salvage Yard Removal Action (September 2005).</li> </ul>						

<b>Total, 2006 Accelerated Completions.....</b>	<b>53,972</b>	<b>48,412</b>	<b>45,435</b>
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## Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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<b>CH-ANLE-0030 / Soil and Water Remediation-Argonne National Laboratory –East</b>	
<ul style="list-style-type: none"> <li>▪ Decrease is due to the completion of remedial actions in FY 2003 and completion of remaining transition activities in FY 2004. Only operation, monitoring and maintenance of the remedial systems continue in FY 2005.....</li> </ul>	-1,117
<b>CH-BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory</b>	
<ul style="list-style-type: none"> <li>▪ Decrease is due to the completion of soils and sediment cleanup and groundwater treatment system construction and start-up.....</li> </ul>	-1,209
<b>CH-BRNL-0040 / Nuclear Facility Decontamination and Decommissioning-Brookhaven Graphite Research Reactor</b>	
<ul style="list-style-type: none"> <li>▪ Increase is needed for the completion of Brookhaven Graphite Research Reactor decontamination and decommissioning activities in FY 2005.....</li> </ul>	1,273
<b>CH-PPPL-0030 / Soil and Water Remediation-Princeton Site A/B</b>	
<ul style="list-style-type: none"> <li>▪ Decrease is due to no planned activity and no funds requested in FY 2005.....</li> </ul>	-124
<b>VL-ITL-0030 / Soil and Water Remediation-Inhalation Toxicology Laboratory</b>	
<ul style="list-style-type: none"> <li>▪ No significant change.....</li> </ul>	15
<b>VL-LBNL-0030 / Soil and Water Remediation-Lawrence Berkeley National Laboratory</b>	
<ul style="list-style-type: none"> <li>▪ Increased funding supports the transition from the Corrective Measures Study phase to the final implementation of remedial actions and construction of treatment systems.....</li> </ul>	842
<b>VL-LEHR-0040 / Nuclear Facility Decontamination and Decommissioning-Laboratory for Energy-Related Health Research</b>	
<ul style="list-style-type: none"> <li>▪ Significant decrease in funding due to EM mission completion in FY 2005.....</li> </ul>	-2,773
<b>VL-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center</b>	
<ul style="list-style-type: none"> <li>▪ Slight increase to implement removal actions scheduled in FY 2005.....</li> </ul>	116
<b>Total Funding Change, 2006 Accelerated Completions.....</b>	
	<b>-2,977</b>



# 2012 Accelerated Completions

## Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
CH-ANLE-0040/Nuclear Facility Decontamination and Decommissioning- Argonne National Laboratory-East.....	521	343	397	54	15.7%
CH-BRNL-0041/Nuclear Facility Decontamination and Decommissioning- High Flux Beam Reactor.....	1,166	1,302	5,734	4,432	340.4%
OH-WV-0013/Solid Waste Stabilization and Disposition-West Valley.....	21,753	39,260	41,000	1,740	4.4%
OH-WV-0040/Nuclear Facility Decontamination and Decommissioning- West Valley.....	68,924	59,900	32,000	-27,900	-46.6%
VL-ETEC-0040/Nuclear Facility Decontamination and Decommissioning- Energy Technology Engineering Center.....	16,436	18,217	19,000	783	4.3%
VL-FOO-0013B-N/Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non- Defense).....	523	57	60	3	5.3%
<b>Total, 2012 Accelerated Completions.....</b>	<b>109,323</b>	<b>119,079</b>	<b>98,191</b>	<b>-20,888</b>	<b>-17.5%</b>

### Description

The Non-Defense Site Acceleration Completion appropriation, 2012 Accelerated Completions program provides funding for completing cleanup and closing down facilities contaminated as a result of nuclear energy research and development.

### Benefits

This account provides funding to accelerate risk reduction and environmental cleanup at non-defense 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.

This program includes all geographic sites with a planned closure date of 2007 through 2012 (e.g., Brookhaven National Laboratory, West Valley Demonstration Project). 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., soil contamination remediated, all waste shipped off-site) will be completed by 2012.

## Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Chicago</b>					
Argonne National Laboratory – East.....	521	343	397	54	15.7%
Brookhaven National Laboratory.....	1,166	1,302	5,734	4,432	340.4%
<b>Total, Chicago Operations Office.....</b>	<b>1,687</b>	<b>1,645</b>	<b>6,131</b>	<b>4,486</b>	<b>272.7%</b>
<b>NNSA Service Center</b>					
Energy Technology Engineering Center..	16,436	18,217	19,000	783	4.3%
Former Oakland Operations Office.....	523	57	60	3	5.3%
<b>Total, NNSA Service Center.....</b>	<b>16,959</b>	<b>18,274</b>	<b>19,060</b>	<b>786</b>	<b>4.3%</b>
<b>Ohio</b>					
West Valley Demonstration Project.....	90,677	99,160	73,000	-26,160	-26.4%
<b>Total, 2012 Accelerated Completions.....</b>	<b>109,323</b>	<b>119,079</b>	<b>98,191</b>	<b>-20,888</b>	<b>-17.5%</b>

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**CH-ANLE-0040 / Nuclear Facility Decontamination and Decommissioning - Argonne National Laboratory-East (life-cycle estimate \$34,880K).....**

**521      343      397**

Historic operations at Argonne National Laboratory-East have focused on reactor research, and led to the construction/operation of several reactors. Many of these facilities are no longer in service, are surplus, and are contaminated. These facilities are being decontaminated and decommissioned to remove accessible radioactive contamination for unrestricted facility/area release or, if not feasible, for demolition. This PBS scope supports decontamination and decommissioning activities at the Argonne National Laboratory-East facilities to comply with requirements of the applicable DOE Orders. Three facilities (Building 301 Hot Cells, Juggernaut Reactor, and the Zero Power Reactor), remain to be decontaminated and decommissioned at Argonne National Laboratory-East. These facilities are currently in a safe shutdown condition, are under continuing surveillance and monitoring, and do not currently pose an unmanaged risk to the environment, workers, or the public.

The EM end-state of this project is the decontamination and decommissioning of the remaining facilities within the EM program. Any continuing activities, such as soil or groundwater monitoring will be transferred to the landlord (Office of Science) at Argonne National Laboratory-East. With the

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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completion of the decontamination and decommissioning scope by the end of FY 2009, the EM Program at Argonne National Laboratory-East will be completed.

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

- Continue surveillance and monitoring of surplus and radiologically contaminated facilities and grounds.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Radioactive Facility Completions (Number of Facilities).....	0	0	0	63	78	81%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/ FY 2005)						
<ul style="list-style-type: none"> <li>▪ Continued surveillance and monitoring of the surplus and radiologically contaminated facilities and grounds (FY 2003).</li> <li>▪ Continue surveillance and monitoring of the facilities and grounds, to ensure protection of site workers and the environment (September 2004).</li> <li>▪ Continue surveillance and maintenance activities (September 2005).</li> </ul>						

**CH-BRNL-0041 / Nuclear Facility Decontamination and Decommission High Flux Beam Reactor (life-cycle estimate \$120,293K).....**

**1,166      1,302      5,734**

The High Flux Beam Reactor served as a significant cornerstone of research in physics, materials technology, and biomedical sciences at Brookhaven National Laboratory for over three decades, beginning in 1965. The High Flux Beam Reactor was a heavy water moderated and cooled reactor, which used highly enriched uranium to produce an operating power level of 30-60 mega watts thermal. In 1997, a tritium plume stemming from a leak in the reactor's spent fuel storage pool was identified and reactor operations were halted. In 1999, the High Flux Beam Reactor was permanently shut down. From 1999-2001, DOE stabilized the facility for long-term safe shut down. This PBS scope stabilizes, characterizes, deactivates and decommissions the High Flux Beam Reactor, and associated buildings at Brookhaven National Laboratory. The High Flux Beam Reactor Decontamination and Decommission Project mission is to develop end-state alternatives for the disposition of the facility, select the final end-state, and conduct the planning, engineering, and implementation of the activities necessary to achieve the selected end-state. In addition, the scope includes activities to perform routine facility maintenance and remove certain systems structures, and components inside the Reactor and to facilitate the implementation of a long-term minimal surveillance and maintenance program that will be required while the facility awaits full decommissioning.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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The acceleration of decontamination and decommissioning of the High Flux Beam Reactor is identified as Strategic Initiative 4 in the Brookhaven National Laboratory Performance Management Plan. This includes advancing the end-state determination for the High Flux Beam Reactor to accelerate completion of the resulting decontamination and decommissioning by one year from FY 2009 to FY 2008. With the completion of the High Flux Beam Reactor Decontamination and Decommissioning, the EM Program at Brookhaven National Laboratory will be completed. FY 2004 activities include planning and initial engineering for facility decommissioning, as well as continuing surveillance and maintenance activities, in support of a FY 2008 completion.

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

- In support of Strategic Initiative 4, Accelerate Decontamination and Decommissioning of the High Flux Beam Reactor: planning and engineering for facility decommissioning will continue to be performed.
- Perform decontamination of systems, structures and components.
- Perform partial demolition and removal of selected systems and structures. Waste disposal will occur from demolition activities.
- Continue to perform routine facility maintenance, remove certain systems, structures and components and facilitate the implementation of a long-term, minimal surveillance and maintenance program that will be required while the facility awaits full decommissioning.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics are associated with this PBS.....						
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/ FY 2005)						
<ul style="list-style-type: none"> <li>▪ Continued to perform surveillance and maintenance activities to maintain the facility in a safe condition (FY 2003).</li> <li>▪ Continue to perform surveillance and maintenance activities (September 2004).</li> <li>▪ Planning and engineering for facility decommissioning will continue including decontamination, partial demolition, and removal of selected structures and components (September 2005).</li> </ul>						

**OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley (life-cycle estimate \$266,505K)..... 21,753 39,260 41,000**

The solid waste stabilization and disposition project at the West Valley Demonstration Project involves the waste management activities required, per the West Valley Demonstration Project Act of 1980

**Non-Defense Site Acceleration Completion/  
2012 Accelerated Completions**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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associated with identifying disposition pathways and dispositioning low-level and transuranic waste produced as a result of high-level waste vitrification activities. When this project is complete in FY 2008, all generated low-level waste and transuranic waste will have been shipped off-site for disposal, reducing worker and environmental risk at the site. In order to prepare for legacy waste disposition efforts associated with transuranic and other high activity waste, construction of a Remote Handled Waste Facility will be completed and operational in FY 2004 which will provide the capability to safely characterize, size reduce, package and prepare waste for off-site shipment and disposal. Preparations for opening disposition pathways for low-level and transuranic waste are underway.

In FY 2005, the following activities are planned to support West Valley.

- Operate Remote Handled Waste Facility to process transuranic and other high activity waste for disposal.
- Continue waste management operations for disposal of low-level waste.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
TRU Waste Shipped for Disposal at WIPP (m <sup>3</sup> ).....	0	0	0	0	692	0%
LLW/MLLW Disposed (m <sup>3</sup> ).....	0	0	500	4,522	23,844	19%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ Achieved 80% construction complete for the Remote Handled Waste Facility including completion of utilities and installation of major mechanical and electrical components (FY 2003).</li> <li>▪ Complete construction of the Remote Handled Waste Facility and initiate readiness operations consistent with the West Valley Demonstration Project accelerated plan for completion (September 2004).</li> <li>▪ Award New Closure Contract for Disposition of West Valley Demonstration Project low-level waste and transuranic waste (December 2004).</li> </ul>						

**OH-WV-0040 / Nuclear Facility Decontamination and Decommissioning - West Valley (life-cycle estimate \$423,035K)      68,924      59,900      32,000**

The decontamination and decommissioning program at the West Valley Demonstration Project involves those activities required, per the West Valley Demonstration Project Act of 1980, to decontaminate and decommission the facilities, tanks and hardware used in connection with the Project. Decommissioning criteria for the West Valley Demonstration Project were established by the Nuclear Regulatory Commission in 2002. Decontamination and decommissioning will be performed to most effectively reduce worker, public, and environmental risk at the West Valley Demonstration Project. To support

**Non-Defense Site Acceleration Completion/  
2012 Accelerated Completions**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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decontamination and decommissioning efforts, this program also involves those activities required to safely manage and maintain the site in compliance with federal and state statutes, as well as DOE orders and mandates. An Environmental Impact Statement and subsequent Record of Decision for Decommissioning and/or Long-Term Stewardship of the West Valley site is currently under development by DOE and New York State, the West Valley site owner. Decontamination performed through the end of 2004 will support the Nuclear Regulatory Commission decommissioning dose criteria, and support overall risk reduction. Activities from FY 2005 through FY 2008 will then be associated with further decontaminating, demolishing and/or dismantling Project facilities in order to minimize site surveillance and maintenance requirements associated with maintaining the high-level waste canisters on-site. The high-level waste canisters are currently stored in a cell in the former spent fuel reprocessing facility. They will remain safely configured in their current storage location until their final disposition to a federal repository. Once the canisters are dispositioned, final decontamination and decommissioning will be performed consistent with the Decommissioning Record of Decision to complete the final mandate of the West Valley Demonstration Project Act. In FY 2003, decontamination operations in the General Purpose Cell and Process Mechanical Cell continued; decontamination in the Product Purification Cell and Extraction Cell #2 was initiated; public scoping meetings were held and development of a revised draft Decommissioning Environmental Impact Statement began.

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

- Complete dismantlement of the in-cell portion of the vitrification facility.
- Initiate removal and/or dismantlement of ancillary Project facilities/infrastructure.
- Maintain safe interim storage of 275 high-level waste canisters, legacy transuranic (approximately 692 m<sup>3</sup>) and low-level waste (approximately 19,822 m<sup>3</sup>).
- Continue development of the Decommissioning and/or Long-Term Stewardship Environmental Impact Statement.
- Continue safe site operations in compliance with federal and state regulations.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Liquid Waste Tanks Closed (Number of Tanks).....	0	0	0	0	2	0%
Remediation Complete (Number of Release Sites).....	0	0	0	0	1	0%

(dollars in thousands)

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

- Continued decontamination operations in the General Purpose Cell and Process Mechanical Cell, and initiated decontamination operations in the Product Purification Cell and Extraction Cell #2 to reduce worker and environmental risk, as well as prepare the site for decommissioning (FY 2003).
- Maintained safe interim storage of high-level waste canisters, legacy transuranic and low-level waste (FY 2003).
- Continued development of the Decommissioning and/or Long-Term Stewardship Environmental Impact Statement (FY 2003).
- Complete decontamination operations in the General Purpose Cell and Process Mechanical Cell (June 2004).
- Issue the Waste Management Environmental Impact Statement, as well as Record of Decision (September 2004).
- Complete decontamination operations in the extraction Cell 2 (September 2004).
- Award New Closure Contract for Decontamination of Project Facilities (December 2004).
- Complete Dismantlement of Vitrification Facility In-Cell (December 2004).

**VL-EETEC-0040 / Nuclear Facility Decontamination and Decommissioning-Energy Technology Engineering Center (life-cycle estimate \$204,976K).....**

**16,436 18,217 19,000**

The Energy Technology Engineering Center historically was involved in testing reactor components and developing emerging energy technologies. During this testing and development mission, the site and facilities became contaminated. The purpose of this PBS scope is to: 1) clean up contaminated release sites; 2) decontaminate and decommission radioactive and chemically contaminated facilities for eventual release to Boeing (the site owner); 3) perform Resource Conservation and Recovery Act cleanup involving the remediation of both contaminated groundwater and soil; and 4) remove radioactive and hazardous waste from the site applying (when possible) waste minimization principles (e.g., recycling). The end-state is to complete cleanup in FY 2007 and return the site to Boeing North American, Incorporated.

In FY 2005, the following activities are planned to support the accelerated cleanup of the Energy Technology Engineering Center.

- Complete decontamination and decommissioning of B4059: Space Nuclear Auxiliary Power Reactor Prototype Facility, B4024: Space Nuclear Auxiliary Power Reactor Environmental Test Facility, and Radioactive Materials Handling Facility.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
LLW/MLLW Disposed (m <sup>3</sup> ).....	98	390	600	1,225	1,335	92%
Radioactive Facility Completions (Number of Facilities).....	0	1	2	6	6	100%
Industrial Facility Completions (Number of Facilities).....	7	0	1	20	20	100%
Remediation Complete (Number of Release Sites).....	0	3	3	10	10	100%

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

- Issued the Final Environmental Assessment (FY 2003).
- Shipped transuranic waste to Richland for interim storage (FY 2003).
- Start decontamination and decommissioning of Radioactive Materials Handling Facility (October 2003).
- Complete decontamination and decommissioning of the subsurface of Space Nuclear Auxiliary Power Reactor Prototype Facility (B4059) (August 2004).
- Complete decontamination and decommissioning of Space Nuclear Auxiliary Power Reactor Prototype Facility (B4059), Space Nuclear Auxiliary Power Reactor Environmental Test Facility (B4024) and the Radioactive Materials Handling Facility (September 2005).

**VL-FOO-0013B-N / Solid Waste Stabilization and Disposition – Oakland Sites – 2012 (Non-Defense) (life-cycle estimate \$6,537K).....**

**523                      57                      60**

The scope of work within this PBS achieves efficiencies by managing similar activities for waste management and environmental restoration at multi Non-Defense sites (Laboratory for Energy-Related Health Research, Stanford Linear Accelerator Center, Lawrence Berkeley National Laboratory, and Energy Technology Engineering Center). 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 included within this project through wide applicability of these restoration activities to multiple projects/sites. 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 California sites.

**Non-Defense Site Acceleration Completion/ 2012 Accelerated Completions**

**FY 2005 Congressional Budget**



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Support ongoing environmental/safety activities and disposal activities related to all forms of waste.
- 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
LLW/MLLW Disposed (m <sup>3</sup> ).....	0	0	0	83	83	100%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ There are no milestones associated with this PBS.</li> </ul>						

<b>Total, 2012 Accelerated Completions.....</b>	<b>109,323</b>	<b>119,079</b>	<b>98,191</b>
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### Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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**CH-ANLE-0040 / Nuclear Facility Decontamination and Decommissioning - Argonne National Laboratory – East**

- No significant change. Surveillance and monitoring activities will continue..... 54

**CH-BRNL-0041 / Nuclear Facility Decontamination and Decommissioning - High Flux Beam Reactor**

- Increase is due to the start of demolition and removal of systems and structures and the associated waste disposal; and decontamination of systems, structures and components..... 4,432

**OH-WV-0013 / Solid Waste Stabilization and Disposition - West Valley**

- The increase in funding represents the additional funds needed to support Remote Handled Waste Facility operations as it transitions into full operations. Additionally, efforts associated with waste disposal operations for legacy low-level waste will increase..... 1,740

FY 2005 vs. FY 2004 (\$000)
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**OH-WV-0040 / Nuclear Facility Decontamination and Decommissioning - West Valley**

- The decrease in funding reflects the completion of decontamination efforts and characterization in the former spent fuel reprocessing facility including the General Purpose Cell, Process Mechanical Cell, and Extraction Cell #2..... -27,900

**VL-EETEC-0040 / Nuclear Facility Decontamination and Decommissioning - Energy Technology Engineering Center**

- The increase in funding is due to additional decontamination and decommissioning activities scheduled for completion in FY 2005..... 783

**VL-FOO-0013B-N / Solid Waste Stabilization and Disposition - Oakland Sites - 2012 (Non-Defense)**

- No significant change..... 3

<b>Total Funding Change, 2012 Accelerated Completions.....</b>	<b>-20,888</b>
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## 2035 Accelerated Completions

### Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
HQ-GJ-0031/Soil and Water Remediation-Moab.....	3,856	4,440	7,773	3,333	75.1%
VL-LANL-0040-N/Nuclear Facility Decontamination and Decommissioning-Los Alamos National Laboratory.....	433	480	451	-29	-6.0%
<b>Total, 2035 Accelerated Completions.....</b>	<b>4,289</b>	<b>4,920</b>	<b>8,224</b>	<b>3,304</b>	<b>67.2%</b>

### Description

The Non-Defense Site Acceleration Completion appropriation, 2035 Accelerated Completions program provides funding for completing cleanup and closing facilities contaminated as a result of nuclear energy research and development. This program provides funding for site closures and site specific cleanup and closure projects that are expected to be completed after 2012. EM 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 non-defense 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
<b>Headquarters</b>					
Atlas Site.....	3,856	4,440	7,773	3,333	75.1%
<b>Los Alamos Site Office</b>					
Los Alamos National Laboratory.....	433	480	451	-29	-6.0%
<b>Total, 2035 Accelerated Completions.....</b>	<b>4,289</b>	<b>4,920</b>	<b>8,224</b>	<b>3,304</b>	<b>67.2%</b>

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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<b>HQ-GJ-0031 / Soil and Water Remediation - Moab (life-cycle estimate \$186,034K).....</b>	<b>3,856</b>	<b>4,440</b>	<b>7,773</b>
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This PBS covers remediation of the former Atlas Mill Site, with 13 million metric tonnes of contaminated mill tailings, mill debris, contaminated groundwater, and vicinity properties in Moab, Utah, under authority of the Uranium Mill Tailings Radiation Control Act. An Environmental Impact Statement will evaluate alternatives for remediation, with a focus on capping the tailings in place or relocation to a commercial facility or DOE constructed repository. Vicinity properties contaminated with mill tailings as a result of past construction practices will be remediated and contaminated materials will be disposed in conjunction with the mill site cleanup.

When remediation is complete, disturbed areas around the former millsite will be restored to pre-mill conditions, and institutional controls on land and surface and groundwater use may be necessary to protect human health and the environment. The site is of particular public interest due to its unique setting on the banks of the Colorado River. The tailings pile is leaching contaminants to the river through the groundwater, potentially impacting critical habitat for endangered native fish species. Local citizens are concerned about the environmental effects posed by the pile, and downstream water users in Southern California are concerned about contaminants entering the river. Public interest is also heightened by the site's proximity to a Nature Conservancy wetlands preserve directly across the river and its shared boundary with Arches National Park.

The end-state will be achieved after contaminated soil, tailings, vicinity properties, and surface and ground water are remediated. Specific actions to be taken will be determined by the results of the Environmental Impact Statement. The site will then be transferred to the Office of Legacy Management for monitoring and required stewardship.

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

- Additional studies to accelerate design and implementation of proposed groundwater corrective action.
- Operation/optimization of interim groundwater corrective actions to accelerate interim protection of threatened and endangered aquatic species in the Colorado River.
- Monitor surface and groundwater in accordance with Environmental Impact Statement compliance strategy.
- Operation and maintenance of the site including tailings dewatering system, access controls, health and safety, surface controls, and air monitoring.
- Substantially complete detailed conceptual design of selected remedial action.
- Initiate characterization, design and remediation of vicinity properties.
- Construct initial site infrastructure for accelerated site clean up and dispose of mill site remnant legacy chemicals.
- Remediate contaminated soils on millsite.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS.....						
<b>Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/ FY 2005)</b> <ul style="list-style-type: none"> <li>▪ Initiated preparation of an Environmental Impact Statement to support selection of final mill site, vicinity property, and surface and groundwater remedy (FY 2003).</li> <li>▪ Implemented Interim Groundwater Action to reduce ammonia concentrations reaching the river (FY 2003).</li> <li>▪ Remediated portions of the State Highway 191 right-of-way within DOE property boundary in conjunction with the State highway-widening project (FY 2003).</li> <li>▪ Complete Final Environmental Impact Statement (September 2004).</li> <li>▪ Issue Record of Decision (December 2004).</li> <li>▪ Complete conceptual design of disposal cell (March 2005).</li> <li>▪ Complete disposal of remnant chemicals (September 2005).</li> <li>▪ Complete radiological assessment of mill site soils (September 2005).</li> </ul>						

**VL-LANL-0040-N / Nuclear Facility Decontamination and Decommissioning - Los Alamos National Laboratory**

**(Non-Defense) (life-cycle estimate \$17,848K)..... 433 480 451**

The Tritium System Test Assembly Facility was transferred into the EM Program in FY 2003 for demolition. This transfer is documented in a Memorandum of Agreement that was signed by EM, Defense Programs, and the Office of Science on March 19, 2002. Prior to transfer, the facility was placed in a safe shutdown mode. The shutdown mode is documented in an end point transition report. Several gloveboxes, which contain small amounts of radioactive tritium residue, will be left in place as approved and documented in the Safety Authorization Basis. As a result, the facility emissions stack system will continue to be operational. Until the ultimate disposition of the facility is achieved, which is demolition and disposal of resulting waste, the facility will remain in a shutdown mode, and surveillance and maintenance activities will be performed. Surveillance and maintenance activities include facility walk-throughs, maintaining the Safety Authorization Basis, stack monitoring, and security.

The end-state of this activity, to occur in FY 2011, is completion of decontamination and decommissioning of all transferred contaminated facilities such that specific facilities or portions thereof, as appropriate are made available for reuse by the site landlord, with appropriate restrictions. In the case of any facilities demolished as part of the decontamination and decommissioning process, the remediated facility sites may be transferred to the site landlord along with responsibility for any long term monitoring.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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In FY 2005, the following activities are planned to support the accelerated cleanup of the Los Alamos National Laboratory.

- Continue surveillance and maintenance for the Tritium Systems Test Assembly facility, which includes maintaining air emissions permit, facility walk-throughs, maintaining the safety basis authorization, stack monitoring, and security.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Radioactive Facility Completions (Number of Facilities).....	0	0	0	0	1	0%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>The Office of Science completed deactivation activities for the Tritium Systems Test Assembly and transferred the facility to EM for demolition (FY 2003).</li> <li>Completed the deactivation activities with non-EM funding (FY 2003).</li> <li>Continue surveillance and maintenance activities at the Tritium Systems Test Assembly to ensure safe and environmentally compliant conditions until final demolition (September 2004/September 2005).</li> </ul>						

<b>Total, 2035 Accelerated Completions.....</b>	<b>4,289</b>	<b>4,920</b>	<b>8,224</b>
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### Explanation of Funding Changes

	FY 2005 vs. FY 2004 (\$000)
<b>HQ-GJ-0031 / Soil and Water Remediation – Moab</b>	
<ul style="list-style-type: none"> <li>Increase in funding will complete characterization of millsite; perform hydrologic and geotechnical investigations and detailed environmental studies on disposal cell site and initiate characterization, design and remediation of vicinity properties.....</li> </ul>	3,333
<b>VL-LANL-0040-N / Nuclear Facility Decontamination and Decommissioning - Los Alamos National Laboratory (Non-Defense)</b>	
<ul style="list-style-type: none"> <li>No significant change.....</li> </ul>	-29
<b>Total Funding Change, 2035 Accelerated Completions.....</b>	<b>3,304</b>

Non-Defense Site Acceleration Completion/  
2035 Accelerated Completions

FY 2005 Congressional Budget

**Non-Defense  
Environmental  
Services**

**Non-Defense  
Environmental  
Services**



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## **Non-Defense Environmental Services**

### **Proposed Appropriation Language**

*For Department of Energy expenses necessary for non-defense environmental services activities conducted as a result of nuclear energy research and development activities that indirectly support the accelerated cleanup and closure mission at environmental management sites, including the purchase, construction, and acquisition of plant and capital equipment and other necessary expenses, \$291,296,000, to remain available until expended.*

### **Explanation of Change**

None.



# Non-Defense Environmental Services

## 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
Non-Defense Environmental Services					
Non-Closure Environmental					
Activities.....	126,009	276,245	-4,425	271,820	245,123
Community and Regulatory					
Support.....	20	1,034	-4	1,030	90
Environmental Cleanup Projects.....	35,823	43,842	-253	43,589	46,083
Office of Legacy Management.....	0	28,347	-28,347	0	0
Subtotal, Non-Defense Environmental					
Services.....	161,852	349,468	-33,029 <sup>a</sup>	316,439	291,296
Use of Prior Year Balances.....	0	-10,000	0	-10,000	0
Total, Defense Environmental Services	161,852	339,468	-33,029	306,439	291,296

### Public Law Authorizations:

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

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

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

<sup>a/</sup> Reflects the following:

- Rescission reduction of \$2,003,000;
- Transfer of \$1,479,000 to the National Nuclear Security Administration for the off-site source recovery program;
- Transfer of \$1,358,000 to the Office of Legacy Management for the payment of pensions and benefits to former contractor personnel at the Pinellas Site;
- Comparability adjustment of \$28,189,000 associated with the Office of Legacy Management.

## 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 Non-Defense Environmental Services appropriation indirectly supports the primary mission of accelerated risk reduction and closure. This appropriation also funds non-defense service activities performed by the Environmental Management program for other Department goals and objectives.

## Benefits

This appropriation provides funding for non-defense related activities that indirectly support the primary EM mission of accelerated risk reduction and environmental cleanup of sites contaminated as a result of nuclear research. The appropriation also funds services provided by EM in support of other

**Non-Defense Environmental Services/  
Non-Closure Environmental Activities**

**FY 2005 Congressional Budget**

Departmental missions and objectives to include cleanup and management of the nation's three gaseous diffusion plants and the construction and operation of two depleted uranium hexafluoride conversion facilities.

As the EM cleanup 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. These indirect support activities ensure that EM's primary cleanup mission and other DOE missions and objectives proceed in an efficient and responsible manner.

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.

This appropriation includes three programs: Non-Closure Environmental Activities; Community and Regulatory Support; and Environmental Cleanup Projects. The FY 2005 Request for the Non-Defense Environmental Services appropriation is \$291,296,000, a decrease of \$25,143,000, from the comparable FY 2004 appropriation of \$316,439,000.

## Non-Closure Environmental Activities

### Funding Schedule by Activity

	(dollars in thousands)				
	FY 2003	FY 2004	FY 2005	\$ Change	% Change
OR-0011Y / Nuclear Materials Stabilization and Disposition-East Tennessee Technology Park Uranium Facilities Management.....	11,084	12,260	7,987	-4,273	-34.9%
PA-0011 / Nuclear Materials Stabilization and Disposition-Paducah Uranium Facilities Management.....	7,214	4,209	4,931	722	17.2%
PA-0011X / Nuclear Materials Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion.....	1,104	56,656	51,000	-5,656	-10.0%
PA-0101 / Paducah Contract/Post-Closure Liabilities/Administration (Non-Defense).....	0	472	0	-472	-100.0%
PO-0011 / Nuclear Materials Stabilization and Disposition-Portsmouth Other Uranium Facilities Management.....	13,003	16,300	11,705	-4,595	-28.2%
PO-0011X / Nuclear Materials Stabilization and Disposition – Depleted Uranium Hexafluoride Conversion.....	1,104	44,727	51,000	6,273	14.0%
PO-0041 / Nuclear Facility Decontamination and Decommissioning-Portsmouth Gaseous Centrifuge Enrichment Plant.....	0	22,476	20,000	-2,476	-11.0%
PO-0101 / Portsmouth Cold Standby.....	92,500	114,720	98,500	-16,220	-14.1%
<b>Total, Non-Closure Environmental Activities..</b>	<b>126,009</b>	<b>271,820</b>	<b>245,123</b>	<b>-26,697</b>	<b>-9.8%</b>

### Description

The Non-Closure Environmental Activities program includes activities that indirectly support the Environmental Management accelerated cleanup and closure mission and services provided by Environmental Management in support of other Departmental missions and objectives. This includes Environmental Management responsibilities at the nation's three gaseous diffusion plants at Paducah, Kentucky; Portsmouth, Ohio; and East Tennessee Technology Park in Oak Ridge, Tennessee and the design and construction of two depleted hexafluoride conversion facilities.

### Benefits

This program provides funding for non-defense related activities that indirectly support the primary EM cleanup mission. These include services provided by EM in support of other Departmental missions and objectives such as cleanup and management of the nation's three gaseous diffusion plants and construction and operation of two depleted uranium hexafluoride conversion facilities.





(dollars in thousands)

FY 2003	FY 2004	FY 2005
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The Oak Ridge Performance Management Plan defines the end-state as removal of East Tennessee Technology Park cylinders to the Portsmouth or Paducah depleted uranium hexafluoride conversion facility by September 2007. Site infrastructure services include fire protection, utility services, environmental, safety, and health programs, real property management, power operations and maintenance, and capital improvements and repairs.

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

- Complete annual and quadrennial visual inspections to support safe storage and off-site shipments.
- Relocate, stage, inspect, and ship approximately 1,350 depleted uranium hexafluoride cylinders to Portsmouth.
- Complete disposition of the secondary wastes generated by cylinder storage operations.
- Support the three-site uranium hexafluoride cylinder interface and transition of the program to the conversion contractor.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Depleted and Other Uranium Packaged for Disposition (mt).....	0	0	0	0	56,988	0%
Enriched Uranium Packaged for Long-Term Storage (Number of Containers).....	0	0	0	0	673	0%
Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> ).....	0	0	0	93	93	100%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ Completed annual and quadrennial visual inspections to support safe storage and off-site shipments (FY 2003).</li> <li>▪ Relocated, staged, inspected, and shipped approximately 500 cylinders containing residual uranium compounds to the Nevada Test Site (FY 2003).</li> <li>▪ Ship 1,000 uranium hexafluoride cylinders to Portsmouth, Ohio and ship 650 empty cylinders to the Nevada Test Site (September 2004).</li> <li>▪ Continue to maintain about 5,800 uranium hexafluoride cylinders and six cylinder yards (September 2004).</li> <li>▪ Ship 1,350 compliant cylinders to Portsmouth (September 2005).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

**PA-0011 / Nuclear Materials Stabilization and Disposition-  
Paducah Uranium Facilities Management (life-cycle estimate  
\$61,060K).....** **7,214** **4,209** **4,931**

This PBS scope performs surveillance and maintenance of fifteen inactive facilities, manages uranium hexafluoride cylinders, provides support for the report to Congress on environmental, safety, and health, and manages legacy polychlorinated biphenyl contamination. Surveillance and maintenance of inactive facilities prevents significant deterioration of the buildings and/or support systems until the decommissioning, decontamination, and demolition is complete and avoids exposure to unsafe conditions for personnel requiring access for compliance inspections, housekeeping assessments, corrective maintenance, fire protection, security, and/or emergency response.

Safe storage of approximately 38,000 uranium hexafluoride cylinders is maintained by a cylinder inspection program to monitor the physical condition and record defects of the cylinders. Activities include: 1) radiological monitoring re-stacking and relocating cylinders to improve cylinder storage conditions; 2) preventive and corrective maintenance on the cylinders, eleven cylinder yards, and cylinder handling equipment; and 3) configuration control of the cylinder inventory. Management of the uranium hexafluoride cylinders will continue until FY 2007 when turnover to the depleted uranium hexafluoride conversion facility operator occurs. This assumes that the conversion facility will start operations in FY 2008.

Another activity covered by this PBS scope includes management of polychlorinated biphenyls. Gaskets impregnated with polychlorinated biphenyl were used in the ventilation duct systems of the Paducah Gaseous Diffusion Plant, and operations have resulted in leakage of polychlorinated biphenyl contaminated lubrication oils used in motor and compressor bearings. The polychlorinated biphenyl project includes activities related to and maintaining compliance with the Toxic Substances Control Act (40 CFR 761), Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992, as well as DOE Orders and other applicable requirements. Polychlorinated biphenyl activities include inspections of transformers, checks of spill sites, inspection, repair, and maintenance of troughs and collection systems, cleanup of spills, sampling and analysis of spills and equipment, and compliance reporting. The compliance measures of the Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992 have varied completion requirement dates. The measures having the latest completion dates are the removal of gaskets, ducts and hydraulics systems which must be complete between the facility decommissioning date and ten years after that date. The resolution of polychlorinated biphenyl storage issues must be completed by 2016 or within ten years of starting storage. Periodic polychlorinated biphenyl air sampling in the process buildings must continue until one year after the facility is shut down. As of the end of FY 2003, approximately 30,200 cylinders have been relocated from gravel yards to improved storage on new concrete yards (79 percent complete). Current progress to date also includes clean up of 1,601 polychlorinated biphenyl spills.

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

- Continue safe and compliant surveillance and maintenance of fifteen inactive facilities and 38,000 uranium hexafluoride cylinders.
- Inspect and maintain the polychlorinated biphenyl collection and containment system.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

- Relocate 2,900 cylinders from gravel yards to improved storage on new concrete yards.

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	0	182	0%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>Provided safe and compliant surveillance and maintenance of fifteen inactive facilities and 38,000 uranium hexafluoride cylinders and eleven cylinder yards (FY 2003).</li> <li>Inspected and maintained the polychlorinated biphenyl collection and containment system (FY 2003).</li> <li>Design and construct a new cylinder storage yard (September 2004).</li> <li>Maintain approximately 38,000 uranium hexafluoride cylinders in a safe condition and eleven cylinder yards (September 2004/September 2005).</li> </ul>						

**PA-0011X / Nuclear Materials Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion (life-cycle estimate \$1,281,846K).....**

**1,104 56,656 51,000**

Approximately 700,000 metric tonnes of depleted uranium hexafluoride are stored in 64,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites and at the East Tennessee Technology Park. This PBS scope will design, permit, build, and operate for five years one depleted uranium hexafluoride conversion facility, at the Paducah Gaseous Diffusion Plant site. The facility will convert depleted uranium hexafluoride into a more stable form, a depleted uranium oxide (U<sub>3</sub>O<sub>8</sub>), suitable for reuse or disposition. The U<sub>3</sub>O<sub>8</sub> will be disposed of at Envirocare, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will either be crushed and sent to disposal or reused.

This project also includes surveillance and maintenance of all cylinders during conversion of the existing stockpile, which should take an additional 20 years. The conversion facility operator will assume responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders in FY 2007, one year prior to operation. The conversion facilities will undergo decontamination and decommissioning around 2030 after all depleted uranium hexafluoride has been converted. This PBS includes the following amounts for line item construction project 02-U-101, Depleted Uranium Hexafluoride Conversion Project: FY 2003 – \$0; FY 2004 - \$55,073,000; FY 2005 - \$46,300,000.

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

- Complete final design and continue construction activities.

(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
Depleted and Other Uranium Packaged for Disposition (mt)...	0	0	0	0	453,312	0%
Key Accomplishments (FY 2003)/Planned Milestones (FY 2004/FY 2005)						
<ul style="list-style-type: none"> <li>▪ Completed Conceptual Design Report and started Preliminary Design (FY 2003).</li> <li>▪ Start depleted uranium hexafluoride conversion facilities final design (November 2003).</li> <li>▪ Start facility construction (July 2004).</li> <li>▪ Complete final project design (July 2005).</li> <li>▪ Continue construction (September 2005).</li> </ul>						

**PA-0101 / Paducah Contract/Post-Closure**

**Liabilities/Administration (Non-Defense) (life-cycle estimate \$TBD).....**

**0      472      0**

- This activity is funded under the Uranium Enrichment Decontamination and Decommissioning Fund (PA-0102) 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/ FY 2005)						
<ul style="list-style-type: none"> <li>▪ Met required obligations to former Paducah Gaseous Diffusion Plant work force (FY 2003).</li> </ul>						

**PO-0011 / Nuclear Materials Stabilization and Disposition- Portsmouth Other Uranium Facilities Management (life-cycle estimate \$93,429K).....**

**13,003      16,300      11,705**

This PBS scope manages the Highly Enriched Uranium Program, performs surveillance and maintenance on the former Uranium Program facilities, manages approximately 19,000 uranium hexafluoride cylinders, and manages legacy polychlorinated biphenyl contamination. The Highly Enriched Uranium Program activities will continue until a decision is made to place highly enriched uranium process building X-326 into the decontamination and decommissioning program, currently estimated to be beyond 2010. The Highly Enriched Uranium Program stores, ships, treats, and disposes

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

of filter and incinerator ashes; disposes of the remaining highly enriched uranium materials (i.e. oils, acids, and alumina) stored in X-326 L-Cage; provides interim storage of highly enriched uranium materials at the Nuclear Fuel Service Facility; performs engineering design, special equipment procurement, construction, and safety/regulatory reviews of small-scale highly enriched uranium-uranium hexafluoride for the Oxide Conversion Facility at Nuclear Fuel Service Facility; performs surveillance and maintenance on the 158 permanently shut down cells in X-326; and operates Enriched Uranium-DOE Materials Storage Area-12. Surveillance and maintenance of DOE leased and non-leased facilities, two cylinder yards, inventories of Special Nuclear Materials, and technical support to cold standby activities are performed.

Management of depleted uranium hexafluoride cylinders will continue until FY 2007, when turnover to the depleted uranium hexafluoride conversion facility operator occurs. Another activity covered by this PBS scope includes management of polychlorinated biphenyls. Gaskets impregnated with polychlorinated biphenyl were used in the ventilation duct systems of the Portsmouth Gaseous Diffusion Plant, and operations have resulted in leakage of polychlorinated biphenyl contaminated lubrication oils used in motor and compressor bearings. The polychlorinated biphenyl project includes activities related to and maintaining compliance with the Toxic Substances Control Act (40 CFR 761), Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992, as well as DOE Orders and other applicable requirements. Polychlorinated biphenyl activities include inspections of transformers, checks of spill sites, inspection, repair, and maintenance of troughs and collection systems, cleanup of spills, sampling and analysis of spills and equipment, and compliance reporting.

The compliance measures of the Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992 have varied completion requirement dates. The measures having the latest completion dates are the removal of gaskets, ducts and hydraulics systems, which must be complete between the facility decommissioning date and ten years after that date. The resolution of polychlorinated biphenyl storage issues must be completed by 2016 or within ten years of starting storage. Periodic polychlorinated biphenyl air sampling in the process buildings must continue until one year after the facility is shut down.

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

- Management of legacy polychlorinated biphenyl waste in compliance with Toxic Substance Control Act, Federal Facilities Compliance Agreement.
- Surveillance and maintenance of former Uranium Program facilities.
- Technical support to DOE for Portsmouth enhanced cold standby activities.
- Surveillance and maintenance of 158 permanently shutdown cells in X-326.
- Surveillance and maintenance of Enriched Uranium-DOE Material Storage Area 12.
- Safe and secure storage of highly enriched uranium materials at Nuclear Fuel Services and remaining materials at X-326 L-cage.
- Continue preparatory activities for highly enriched uranium processing at Nuclear Fuel Services.
- Management of approximately 19,000 uranium hexafluoride cylinders.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Receipt and storage of uranium hexafluoride cylinders from East Tennessee Technology Park.

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	0	1,450	0%

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

- Completed characterization for processing of the highly enriched uranium material currently stored at the Nuclear Fuel Service Facility (FY 2003).
- Initiated receipt of East Tennessee Technology Park depleted uranium hexafluoride cylinders for storage and transition to Conversion contractor (FY 2003).
- Begin to receive 500 uranium hexafluoride cylinders from the East Tennessee Technology Park (September 2004).
- Maintain existing and additional uranium hexafluoride cylinders received from East Tennessee Technology Park in a safe condition (September 2004).
- Maintain safe and compliant storage on existing and additional uranium hexafluoride cylinders received from East Tennessee Technology Park prior to transition to conversion contractor (March 2005).
- Management of approximately 19,000 uranium hexafluoride cylinders until transfer to conversion contractor (FY 2003/ September 2004/September 2005).

**PO-0011X / Nuclear Materials Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion (life-cycle estimate \$908,593K).....**

**1,104    44,727    51,000**

Approximately 700,000 metric tonnes of depleted uranium hexafluoride are stored in 64,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites and at the East Tennessee Technology Park. This PBS scope will design, permit, build, and operate for five years one depleted uranium hexafluoride conversion facility, at the Portsmouth Gaseous Diffusion Plant site. The facility will convert depleted uranium hexafluoride into a more stable form, a depleted uranium oxide, suitable for reuse or disposition. The depleted uranium oxide will be disposed of at Envirocare, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will be crushed and sent to disposal or reuse.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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This project also includes surveillance, maintenance and transport of cylinders during conversion of the existing stockpile, which should take an additional 20 years. The conversion facility operator will assume responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders in FY 2007, one year prior to operation. The conversion facilities will undergo decontamination and decommissioning around 2030 after all depleted uranium hexafluoride has been converted. This PBS includes the following amounts for line item construction project 02-U-101, Depleted Uranium Hexafluoride Conversion Project: FY 2003 - \$0; FY 2004 - \$43,144,000; FY 2005 - \$46,300,000.

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

- Complete final design and continue construction activities.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Depleted and Other Uranium Packaged for Disposition (mt).....	0	0	0	0	205,567	0%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/ FY 2005)						
<ul style="list-style-type: none"> <li>▪ Completed Conceptual Design Report (FY 2003).</li> <li>▪ Started Preliminary Design (FY 2003).</li> <li>▪ Start depleted uranium hexafluoride conversion facilities final design (November 2003).</li> <li>▪ Start facility construction (July 2004).</li> <li>▪ Complete A-E Work (December 2004).</li> <li>▪ Complete final project design (July 2005).</li> <li>▪ Continue construction (September 2005).</li> </ul>						

**PO-0041 / Nuclear Facility Decontamination and Decommissioning-Portsmouth Gaseous Centrifuge Enrichment Plant (life-cycle estimate \$80,000K).....**

**0 22,476 20,000**

This PBS scope accelerates cleanup of the Gaseous Centrifuge Enrichment Plant facilities for use by the United States Enrichment Corporation in the development of an advanced uranium enrichment process. On December 4, 2002, the United States Enrichment Corporation announced that it will locate its lead cascade centrifuge uranium test facility at the Portsmouth site. This announcement was based on the June 17, 2002, agreement between DOE and the United States Enrichment Corporation where DOE committed to work with the United States Enrichment Corporation in its development and deployment of an advanced centrifuge uranium enrichment plant by 2010-2011. Part of this commitment involves the cleanup of the Gas Centrifuge Enrichment Plant facilities at Portsmouth.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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The Gas Centrifuge Enrichment Plant cleanup program is expected to cover a period from FY 2004 through FY 2007, and includes cleanout of process building X-3001, modification of the area around the heating plant boiler in process building X-3002, Resource Conservation and Recovery Act closure of recycle/assembly building X-7725, facility repairs and modifications to XT-847 (warehouse for future Resource Conservation and Recovery Act permitted storage area and office space for waste management operations), facility repairs and modifications to X-7721 (maintenance, stores and training building), relocation of DOE operations, and project management and support.

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

- Relocate the Bechtel Jacobs Corporation, DOE and other subcontractor personnel from X-7725.
- Perform Resource Conservation and Recovery Act closure in the X-7725 facility.
- Engineer the heating plant removal/relocation.
- Ship and dispose of centrifuges and other miscellaneous material.

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)						
<ul style="list-style-type: none"> <li>▪ Complete necessary environmental documentation sufficient to begin cleanup and equipment removal (September 2004).</li> <li>▪ Close the X-7725 facility in accordance with the Resource Conservation and Recovery Act (September 2005).</li> </ul>						

**PO-0101 / Portsmouth Cold Standby (life-cycle estimate \$572,478K)..... 92,500 114,720 98,500**

The Department decided on March 1, 2001, to place Portsmouth Gaseous Diffusion Plant in cold standby after the United States Enrichment Corporation decided to cease the production of enriched uranium at the plant. This PBS scope maintains the inactive gaseous diffusion plant equipment in cold standby so that operations can be restarted within eighteen to twenty-four months, if necessary. Activities include purging the cascade process equipment of uranium hexafluoride, buffering with dry air, maintaining the freon inventory, and heating several buildings on the site to prevent damage from freezing in winter.

In FY 2005, the Government intends to continue operating the shipping and transfer facility to remove technetium-99 from contaminated uranium, contingent upon reaching a barter arrangement with the United States Enrichment Corporation. The arrangement will utilize assets managed by the Office of Nuclear Energy, Science and Technology. The Department is evaluating the need for authorization to pursue such a barter arrangement to carry out this work.



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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The Portsmouth plant will be taken out of the cold standby state and transitioned to decontamination and decommissioning pending the successful development of new technology for enriching uranium. The United States Enrichment Corporation announced in January 2004 that the Portsmouth site was chosen as the facility to use the new centrifuge processing technology to enrich uranium for nuclear power plant reactors. The Portsmouth plant is currently being maintained in cold standby status under a contract with the United States Enrichment Corporation.

In FY 2005, the following activities are planned.

- Maintain 3 million separative work units capability in cold standby.
- Continue enhanced cold standby.
- Continue technetium-99 removal.

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)						
<ul style="list-style-type: none"> <li>▪ Continue to operate the shipping and transfer facilities to remove technetium-99 from contaminated uranium inventory (FY 2003/ September 2004).</li> <li>▪ Maintain the facility in enhanced cold standby status (September 2005).</li> </ul>						

<b>Total, Non-Closure Environmental Activities.....</b>	<b>126,009</b>	<b>271,820</b>	<b>245,123</b>
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### Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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**OR-0011Y / Nuclear Materials Stabilization and Disposition-East Tennessee Technology Park Uranium Facilities Management**

- Decrease is due to completion of disposition of the debris wastes generated by cylinder storage operations and less surveillance and maintenance because of the shipment off-site of over 1,500 cylinders..... -4,273

FY 2005 vs. FY 2004 (\$000)
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**PA-0011 / Nuclear Materials Stabilization and Disposition-Paducah Uranium Facilities Management**

- Increase for cost of relocating 2,900 cylinders from gravel yards to new concrete yards..... 722

**PA-0011X / Nuclear Materials Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion**

- Decrease is due to a resequencing of construction activities..... -5,656

**PA-0101 / Paducah Contract/Post-Closure Liabilities/Administration (Non-Defense)**

- This activity is transferred to the Uranium Enrichment Decontamination and Decommissioning Fund appropriation beginning in FY 2005..... -472

**PO-0011 / Nuclear Materials Stabilization and Disposition-Portsmouth Other Uranium Facilities Management**

- Decrease is due to highly-enriched uranium storage costs being eliminated after the first quarter of the fiscal year pending uranium processing subcontract award at Nuclear Fuel Services in FY 2004..... -4,595

**PO-0011X / Nuclear Materials Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion**

- Increase is due to a resequencing of construction activities..... 6,273

**PO-0041 / Nuclear Facility Decontamination and Decommissioning – Portsmouth Gaseous Centrifuge Enrichment Plant**

- Decrease reflects resequencing of accelerated cleanup schedule..... -2,476

**PO-0101 / Portsmouth Cold Standby**

- Reduction reflects the Department’s intent to continue removal of technetium-99 from contaminated uranium using a barter agreement, requiring no budget authority..... -16,220

<b>Total Funding Change, Non-Closure Environmental Activities.....</b>	<b>-26,697</b>
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# Community and Regulatory Support

## Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
CH-BRNL-0100 / Brookhaven Community and Regulatory Support.....	0	660	50	-610	-92.4%
PA-0100 / Paducah Community and Regulatory Support (Non-Defense).....	0	331	0	-331	-100.0%
VL-FOO-0100-N / Oakland Community and Regulatory Support (Non-Defense).....	20	39	40	1	2.6%
<b>Total, Community and Regulatory Support....</b>	<b>20</b>	<b>1,030</b>	<b>90</b>	<b>-940</b>	<b>-91.3%</b>

### Description

The Community and Regulatory Support program includes activities that are not directly related to on-the-ground cleanup results but are none-the-less integral to EM's ability to conduct cleanup at our sites (e.g., Agreements In Principle with state regulators and tribal nations, Site Specific Advisory Boards, etc.). These important activities must be maintained at an appropriate funding level to support stakeholder participation, and ensure that maximum funding is directed to real cleanup.

### Benefits

This program provides funding for non-defense related activities that indirectly support on-the-ground cleanup and are integral to DOE's ability to conduct cleanup at its sites.

In particular, these activities promote active involvement in EM's planning and decision-making processes. In addition, the objective is to provide state, tribal, and local governments and other interested stakeholders with opportunities for meaningful involvement in managing the cleanup and closure of DOE's non-defense sites.

By providing opportunities for active involvement in DOE's planning processes, these activities facilitate and increase stakeholder communication and minimize misunderstanding. These activities also provide forums where issues can be discussed and resolved in an efficient and cooperative manner which decreases the chances of costly legal or regulatory actions being taken against the Department.

## Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Chicago					
Brookhaven National Laboratory.....	0	660	50	-610	-92.4%
NNSA Service Center.....	20	39	40	1	2.6%
Paducah					
Paducah Gaseous Diffusion Plant.....	0	331	0	-331	-100.0%
Total, Community and Regulatory Support...	20	1,030	90	-940	-91.3%

## Detailed Justification

(dollars in thousands)

	FY 2003	FY 2004	FY 2005
--	---------	---------	---------

**CH-BRNL-0100 / Brookhaven Community and Regulatory Support (life-cycle estimate \$3,902K)..... 0 660 50**

In accordance with provisions of the Brookhaven National Laboratory Comprehensive Environmental Response, Compensation, and Liability Act Interagency Agreement between DOE, the United States Environmental Protection Agency, and the New York State Department of Environmental Conservation, for addressing remedial activities at Brookhaven National Laboratory, this PBS assists New York State in carrying out its oversight responsibilities under the Interagency Agreement. This project will continue through FY 2005, when the Comprehensive Environmental Response, Compensation, and Liability Act cleanup activities, as identified in the Brookhaven National Laboratory Performance Management Plan (August 2002), are to be completed.

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

- The New York State Department of Environmental Conservation will continue to ensure that the impacts to public health, welfare, or the environment associated with past and present activities at the Site are thoroughly investigated and appropriate Remedial Action(s) are taken, as necessary, to protect the public health, welfare, or the environment. The New York State Department of Environmental Conservation will oversee implementation of the remaining interagency agreement related remedies at the site.

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

**Non-Defense Environmental Services/  
Community and Regulatory Support**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

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

- Ensured that Removal and Remedial Actions at the Site will be in compliance with federal and state applicable or relevant and appropriate requirements and applicable federal and state hazardous waste laws and regulations (FY 2003).
- Provided involvement in the initiation, development, selection and enforcement of Remedial Actions to be undertaken at Brookhaven National Laboratory, including review of all applicable data, and the development of studies, reports and action plans, and oversees implementation of the selected Removal Actions, Operable Units and Remedial Actions, and the continued operation and maintenance of the implemented Remedial Action(s) (FY 2003).
- Provide involvement in the initiation, development, selection and enforcement of Remedial Actions to be undertaken at Brookhaven National Laboratory, including review of all applicable data, and the development of studies, reports and action plans, and oversees implementation of the selected Removal Actions, Operable Units and Remedial Actions, and the continued operation and maintenance of the implemented Remedial Action(s) (September 2004).
- DOE review and grant amendment, post-buildout phase (September 2005).

**PA-0100 / Paducah Community and Regulatory Support  
(Non-Defense) (life-cycle estimate \$10,203K).....**

**0      331      0**

This PBS is being funded under PBS PA-0103 in the Uranium Enrichment Decontamination and Decommissioning Fund appropriation.

- Not Applicable

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)						
<ul style="list-style-type: none"> <li>▪ Provided financial support to the Commonwealth of Kentucky as required by the Agreement-in-Principle (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

**VL-FOO-0100-N / Oakland Community and Regulatory**

**Support (life-cycle estimate \$2,470K)..... 20 39 40**

This project provides funding for grants to the Regional Water Quality Control Board and California Department of Toxic Substances Control Board for oversight of the Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act programs at the Laboratory for Environmental Health-Related Research and to Indian Nations for grants supporting activities at tribal universities and colleges related to environmental cleanup.

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

- Continue support of State regulatory oversight of EM programs at non-Defense sites. This includes the review of data and documentation associated with waste management and environmental restoration activities. Also includes active participation in review and endorsement of EM accelerated site closure proposals by DOE when requested.

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)						
<ul style="list-style-type: none"> <li>▪ Grants are paid annually to the State of California regulatory agencies (as specified in the Federal Facility Agreement) for participation and oversight of the cleanup programs (September 2004/September 2005).</li> </ul>						

<b>Total, Community and Regulatory Support.....</b>	<b>20</b>	<b>1,030</b>	<b>90</b>
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## Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
-----------------------------------

**CH-BRNL-0100 / Brookhaven Community and Regulatory Support**

- |   |      |
|---|------|
| ▪ Decrease in Interagency Agreement resources due to the completion of soil and sediment cleanup, and groundwater treatment system construction and start-up activities, at the end of FY 2005..... | -610 |
|---|------|

**PA-0100 / Paducah Community and Regulatory Support (Non-Defense)**

- |   |      |
|---|------|
| ▪ This activity is being funded in the Uranium Enrichment Decontamination and Decommissioning Fund appropriation..... | -331 |
|---|------|

**VL-FOO-0100-N / Oakland Community and Regulatory Support (Non-Defense)**

- |                              |   |
|------------------------------|---|
| ▪ No significant change..... | 1 |
|------------------------------|---|

<b>Total Funding Change, Community and Regulatory Support.....</b>	<b>-940</b>
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# Environmental Cleanup Projects

## Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
RL-0042 / Nuclear Facility Decontamination and Decommissioning-Fast Flux Test Facility Project.....	35,823	43,589	46,083	2,494	5.7%
<b>Total, Environmental Cleanup Projects.....</b>	<b>35,823</b>	<b>43,589</b>	<b>46,083</b>	<b>2,494</b>	<b>5.7%</b>

### Description

The Environmental Cleanup Projects program provides for surveillance and maintenance and eventual decontamination and decommissioning of the Fast Flux Test Facility at the Hanford Site in Richland, Washington. All future excess facilities from other Departmental programs will be transferred to the Office of Future Liabilities.

### Benefits

This program provides funding for surveillance and maintenance and eventual decontamination and decommissioning.

Fast Flux Test Facility will undergo surveillance and maintenance to ensure safety. As the Fast Flux Test Facility is decontaminated and decommissioned, the risk to human health and the environment is greatly reduced. In addition, when facility decontamination and decommissioning is completed the financial resources needed for facility surveillance and maintenance will no longer be required.

### Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Richland					
Hanford Site.....	35,823	43,589	46,083	2,494	5.7%
<b>Total, Environmental Cleanup Projects.....</b>	<b>35,823</b>	<b>43,589</b>	<b>46,083</b>	<b>2,494</b>	<b>5.7%</b>

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

**RL-0042 / Nuclear Facility Decontamination and Decommissioning-Fast Flux Test Facility Project (life-cycle estimate \$809,843K)..... 35,823 43,589 46,083**

A Record of Decision, issued January 26, 2001, established that the Fast Flux Test Facility would be permanently deactivated, and a subsequent decision made by the Secretary of Energy on December 19, 2001, concluded that the Fast Flux Test Facility will be permanently closed. On November 8, 2002, a legal action was filed in federal court to halt the sodium drain activity. After a five month work stoppage due to a court injunction, deactivation activities at the Fast Flux Test Facility were resumed in early April 2003. Sodium drainage from the plant’s secondary system, which constitutes 34 percent of the sodium inventory, was completed and activities related to fuel washing, removal, and storage have been initiated.

This PBS deactivates and decommissions the Fast Flux Test Facility: a 400-megawatt (thermal) liquid-metal (sodium) cooled fast neutron flux nuclear test reactor and forty-nine support buildings and structures arranged around the central reactor containment building. The deactivation activities consist of: reactor defueling; washing, dry packaging, storage (in storage casks), and disposition of 408 reactor fuel assemblies; the draining and disposition of 195,000 gallons of sodium in operating plant systems and 65,000 gallons of sodium in the Sodium Storage Facility; and the shutdown of 73 plant auxiliary systems. The final facility disposition activity is typically decommissioning where the facility will be taken to its ultimate end-state through decontamination and/or dismantlement to demolition or entombment.

The facility end-state for the Fast Flux Test Facility containment building, including the defueled reactor vessel, will be determined following the appropriate environmental analysis process. All other support structures will be demolished to three feet below grade. As of September 30, 2003, the reactor defueling has been completed, the fuel assemblies have been washed, and seven interim Storage Casks have been loaded. The metal fuel assemblies are planned to be shipped in FY 2007 to the Argonne National Laboratory – West for consolidation of metal fuel. By the end of FY 2009 deactivation is expected to be completed and the decommissioning to be completed by around 2015.

In FY 2005, the following activities associated with combined deactivation and decommissioning are planned.

- Continue receipt of 22 Interim Storage Casks from the cask fabrication contractor.
- Continue washing, drying, and offloading reactor fuel to above ground storage.
- Continue pin processing of the specialty fuel assemblies in the Interim Examination and Maintenance cell. Two of the five assemblies requiring disassembly are planned to be completed in FY 2005. The assemblies require disassembly due to failed fuel pins, mixture of type of fuels, and assembly configuration.
- Complete the Environmental Impact Statement and Record of Decision for the decommissioning and dismantlement of the Fast Flux Test Facility.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

- Complete the drain of the sodium potassium cooling loop in the Fuel Storage Facility.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Pu Metal/Oxide Packaged for Long-Term Storage (Number of Containers).....	0	400	0	400	400	100%
SNF Packaged for Final Disposition (MTHM).....	0	1	1	2	7	23%
Radioactive Facility Completions (Number of Facilities).....	0	0	0	0	23	0%

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

- Completed Closed Loop Ex-vessel Handling Machine control upgrades (FY 2003).
- Completed Sodium Removal System control upgrades (FY 2003).
- Completed Solid Waste Cask modifications (FY 2003).
- Completed fuel off-load readiness review (FY 2003).
- Re-initiated fuel wash and off-load operations (FY 2003).
- Completed Secondary Heat Transport System sodium drain to the Sodium Storage Facility (approximately 66,000 gallons) (FY 2003).
- Awarded the contract for 27 additional custom-fabricated dry storage casks, required to complete the disposition of reactor fuel (FY 2003).
- Complete washing and packaging of one metric tonne heavy metal of Fast Flux Test Facility Spent Nuclear Fuel for disposition (November 2003).
- Fast Flux Test Facility in containment sodium potassium system drain (August 2004).
- Complete cleaning 21 additional reactor fuel assemblies and have them staged for packaging in storage/shipping casks for disposition (September 2004).
- Complete washing and packaging a second metric tonne heavy metal of Fast Flux Test Facility Spent Nuclear Fuel for disposition (December 2004).
- Complete sodium drain of the primary heat transport system loops and the reactor vessel (September 2005).

<b>Total, Environmental Cleanup Projects.....</b>	<b>35,823</b>	<b>43,589</b>	<b>46,083</b>
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## Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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**RL-0042 / Nuclear Facility Decontamination and Decommissioning-Fast Flux Test Facility**

<ul style="list-style-type: none"><li>▪ Increase reflects the procurement of additional interim storage casks for reactor fuel storage and acceleration of decommissioning work scope associated with reactor fuel washing and offload, pin processing operations and sodium and sodium potassium draining.....</li></ul>	2,494
<b>Total Funding Change, Environmental Cleanup Projects.....</b>	<b>2,494</b>

# Capital Operating Expenses and Construction Summary

## Construction Projects

(dollars in thousands)

Total Estimated Cost (TEC)	Prior-Year Appropriations	FY 2003	FY 2004	FY 2005	Unappropriated Balance
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### Non-Defense Environmental Services

#### Non-Closure Environmental Activities

02-U-101, Depleted Uranium  
Hexafluoride Conversion Project,  
Paducah/Portsmouth, PA 0011X/PO-  
0011X.....

375,263	31,635*	0	98,217	92,600	152,811
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Total, Non-Closure Environmental

Activities.....

375,263	0	0	98,217	92,600	152,811
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\*Includes \$21,635,000 of funds provided through Memorandum of Agreement between DOE and the United States Enrichment Corporation dated June 30, 1998.



**02-U-101, Depleted Uranium Hexafluoride Conversion Project  
Paducah, Kentucky and Portsmouth, Ohio  
(PA-0011X/PO-0011X)**

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

**Significant Changes**

- The construction schedule has been resequenced causing a completion slippage from 3Q FY 2007 to 2Q FY 2008. This has resulted in a TPC increase of \$72,746,000 from \$731,572,000 to \$804,318,000.

**1. Construction Schedule History**

(Based on Contract Period from August 2002 to March 2013)

	Fiscal Quarter				Total Estimated Cost	Total Project Cost
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2001 Budget Request (Preliminary Estimate).....	1Q 2002	3Q 2003	2Q 2004	4Q 2005	(\$000) 365,000	(\$000) 461,800
FY 2002 Budget Request .....	“	“	“	“	365,000	461,800
FY 2004 Budget Request.....	1Q 2003	1Q 2005	3Q 2004	3Q 2007	296,460	731,572
FY 2005 Budget Request.....	“	“	“	2Q 2008	375,263	804,318

## 2. Financial Schedule

Fiscal Year	MOA	Appropriations	Obligations	Costs
2001	0	0 <sup>a</sup>	0	0
2002	5,000	10,000	15,000	0
2003	9,290	0 <sup>b</sup>	9,290	18,599
2004	7,345	98,225 <sup>c</sup>	105,570	99,836
2005	0	92,600	92,600	92,400
2006	0	85,803	85,803	70,489
2007	0	67,000	67,000	82,366
2008	0	0	0	11,573
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0
2013	0	0	0	0
Total	21,635	353,628	375,263	375,263

## 3. Project Description, Justification and Scope

Beginning with the Manhattan Project during World War II, large quantities of uranium were enriched for national defense and civilian purposes. Uranium enrichment by DOE and its predecessor agencies was accomplished using gaseous diffusion technology, in which gaseous uranium hexafluoride (UF<sub>6</sub>) diffuses through a porous barrier resulting in a stream of UF<sub>6</sub> enriched in Uranium 235 (235U) and a stream of UF<sub>6</sub> depleted in 235U. During the last 5 decades in which uranium enrichment took place, the depleted UF<sub>6</sub> accumulated as a byproduct of the enrichment process.

This legacy of approximately 700,000 metric tons of depleted uranium hexafluoride (DUF<sub>6</sub>) is currently stored at the Paducah site in Kentucky, the Portsmouth site in Ohio, and the East Tennessee Technology Park in Tennessee (formerly known as the K-25 site). This DUF<sub>6</sub> inventory is stored outdoors in about 64,000 large steel cylinders, typically 12 feet long by 4 feet in diameter. Approximately 38,000 cylinders are stored at the Paducah, 19,000 at the Portsmouth, and 6,300 at the East Tennessee Technology Park.

The mission of the DUF<sub>6</sub> Conversion Project is to provide for the conversion of the DOE DUF<sub>6</sub> inventory to a more stable chemical form suitable for beneficial use or disposal. The project will provide for the design and construction of conversion facilities at Paducah and Portsmouth; cylinder surveillance and maintenance at all three sites; transport of cylinders; operation of the Paducah and Portsmouth facilities to convert the DUF<sub>6</sub> inventory; disposal or reuse of all converted DUF<sub>6</sub>, byproducts, and wastes; and for storage of low enriched uranium and natural assay uranium included in the inventory.

<sup>a</sup> In FY 2001 operating funding of \$3,306,000 was received

<sup>b</sup> In FY 2003 operating funding of \$2,208,000 was received

<sup>c</sup> In FY 2004 operating funding of \$3,158,000 for a total of \$101,383,000



The project follows directly from the DOE Record of Decision for Long-Term Management and Use of Depleted Uranium Hexafluoride (issued in August 1999), namely to begin conversion of the DUF6 inventory as soon as possible. This project is consistent with the Final Plan for the Conversion of Depleted Uranium Hexafluoride, which the Department submitted to Congress in July 1999 in response to Public Law 105-204 that required development of a plan for processing and treating the DUF6 and called for the construction of conversion plants at Paducah and Portsmouth. Scheduling is based on meeting a construction start date of July 31, 2004, per Public Law 107-206.

Additional justification for this project is the desire to eliminate any safety hazards involving cylinder integrity. Because of advanced age and storage conditions, some of the cylinders holding DUF6 show evidence of external corrosion, which could result in cylinder breaching. DUF6 is not readily released from a breached cylinder because the material is a solid at ambient temperatures and pressures, and it reacts with the cylinder iron to form a dense plug that limits the release. However, when a cylinder breach is found, the cylinder is repaired or its contents are transferred to a new cylinder. While these mitigation activities continue to maintain the stability of the material, a cylinder breach poses a potential environmental impact, and the maintenance work creates a possible safety hazard. Through conversion of the DUF6 to more stable forms, this project will significantly reduce potential environmental and safety hazards.

Since 1990, the DOE has conducted an active cylinder management program at the three sites to minimize risks to workers, the public, and the environment. The activities of the management program include conducting annual cylinder storage inspections; moving cylinders to properly spaced storage locations on upgraded, concrete storage yards; coating cylinders to inhibit corrosion; and developing and implementing options to repair cylinders exhibiting accelerated corrosion. This effort is consistent with the consent agreements between the Department and the States of Ohio and Tennessee, and Recommendation 95-1 of the Defense Nuclear Facility Safety Board.

The scope of this project is to design, construct, and operate two conversion facilities that will be Government-owned and contractor-operated. These facilities will convert the Department's inventory of DUF6 to a more stable chemical form using the contractor's dry conversion process. This is a continuous process in which DUF6 is vaporized and converted to uranium oxide (predominantly U3O8) in a fluidized bed conversion unit. The resulting powder is collected and packaged for transportation, beneficial use/reuse, and/or disposal.

Each facility will consist of a building of approximately 55,000 square feet to house the equipment required for the dry conversion process, offices for plant personnel, and ancillary rooms. To support the conversion operations, additional buildings totaling approximately 36,500 square feet are required.

Prior to the start of conversion plant operations, the conversion contractor will assume cylinder surveillance and maintenance of the DOE inventory of DUF6, low-enrichment uranium hexafluoride, natural assay hexafluoride, and empty and heel cylinders from the former gaseous diffusion plants. The contractor will also be responsible for the disposition of conversion products, all waste forms, and empty and heel cylinders, including the planned sale of the hydrogen fluoride byproduct. The current contract includes conversion operations by this contractor. To convert the Department's entire depleted uranium inventory is expected to take a total of over 25 years of

plant operations. At the end of the initial contract, the next term of conversion operations will be recomputed and authorized under a new contract.

Plans for FY 2005 call for completing final design and continuing construction.

#### 4. Details of Cost Estimate.

	(dollars in thousands)	
	Current Estimates	Previous Estimate
Design Phase		
Engineering, Design, and Inspection at Approximately (9.4 percent of TEC).....	35,209	32,380
Execution Management at Approximately (6.4 percent of TEC).....	24,017	21,290
Project Management at Approximately (5.6 percent of TEC).....	21,015	11,970
Subtotal, Design Phase.....	80,241	65,640
Execution Phase.....	246,022	184,560
Contingencies.....	49,000	46,260
Total, Line-Item Cost.....	375,263	296,460

#### 5. Method of Performance

The Paducah Portsmouth Program Office will manage the current Uranium Disposition Services, LLC. (UDS) performance-based, cost-plus contract to design, construct, and operate (for a 5-year period) DUF6 conversion facilities at the Department's Gaseous Diffusion Sites in Paducah, Kentucky, and Portsmouth, Ohio.

The contract establishes performance requirements and incentives for the accomplishment of the Statement of Work. The design work is being performed on a fixed-fee basis. An incentive fee for construction will be performed by the contractor and will be paid based on the successful completion of construction and the attainment of cost and schedule targets. An award fee with incentive fee component proposed by the contractor will be paid for operation of the plants based on the quantity and cost of DUF6 processed and other associated performance requirements.

In addition to activities included within the scope of the DUF6 procurement, the Department will be performing the requisite activities to comply with the Department's directives associated with program and project management. For example, DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, which prescribes a formal process for securing critical acquisition decisions and implementing various project management reform initiatives will be applied using the tailoring approach described in the Order.

The Department will develop and refine an integrated project schedule to plan and track activities. A life cycle baseline will then be developed to establish and control the technical scope, cost, and schedule parameters of

this project and to integrate these activities with other environmental management activities.

## 6. Schedule of Project Funding

(dollars in thousands)					
	Prior Years	FY 2004	FY 2005	Outyears	Total
<b>Project Cost</b>					
<b>Design Phase</b>					
Design and Management.....	18,599	15,210	1,400	0	35,209
Execution.....	0	70,789	78,000	142,265	291,054
Contingencies.....	0	13,837	13,000	22,163	49,000
<b>Total, Line-Item.....</b>	<b>18,599</b>	<b>99,836</b>	<b>92,400</b>	<b>164,428</b>	<b>375,263</b>
From Appropriations.....	10,000	86,800	92,400	164,428	353,628
From MOA Funds.....	8,599	13,036	0	0	21,635
<b>Other Project Costs</b>					
System Requirements Document.....	1,028	0	0	0	1,028
Conceptual Design Report.....	2,378	0	0	0	2,378
RFP Development.....	3,440	0	0	0	3,440
NEPA and Other Preparatory Work.....	5,533	0	0	0	5,533
Cylinder Overpacks/Transportation ....	0	600	4,107	9,217	13,924
Total Plant Operations to FY 2013.....	0	0	5,293	397,444	402,737
DOE Plant Support to FY 2013.....	0	0	0	15	15
<b>Total, Other Project Costs.....</b>	<b>12,379</b>	<b>600</b>	<b>9,400</b>	<b>406,676</b>	<b>429,055</b>
From Appropriations.....	5,514	600	9,400	400,776	416,290
From MOA Funds.....	6,865	0	0	5,900	12,765
<b>Grand Total.....</b>	<b>30,978</b>	<b>100,436</b>	<b>101,800</b>	<b>571,104</b>	<b>804,318</b>
From Appropriations.....	15,514	87,400	101,800	565,204	769,918
From MOA Funds.....	15,464	13,036	0	5,900	34,400

## 7. Related Annual Funding Requirements

(dollars in thousands)		
	Current Estimate	Previous Estimate
Annual facility operating costs for 20 years (all operations costs, management, fees, contingency) .....	70,000	0

Note: FY 2009 is the first year of full operations.



**Uranium Enrichment  
D&D Fund**

**Uranium Enrichment  
D&D Fund**

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# Uranium Enrichment Decontamination and Decommissioning Fund

## Proposed Appropriation Language

*For necessary expenses in carrying out uranium enrichment facility decontamination and decommissioning, remedial actions, and other activities of title II of the Atomic Energy Act of 1954 as amended and title X, subtitle A, of the Energy Policy Act of 1992, \$500,200,000, to be derived from the Fund, to remain available until expended, of which \$100,614,000 shall be available in accordance with title X, subtitle A, of the Energy Policy Act of 1992.*

## Explanation of Change

None.



# Uranium Enrichment Decontamination and Decommissioning Fund

## 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
Uranium Enrichment Decontamination and Decommissioning Fund					
Decontamination and Decommissioning Activities.....	304,667	365,484	-2,156	363,328	399,586
Uranium/Thorium Reimbursement...	15,896	51,000	-301	50,699	100,614
Total, Uranium Enrichment Decontamination and Decommissioning Fund.....	320,563	416,484	-2,457 <sup>a</sup>	414,027	500,200

### Public Law Authorizations:

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

Public Law 102-486, Title X, Subtitle A "Energy Policy Act of 1992"

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

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

<sup>a/</sup> Reflects rescission reduction of \$2,457,000.

## 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.

## Benefits

This appropriation provides funding for environmental management responsibilities at the nation's three gaseous diffusion plants. The appropriation also provides funding for reimbursement of licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites.

As the cleanup and decommissioning at the gaseous diffusion plants progresses, (as well as the cleanup at uranium/thorium processing sites), the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed, the financial resources needed to maintain site infrastructure will also be reduced.

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 Uranium Enrichment Decontamination and Decommissioning Fund was established by the Energy Policy Act of 1992 to carry out Environmental Management responsibilities at the nation's three gaseous diffusion plants. The plants are the Paducah site in Kentucky, the Portsmouth site in Ohio and the East Tennessee Technology Park in Tennessee. The Fund includes contributions from annual appropriations and assessments from commercial utilities based upon historical purchases of enrichment services. In accordance with the Energy Policy Act, funds are also used to reimburse licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites, subject to a site-specific reimbursement limit. The two programs funded in this appropriation are the Decontamination and Decommissioning Fund Activities and the Uranium/Thorium Reimbursements.

The FY 2005 request for the Uranium Enrichment Decontamination and Decommissioning Fund appropriation is \$500,200,000, an increase of \$86,173,000, from the comparable FY 2004 appropriation of \$414,027,000.

# Decontamination and Decommissioning Activities

## Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
OR-0040/Nuclear Facility Decontamination and Decommissioning-East Tennessee Technology Park (Decontamination and Decommissioning Fund).....	129,636	147,681	197,667	49,986	33.8%
OR-0102/East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration.....	12,421	13,646	15,917	2,271	16.6%
OR-0103/Oak Ridge Reservation Community and Regulatory Support (Decontamination and Decommissioning Fund).....	1,414	1,426	1,466	40	2.8%
PA-0013/Solid Waste Stabilization and Disposition.....	19,039	14,539	17,603	3,064	21.1%
PA-0040/Nuclear Facility Decontamination and Decommissioning-Paducah (Uranium Enrichment Decontamination and Decommissioning Fund).....	60,171	96,564	61,081	-35,483	-36.7%
PA-0102/Paducah Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund).....	16,754	5,089	11,549	6,460	126.9%
PA-0103/Paducah Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund).....	1,225	3,967	2,524	-1,443	-36.4%
PO-0013/Solid Waste Stabilization and Disposition.....	28,401	49,389	56,666	7,277	14.7%
PO-0040/Nuclear Facility Decontamination and Decommissioning-Portsmouth (Uranium Enrichment Decontamination and Decommissioning Fund).....	32,762	30,421	34,210	3,789	12.5%
PO-0103/Portsmouth Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund).....	2,572	606	605	-1	-0.2%

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
PO-0104/Portsmouth Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund).....	272	0	298	298	100.0%
Total, Decontamination and Decommissioning Activities.....	304,667	363,328	399,586	36,258	10.0%

### Description

The Decontamination and Decommissioning Activities program supports Environmental Management activities and responsibilities at the nation's three gaseous diffusion plants located at the Paducah site in Kentucky, the Portsmouth site in Ohio, and the East Tennessee Technology Park in Tennessee. This program addresses cleanup liabilities that are attributable to historical DOE operations for production of enriched uranium for weapons and commercial fuel. Environmental Management activities include the decontamination and decommissioning of contaminated facilities, remediation of contaminated environmental media, waste treatment and disposal operations, and surveillance and maintenance of facilities to ensure safety. Also included is funding for post closure contract liabilities.

### Benefits

This program provides funding for environmental management responsibilities at the nation's three gaseous diffusion plants. These responsibilities include cleanup liabilities that are attributable to historical DOE operations for weapons and commercial fuel. EM activities include decontamination and decommissioning of contaminated facilities, waste treatment and disposal operations, and surveillance and maintenance of facilities to ensure safety.

As the cleanup and decommissioning at the gaseous diffusion plants progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed, the financial resources needed to maintain site infrastructure and perform surveillance and maintenance will also be reduced.

## Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
<b>Oak Ridge</b>					
East Tennessee Technology Park.....	142,057	161,327	213,584	52,257	32.4%
Oak Ridge Reservation.....	1,414	1,426	1,466	40	2.8%
<b>Total, Oak Ridge Operations Office.....</b>	<b>143,471</b>	<b>162,753</b>	<b>215,050</b>	<b>52,297</b>	<b>32.1%</b>
<b>Paducah</b>					
Paducah Gaseous Diffusion Plant.....	97,189	120,159	92,757	-27,402	-22.8%
<b>Portsmouth</b>					
Portsmouth Gaseous Diffusion Plant.....	64,007	80,416	91,779	11,363	14.1%
<b>Total, Decontamination and Decommissioning Activities.....</b>	<b>304,667</b>	<b>363,328</b>	<b>399,586</b>	<b>36,258</b>	<b>10.0%</b>

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**OR-0040 / Nuclear Facility Decontamination and Decommissioning - East Tennessee Technology Park (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$1,837,944K).....** **129,636 147,681 197,667**

This PBS scope covers decommissioning of facilities and remedial actions for contaminated sites at the East Tennessee Technology Park (the former K-25 Gaseous Diffusion Plant) in Oak Ridge, Tennessee. It also funds a portion of site infrastructure services, including fire protection, utility services, environmental, safety and health programs, real property management, power operations, and maintenance, capital improvements and repairs.

Of the 5,000-acre footprint, there are 2,000 acres with the potential of contamination. There are known groundwater contaminant plumes from former burial grounds and contaminated soils, resulting in 140 release sites to be remediated. In addition, there are approximately 163 facilities, including 125 major buildings, that require decommissioning or transfer to the private sector. This closure project is being accomplished in accordance with the Oak Ridge Performance Management Plan and a federal facilities cleanup agreement with the State of Tennessee and the Environmental Protection Agency. The plan is to close the East Tennessee Technology Park by the end of FY 2008; this will include remediation of the 140 release sites and decommissioning or transfer of the 163 major facilities. As of the end of FY 2003,

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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74 facilities have been decommissioned and 19 release sites have been remediated. The accelerated cleanup strategy is to complete targeted remedial actions in Zone 1 (1,400 acres located outside the fenced main plant area) and facility decommissioning and then follow with a comprehensive remedial action for the main plant area Zone 2 (800 acres inside the Main Plant area inside fence).

This PBS also funds the East Tennessee Technology Park Three-Building Decontamination and Decommissioning Recycle subproject. The East Tennessee Technology Park site is currently completing the largest decommissioning effort in DOE history. It includes over 110 acres of floor space (4.8 million square feet) for decontamination and decommissioning. This "three building" subproject is over 80 percent complete and will be completed in FY 2004. The appropriation for this subproject was \$67,500,000 in FY 2003, \$30,290,000 in FY 2004. There is no request for FY 2005.

Also included in this PBS is the K-25/K-27 building decontamination and decommissioning subproject and other facilities decontamination and decommissioning. The scope of the K-25/K-27 Buildings decontamination and decommissioning subproject is to abate the hazardous materials, remove the process equipment and excess materials stored in the buildings, demolish the building structures, and also appropriately characterize, package, transport and dispose of all the associated wastes. Hazardous material abatement began in FY 2001 with completion in FY 2004; and equipment removal will begin in FY 2004 with completion scheduled for FY 2008. The scope of other facilities decontamination and decommissioning includes the planning, deactivation of utilities, asbestos and other hazardous material abatement, equipment dismantlement and disposal, structure demolition and waste disposal.

In FY 2005, the following activities are planned to support the accelerated cleanup of East Tennessee Technology Park by the end of FY 2008.

- Continue to decontaminate and decommission the K-25 and K-27 Buildings, including: pre-demolition utility reconfiguration engineering for the K-25 and K-27 Buildings; removal and disposal of excess materials stored in the K-25 and K-27 Buildings; hazardous material abatement in the K-25 Building; and, removal and disposal of K-25 Building process equipment.
- Begin preparing the Request for Proposal for demolition of the K-25 and K-27 Buildings.
- Continue demolition of facilities within and outside the Main Plant Area.
- Complete scrap removal from K-770.

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 <sup>3</sup> ).....	0	0	0	5,178	5,178	100%
Nuclear Facility Completions (Number of Facilities).....	0	0	6	8	12	67%
Radioactive Facility Completions (Number of Facilities).....	0	3	2	6	6	100%

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2005 Congressional Budget**



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Industrial Facility Completions (Number of Facilities).....	5	14	27	112	145	77%
Remediation Complete (Number of Release Sites).....	1	2	4	25	140	18%

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

- Completed hazardous materials abatement in 19 building units in the K-25 Building (FY 2003).
- Began removing and transferring the fuel pins stored in the K-25 Building to the Tennessee Valley Authority for reprocessing (FY 2003).
- Prepared for removal and transfer of lithium stored in the K-25 Building to Y-12 at the Y-12 National Nuclear Security Complex (FY 2003).
- Issued the Request for Proposals for K-25/K-27 Process Equipment Removal and Disposal (FY 2003).
- Completed equipment removal in building K-31 (FY 2003).
- Began dismantling and disposition of the building K-29 converters (FY 2003).
- Complete equipment removal in building K-29 (February 2004).
- Initiate equipment removal in buildings K-25 and K-27 (September 2004).
- Transfer five facilities to the Community Reuse Organization of East Tennessee (September 2004).
- Complete decontamination in buildings K-33, K-31 and K-29 (September 2004).
- Closeout three building decommissioning project and return buildings control to DOE for reuse (September 2004).
- Complete pre-demolition utility reconfiguration engineering for K25/K27 (January 2005).
- Complete hazardous material abatement in K-25 Building (FY 2005)
- Complete removal and disposal of excess materials stored in the K-25 and K-27 Buildings (FY 2005).

**OR-0102 / East Tennessee Technology Park Contract / Post Closure Liabilities / Administration (life-cycle estimate**

**\$209,430K)..... 12,421 13,646 15,917**

This PBS scope supports on-going, long-term obligations and central programs including post retirement medical benefits and long term disability for grandfathered employees, severance/reduction in force costs from workforce transition employees; legacy documents and litigation issues;

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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administration of the Sample Management Office and the National Center of Excellence for Metal Recycle; and Lockheed Martin Energy Systems contract closeout.

This PBS includes activities and expenses associated with post retirement life and medical benefits and long-term disability benefits to transitioned Bechtel Jacobs Company employees who supported enrichment facilities programs while working as first or second tier subcontractors. It also covers pre-April 1, 1998, retiree costs and employees on long-term disabilities associated with enrichment facilities programs.

This PBS also includes the Sample Management Office audits of commercial laboratories which the EM program uses and coordinates sampling in support of closure activities. Funding for the National Center of Excellence for Metal Recycle facilitates the cost-effective recycle of clean and decontaminated metals and equipment at DOE sites across the country is included in this PBS. Lockheed Martin Energy Systems contract closeout funds are not needed beyond FY 2004. Severance costs for Bechtel Jacobs Company grandfathered employees and workforce transition employees are included in this project. Also included is a task for legacy documents and litigation to provide support for processing legacy worker's compensation claims and the associated records that must be provided, as well as the cost of risk management and legal staff supporting this effort. This project also includes additional pension contributions which are required beginning in FY 2004 due to the stock market declines since 2001.

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

- Severance cost, post retirement life and medical benefits, and long-term disability benefits will be paid as required.
- A contribution will be made to the pension plan for grandfathered employees.
- The Sample Management Office will continue to operate in support of the accelerated cleanup projects.
- Legal/risk management will continue to process legacy workers compensation claims.
- Support will continue for the National Center for Excellence for Metal Recycle.
- Support will continue for the DOE Information Center, which maintains the Public Documents related to the EM Program in Oak Ridge.

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)						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Post Retirement, Long-Term Disability, and severance benefits were paid as required (FY 2003).
- Supported the National Center of Excellence for Metal Recycle, the Sample Management Office, and Lockheed Martin Energy Systems contract close-out (FY 2003).
- Maintained legacy documents (FY 2003).
- Support the National Center of Excellence for Metal Recycle, Lockheed Martin Energy Systems contract closeout, post retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits (September 2004/September 2005).

**OR-0103 / Oak Ridge Reservation Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$59,639K).....**

**1,414      1,426      1,466**

This PBS scope supports the two Tennessee Agreement-In-Principle grants. The first grant supports the Tennessee Department of Environment and Conservation's independent environmental oversight and monitoring of DOE activities taking place both on-site and off-site at the Oak Ridge Reservation. The second grant provides for coordination with the Tennessee Emergency Management Agency in emergency response planning initiatives, including cooperative planning, conducting joint training exercises and developing public information regarding preparedness activities. This project also supports the Federal Facility Agreement regulatory grant with the Tennessee Department of Environment and Conservation, which provides for the administrative support necessary to oversee the requirements of the interagency agreement under the Comprehensive Environmental Response, Compensation and Liability Act. EM will support Agreement-In-Principle grants until Oak Ridge Operations Office/EM mission completion in FY 2015. Site Specific Advisory Board activities are covered in this PBS.

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

- Complete media monitoring activities planned for FY 2005. This includes periodic sampling of all media and pathway indicators, monitoring of discharges, emissions and biological parameters as necessary to verify the effectiveness of DOE's monitoring and surveillance programs for releases and emissions of hazardous, toxic, and radiological materials.
- Complete FY 2004 media monitoring report.
- Complete annual reporting to the public on management and operations activities
- Complete FY 2006 media monitoring plan.
- Participate in the Natural Resource Damage Assessment program for the Oak Ridge Reservation.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Participate in the Watts Bar Interagency Working Group formed to monitor, evaluate, and make recommendations relative to potential sediment disturbance activities within the Watts Bar Reservoir.
- Complete review and approval of Federal Facility Agreement documents produced by DOE.
- Participate in the emergency preparedness training exercises.
- Update, if necessary, the multi-jurisdictional plan for the DOE Oak Ridge Reservation.
- Maintain emergency communications capabilities for notification, emergency management and information distribution relating to Oak Ridge Reservation emergencies.
- Coordinate and conduct drills and exercises in accordance with the multi-jurisdictional plan or other regulatory requirements.
- Continue activities by the Site-Specific Advisory Board sponsored by DOE EM to assist in the required public participation activities.

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)						
<ul style="list-style-type: none"> <li>▪ The Site Specific Advisory Board prepared recommendations and advice on several topics concerning the cleanup activities, stewardship and waste management (FY 2003).</li> <li>▪ Provided financial support to the State of Tennessee for conducting annual monitoring and reporting (FY 2003).</li> <li>▪ Coordinated with and provide financial support to the Tennessee Emergency Management Agency for emergency preparedness activities (FY 2003).</li> </ul>						

**PA-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate \$329,699K)..... 19,039 14,539 17,603**

This PBS scope stores, treat, and disposes of all legacy waste generated by activities at the Paducah Gaseous Diffusion Plant prior to 1993, and small quantities of newly generated waste from waste storage, treatment, and disposal operations. Although the United States Enrichment Corporation handles its own waste treatment and disposal, through DOE's lease agreement with them, we remain responsible for some waste streams which are generated by the United States Enrichment Corporation's operation of the plant. DOE handles this waste as newly generated waste. The primary waste streams are low-level, mixed low-level, hazardous, transuranic, polychlorinated biphenyl, and sanitary/industrial/construction

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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wastes. The life-cycle scope for low-level and mixed low-level wastes addresses 17,331 m<sup>3</sup> of waste. DOE plans to disposition all the remaining legacy waste by the end of FY 2008. The waste streams have been ranked for treatment and disposal using a risk-based prioritization system. Disposition of waste will reduce risk and storage costs. Disposition of the low-level/mixed low-level legacy waste is critical to accelerating the cleanup of the site. As of the end of FY 2003, Paducah has disposed of approximately 5,543 m<sup>3</sup> of low-level/mixed low-level legacy waste either on-site or off-site. Most of the remaining 11,788 m<sup>3</sup> of legacy waste will need to be sorted, repackaged and characterized prior to either off-site treatment/disposal or on-site disposal at the C-746-U Landfill.

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

- Ship 20 m<sup>3</sup> of newly generated waste to Envirocare for disposal.
- Ship 30 m<sup>3</sup> of newly generated waste to the Nevada Test Site for disposal.
- Ship 875 m<sup>3</sup> of low-level legacy waste to the Nevada Test Site for disposal.

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 <sup>3</sup> ).....	2,248	75	875	6,493	17,331	37%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/ FY 2005)						
<ul style="list-style-type: none"> <li>▪ Shipped 2,248 m<sup>3</sup> of low-level and mixed low-level waste for disposal (FY 2003).</li> <li>▪ Disposition 75 m<sup>3</sup> of low-level legacy waste (September 2004).</li> <li>▪ Disposition the entire transuranic legacy waste inventory of 14 m<sup>3</sup> (September 2004).</li> <li>▪ Disposition 875 m<sup>3</sup> of low-level/mixed low-level legacy waste, which will allow for 37% completion (September 2005).</li> </ul>						

**PA-0040 / Nuclear Facility Decontamination and Decommissioning Paducah (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle**

**estimate \$2,739,824K)..... 60,171 96,564 61,081**

This PBS scope is for environmental cleanup and risk reduction through focused response actions and surveillance and maintenance activities at the Paducah Gaseous Diffusion Plant. Paducah Gaseous Diffusion Plant is an active uranium enrichment facility surrounded by a wildlife management area. Environmental problems include on- and off-site groundwater contamination, which had contaminated off-site residential water wells; and contaminated surface water, sediments and soil, with both radioactive and chemical contaminants. The current and future land uses at Paducah Gaseous Diffusion

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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Plant are assumed to be industrial areas located primarily inside the security fence, recreational areas located outside the security fence, with adjacent private property, including some residential areas. The Commonwealth of Kentucky and the DOE signed a Letter of Intent in August 2003 that outlined the commitment of accelerating environmental cleanup at the Paducah Gaseous Diffusion Plant. The parties will work to complete cleanup activities at the plant by 2019, in a manner that is safe, protects human health and the environment, and is in compliance with state and federal environmental laws. Initiatives for accelerating cleanup and reducing risks include the following: groundwater source term removal contributing to off-site contamination at the plant; decontamination and decommissioning of inactive facilities on site; investigation and any necessary mitigating actions at the on-site burial grounds; and characterization and removal of contaminated soils at the gaseous diffusion plant. The basic strategy includes implementation of a phased and sequenced approach. Summary detail on each of the strategic initiatives are shown below.

**Groundwater:** The scope of the groundwater operable unit is the identification, investigation, evaluation of risk and remedial alternatives, and selection and implementation of actions necessary to achieve protection of human health from exposure to groundwater contamination. Early actions have already been implemented to prevent exposure and reduce further off-site contamination.

**Decontamination and Decommissioning:** This scope includes the decontamination and decommissioning of the C-410 and C-340 facilities as well as the other 15 inactive DOE facilities, assuming the use of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 removal actions implemented in accordance with the Federal Facility Agreement. The strategy will take advantage of a trained work-force during infrastructure removal and maximize opportunities for achieving cost-efficiencies and economies of scale through coordination of structure demolition at C-410 and C-340.

**Burial Grounds:** The scope of the burial ground operable unit includes remedial investigation, baseline risk assessment, evaluation of remedial alternatives/feasibility study, remedy selection and implementation of actions as necessary for protection of human health and the environment, for the following burial grounds: C-749 (Solid Waste Management Unit 2); C-404 (Solid Waste Management Unit 3); C-747 (Solid Waste Management Unit 4); C-746-F (Solid Waste Management Unit 5); C-747-B (Solid Waste Management Unit 6); C-747-A (Solid Waste Management Units 7 & 30); and Solid Waste Management Unit 145, which includes both residential/inert borrow area and old north-south ditch disposal trench.

**Surface Water:** The scope of the surface water operable unit includes investigation, baseline risk assessment, evaluation of cleanup alternatives, remedy selection, and implementation of removal/remedial actions as necessary. This will prevent or minimize further off-site migration and reduce, control, or minimize surface water sources contributing to off-site surface water contamination. Off-site surface water areas have already undergone initial characterization as part of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 Administrative Consent Order and DOE's ongoing environmental monitoring program. Early actions include controls to prevent access to contaminated areas of Big and Little Bayou Creek; fishing advisories; re-routing surface water discharges and installation of storm water basins at north-south diversion ditch and outfall

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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ditch 001; previous polychlorinated biphenyl hot spot removals associated with Waste Area Group 23, outfall ditch 0011, and the C-333-A and C-337-A vaporizers; removal of drum mountain; as well as ongoing actions to remove 54,000 tons of scrap metal and excavation/removal of source material associated with north-south diversion ditch (sections 1 & 2).

**Soils:** The scope of the soils operable unit includes investigation, baseline risk assessment, evaluation of cleanup alternatives, remedy selection, and implementation of removal/remedial actions as necessary. There will be two initial removal actions implemented during plant operations and a final remedial action as part of the final decontamination and decommissioning at the gaseous diffusion plant once it ceases operations. The first early removal action will be implemented immediately following completion of the scrap metal project and outside DOE Material Storage Areas, addressing the potentially contaminated underlying surface soils. The second removal action will focus on the identification and mitigation of additional soil hot spots associated with radionuclide and polychlorinated biphenyl contamination from the remaining plant areas that are accessible and not impacted by plant operations.

There are ten scrap yards containing approximately 54,000 tonnes of scrap; twelve burial grounds containing a variety of radioactive and hazardous wastes; 160 DOE Material Storage Areas that must be characterized and dispositioned; and several contaminated surplus facilities which must be decontaminated and decommissioned. More than 235 release sites were originally identified. As of the end of FY 2003, 85 release sites have been completed at the Paducah Gaseous Diffusion Plant.

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

- Begin fieldwork for full-scale deployment of the six phase heating technology system to treat trichloroethylene in the groundwater.
- Continue characterization and material disposition from the disposal of DOE Material Storage Areas.
- Continue processing scrap metal for disposal (12,400 tonnes).
- Continue decontamination and decommissioning of C-410 complex.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Radioactive Facility Completions (Number of Facilities).....	0	0	0	0	2	0%
Remediation Complete (Number of Release Sites).....	1	1	0	86	236	36%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/ FY 2005)						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Processed 2,000 tons of scrap metal and ship 2,000 tons of aluminum ingots to disposal (FY 2003).
- Received Environmental Protection Agency and Commonwealth of Kentucky approval of Action Memorandum for C-410 decontamination and decommissioning and begin infrastructure removal (FY 2003).
- Completed remedial action of North/South Diversion Ditch (December 2003).
- Process 3,000 tonnes of classified scrap metal and process and dispose of 12,000 tonnes of other scrap metal (September 2004).
- Complete the North/South Diversion Ditch excavation inside the plant fence (September 2004).
- Dismantle and remove all piping and equipment from Sector 1 in building C-410 and Sector 9 immediately outside of C-410; prepare Sectors 2 and 3 in C-410 for dismantling and removal of all piping equipment (September 2004).
- Dispose of 12,400 tons of scrap metal (September 2005).
- Continue decontamination and decommissioning of C-410 complex (September 2005).

**PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$85,575K).....**

**16,754      5,089      11,549**

This PBS scope supports a contract liability to provide for record searches performed for DOE and the Department of Justice investigations/studies, pending litigation, Freedom of Information Act requests, and information requests from both state and Federal regulatory and elected officials.

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

- Search historical documents per court order in support of ongoing litigation.
- Provide support to DOE and Department of Justice for all investigations and litigations.

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)**

- Searched approximately 7,000 historical documents (FY 2003).



(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Provided support to DOE and Department of Justice for all investigations and litigations (FY 2003).

**PA-0103 / Paducah Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$43,612K).....**

**1,225      3,967      2,524**

This PBS scope supports the Agreement-in-Principle grant to the Commonwealth of Kentucky to provide independent oversight of the environmental programs at the Paducah Gaseous Diffusion Plant. Kentucky uses the grant funds to provide independent surface water, groundwater, air and other environmental monitoring at Paducah. These funds are not used by the State to provide regulatory oversight. This scope also supports the Federal Facility Agreement regulatory grant with the Commonwealth of Kentucky, which provides for the administrative support necessary to oversee the requirements of the interagency agreement under the Comprehensive Environmental Response, Compensation, and Liability Act. This project also covers the activities to be performed by the Paducah Site Specific Advisory Board. The funds from the decontamination and decommissioning account are for activities directly related to the cleanup of the gaseous diffusion plants. Other activities not directly related to decommissioning of the gaseous diffusion plants are covered in the Non-Defense Environmental Services appropriation. Support for these activities from the Uranium Enrichment Decontamination and Decommissioning Fund will continue until final decontamination and decommissioning and remediation of the plant is complete (approximately FY 2017- FY 2023).

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

- Complete media monitoring activities planned in FY 2005. This includes sampling of all media and pathway indicators, monitoring of discharges, emissions and biological parameters as necessary to verify the effectiveness of DOE's monitoring and surveillance programs for releases and emissions of hazardous, toxic, and radiological materials.
- Complete FY 2004 media monitoring report.
- Complete annual reporting to the public on management and operations activities.
- Complete FY 2006 media monitoring plan.
- Complete review and approval of the Comprehensive Environmental Response, Compensation, and Liability Act, Federal Facility Agreement documents produced by DOE.
- Participate in the emergency preparedness plan for the DOE Paducah Site. Includes the organizations, authorities, and responsibilities for local governments' response and the authorities and responsibilities for the Kentucky state government.
- Coordinate and conduct drills and exercises in accordance with the multi-jurisdictional plan or other regulatory requirements.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Continue activities by the Site Specific Advisory Board sponsored by DOE EM to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
No metrics associated with this PBS.....						
<b>Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/ FY 2005)</b> <ul style="list-style-type: none"> <li>Completed media monitoring activities planned for FY 2003 (FY 2003).</li> <li>The Site Specific Advisory Board prepared recommendations and advise on several topics concerning the cleanup activities, stewardship and waste management (FY 2003).</li> <li>Provide financial support to the Commonwealth of Kentucky as required by the Agreement-in-Principle (FY 2003, September 2004, September 2005).</li> <li>Provide financial support to the State for all Federal Facility Agreement administrative activities, including review/approval of Comprehensive Environmental Response, Compensation, and Liability Act documents (September 2005).</li> </ul>						

**PO-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate \$352,935K)..... 28,401 49,389 56,666**

This PBS scope stores, characterizes, treats, and disposes of legacy waste generated by activities at the Portsmouth Gaseous Diffusion Plant prior to 1993. This will reduce risks and storage costs. The primary waste streams are low-level, mixed low-level, Toxic Substances Control Act-low level, hazardous, and sanitary wastes. The life-cycle estimate for the low-level and mixed low-level wastes to be addressed is 33,543 m<sup>3</sup>. As of the end of FY 2003, 16,400 m<sup>3</sup> had been dispositioned. DOE plans to disposition all of the remaining legacy waste by the end of FY 2007. The waste streams have been ranked for treatment and disposal using a risk-based prioritization system. This project also implements pollution prevention projects to reduce the generation, volume, toxicity, and release of multi-media waste, to promote the use of non-hazardous materials, and to achieve operating efficiency though the application of pollution prevention principles. Disposal of legacy is critical to accelerating cleanup of the site.

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

- Begin disposition of currently stored converter shells and continue disposition of mixed low-level, toxic substances control act, and low-level waste. Total quantity planned for FY 2005 is 9,089 m<sup>3</sup>.

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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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 <sup>3</sup> ).....	2,580	1,143	9,089	26,632	33,543	79%
Key Accomplishments (FY 2003) / Planned Milestones (FY 2004/ FY 2005) <ul style="list-style-type: none"> <li>▪ Completed disposition of 2,580 m<sup>3</sup> of mixed low-level and low-level waste (FY 2003).</li> <li>▪ Treated and disposed of five Resource Conservation and Recovery Act low-level waste streams (FY 2003).</li> <li>▪ Disposition 1,143 m<sup>3</sup> of legacy waste (September 2004).</li> <li>▪ Disposition 9,089 m<sup>3</sup> of legacy waste (September 2005).</li> </ul>						

**PO-0040 / Nuclear Facility Decontamination and Decommissioning-Portsmouth (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$4,132,651K)..... 32,762 30,421 34,210**

Remedial action, surveillance and maintenance, and decontamination and decommissioning activities at the Portsmouth Gaseous Diffusion Plant are necessary due to contamination resulting from the plant's uranium enrichment operations. The Portsmouth mission, which began in 1954, was to enrich uranium for naval and commercial reactors through the gaseous diffusion process. Enrichment operations were shut down in June 2001, and portions of the plant are currently in a cold-standby state. The plant covers 3,700 acres and is 70 miles south of Columbus, Ohio. Groundwater, sediment and soil contamination exists at the site; contaminants of concern include radioactive technetium-99, polychlorinated biphenyls, trichloroethene, and Resource Conservation and Recovery Act heavy metals. Contamination is not known to have spread off-site.

Since cleanup activities began, all initial assessments required under the Resource Conservation and Recovery Act have been completed, all groundwater plumes contained on site, and 15 hazardous and solid waste units remediated. In addition, there are several land disposal units being addressed under the State of Ohio Resource Conservation and Recovery Act Closure and Solid Waste programs. By the end of FY 2006, all remaining hazardous and solid waste units assessments and remedial actions for all non-deferred units except X-701B groundwater and soils will be completed. DOE will continue to operate active and passive groundwater treatment systems until regulatory-directed cleanup levels are achieved. Surveillance and maintenance or remedial actions and decontamination and decommissioning of facilities will also continue beyond FY 2006 because of the continuing presence of the United States Enrichment Corporation's activities at the site including advanced centrifuge technology deployment. The end state vision for the site is a controlled federal site with consideration for reindustrialization. This end-state will be accomplished as decisions are finalized on facility potential reindustrialization or facilities are deemed as "excess" with no further use. Eighteen such facilities are

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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scheduled for decommissioning to reduce site risks and surveillance and maintenance in FY 2007 and FY 2008.

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

- Repackaging of the returned classified laboratory samples.
- Perform annual data evaluation of Resource Conservation and Recovery Act remedial action sites to support the five year reviews.
- Investigation of soil and groundwater contamination at the X-747H scrap yard.
- Management of the site-wide environmental monitoring program and continuation of centralized groundwater oversight and evaluation activities. Including collection, analysis, and reporting of environmental information and findings, well installation and abandonment, task specific characterization, centralization of information, and critical review of remediation corrective actions.
- Initiate fate and transport modeling for X-701B contaminants and remediation technology installation.
- Installation of an In-Situ Chemical Oxidation with Recirculation system for the remediation of X-701B groundwater will be substantially completed. The system is expected to include: 1) groundwater extraction and treatment; 2) soil and groundwater analysis to support the design and operation, and evaluate and optimize the performance of the remediation system; and 3) waste from the remedial action will be containerized, characterized, packaged and shipped offsite for treatment/disposal.
- Operate groundwater treatment facilities.
- Complete X-622T facility replacement.
- Operate and maintain winterization system for environmental management facilities.

Metrics	FY 2003	FY 2004	FY 2005	Cumulative Complete FY 2005	Life-cycle Quantity	FY 2005 % Complete
Remediation Complete (Number of Release Sites).....	2	0	0	19	33	58%

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

- Environmental restoration project completed the installation of the approved Preferred Plan/Decision Document remedies for Quadrant I Release Sites: 0085: 5-Unit Area Groundwater Plume and 0002: X-749 Contaminated Materials Disposal Facility/X-120 Groundwater Plume (FY 2003).
- The scrap metal disposition accomplishments in FY 2003 are 1) size reduced 1,600 tons; 2) containerized 2,000 tons; 3) dispositioned 2,700 tons (FY 2003).

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2005 Congressional Budget**

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

- Dispose of approximately 3,800 tonnes of contaminated metal from the X-747 H scrap yard (FY 2003/September 2004).
- Operate the groundwater treatment system to control groundwater offsite migration (September 2004).
- Complete X-701B groundwater risk reduction and corrective measures implementation (September 2004).
- Initiate construction of X-701B Plume remediation technology, pending approved Decision Document (April 2005).
- Process approximately 42 million gallons of water through Groundwater Pump and Treat facilities (September 2005).

**PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$5,267K).....**

**2,572          606          605**

The scope of this PBS supports ongoing litigation expenses and record searches in support of litigation. These are ongoing level of effort tasks that require annual funding. The litigation funding supports the defense of numerous legal cases filed by plaintiffs alleging damages from or relating to the Portsmouth Gaseous Diffusion Plant. The record search task provides support to the legal effort as well as record searches for DOE and Department of Justice investigations/studies, Freedom of Information Act requests, and requests from both State and Federal regulatory and elected officials.

There is no clean end-state to these activities. DOE will be required to defend itself against current legal cases as well as cases that may be filed in the future. The record search activity will continue in support of litigation as well as miscellaneous request for information.

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

- Provide defense against legal claims filed against the Government's contractors.
- Record searches in support of legal claims, DOE and Department of Justice investigations/studies, Freedom of Information Act requests, and requests from both State and Federal regulatory and elected officials.

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)						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
---------	---------	---------

- Funding provided to defend against legal claims filed against the Government's contractors (FY 2003/FY 2004/September 2005).
- Funding provided for record searches in support of legal claims, DOE and Department of Justice investigations/studies, Freedom of Information Act requests, and requests from both State and Federal regulatory and elected officials (FY 2003/FY 2004/September 2005).

**PO-0104 / Portsmouth Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund) (life cycle estimate \$811K).....**

**272                      0                      298**

This PBS supports the Ohio Environmental Protection Agency responsible for oversight of EM cleanup activities at the Portsmouth Gaseous Diffusion Plant. These activities help to promote active involvement with the state in the EM planning and decision-making processes and the opportunity for meaningful involvement in managing the cleanup and closure of the site.

- Support to the Ohio Environmental Protection Agency.

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)						
<ul style="list-style-type: none"> <li>▪ Support to the Ohio Environmental Protection Agency associated with the Portsmouth Decontamination and Decommissioning and solid waste stabilization and disposition activities (FY 2003/September 2005)</li> </ul>						

**Total, Decontamination and Decommissioning Activities.....**                      **304,667    363,328    399,586**

## Explanation of Funding Changes

FY 2005 vs. FY 2004 (\$000)
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**OR-0040 / Nuclear Facility Decontamination and Decommissioning - East Tennessee Technology Park (Uranium Enrichment Decontamination and Decommissioning Fund)**

- The increase in funding reflects the increase and ramp up of activities associated with the cleanup and decontamination and decommissioning work in FY 2005 at the K-25/K-27 Buildings and Main Plant Area..... 49,986

**OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration**

- The increase in funding is attributable to a contribution to be paid into the Pension Fund..... 2,271

**OR-0103 / Oak Ridge Reservation Community & Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund)**

- Increased funding for Agreement in Principle with the State of Tennessee and support to the Site Specific Advisory Board under a Closure Plan..... 40

**PA-0013 / Solid Waste Stabilization and Disposition**

- Increase is due to increased disposition of legacy low-level waste and additional waste infrastructure costs..... 3,064

**PA-0040 / Nuclear Facility Decontamination and Decommissioning Paducah (Uranium Enrichment Decontamination and Decommissioning Fund)**

- The decrease is due to planned progress in FY 2004 on activities such as the completion of the north/south diversion ditch project; the dismantling and removal of all the piping and equipment from Sectors 1 and 9 on the inside and outside, respectively, in building C-410, and preparation of Sectors 2 and 3 for dismantling and piping equipment removal..... -35,483

**PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund)**

- Increase in funding reflects amount needed for litigation and record searches..... 6,460

**PA-0103 / Paducah Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund)**

- Decrease is attributable to decreased grant scope with the Commonwealth of Kentucky and activities by the Site Specific Advisory Board..... -1,443

FY 2005 vs. FY 2004 (\$000)
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**PO-0013 / Solid Waste Stabilization and Disposition**

- Increase is due to the initiation of disposition of stored converter shells and an increase in disposal volume. This funding supports the legacy low-level waste project completion in FY 2007..... 7,277

**PO-0040 / Nuclear Facility Decontamination and Decommissioning - Portsmouth (Uranium Enrichment Decontamination and Decommissioning Fund)**

- Increase to support planned completion of design activities, installation and startup testing of the In-Situ Chemical Oxidation and Recirculation system..... 3,789

**PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund)**

- No significant change..... -1

**PO-0104 / Portsmouth Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund)**

- Increase to continue Ohio Environmental Protection Agency support for oversight and coordination of the EM cleanup activities..... 298

<b>Total Funding Change, Decontamination and Decommissioning Activities.....</b>	<b>36,258</b>
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# Uranium/Thorium Reimbursement

## Funding Schedule by Activity

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
HQ-UR-0100/Reimbursements to Uranium/Thorium Licensees.....	15,896	50,699	100,614	49,915	98.5%
<b>Total, Uranium/Thorium Reimbursement.....</b>	<b>15,896</b>	<b>50,699</b>	<b>100,614</b>	<b>49,915</b>	<b>98.5%</b>

### Description

The Uranium/Thorium Activities reimburse licensees (subject to a site specific limit) for the cost of environmental cleanup of uranium and thorium processing sites attributable to materials sold to the Government.

### Benefits

This account provides funding for reimbursement of licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites.

As the environmental cleanup at these sites progresses, the risk and hazard to human health and the environment is greatly reduced.

### Funding by Site

(dollars in thousands)

	FY 2003	FY 2004	FY 2005	\$ Change	% Change
Headquarters					
Headquarters.....	15,896	50,699	100,614	49,915	98.5%
<b>Total, Uranium/Thorium Reimbursement.....</b>	<b>15,896</b>	<b>50,699</b>	<b>100,614</b>	<b>49,915</b>	<b>98.5%</b>

## Detailed Justification

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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**HQ-UR-0100 / Reimbursement to Uranium/Thorium Licensees (life-cycle estimate \$424,021K)..... 15,896 50,699 100,614**

This PBS scope reimburses the fourteen active uranium and thorium processing site licensees for a portion (the Federal-related byproduct material portion determined to be at each site) of their costs of cleanup pursuant to Title X of the Energy Policy Act of 1992 and 10 CFR Part 765. The maximum reimbursement to the individual uranium licensees is limited to \$6.25 per dry short ton of Federal-related by product material; and total reimbursement to all thirteen uranium licensees and the thorium licensee is limited to \$350 million and \$365 million respectively (Congress has increased the original reimbursement ceiling four times since the original Act was enacted in 1992). These monetary ceilings are adjusted annually for inflation. Funding for the reimbursements is appropriated from the Uranium Enrichment Decontamination and Decommissioning Fund. DOE is implementing the reimbursement program using Federal staff to review and process claims. The Defense Contract Audit Agency assists DOE in the auditing of claims. Reimbursements have been completed for two sites (ARCO-Bluewater mill site and the Moab mill site) with no further Title X liability. In addition, the Tennessee Valley Authority has completed remedial action at its Edgemont mill site but is eligible for reimbursement of some excess remedial action costs under Title X. The remaining eleven licensees anticipate completing remedial actions by 2013. Total estimated future liability, including excess claims, for the program is about \$256 million, which is within the remaining authority. Through FY 2003, DOE has reimbursed the thirteen uranium licensees \$214.5 million and the thorium licensee \$170.5 million, for an aggregate reimbursement amount of \$385 million.

- In FY 2005, complete audit of claims received in FY 2004 and issue prorated reimbursement payments by May 1, 2005, to uranium and thorium licensees on newly approved claim amounts and prior years' unpaid backlog claim balances.

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)						
<ul style="list-style-type: none"> <li>▪ Issued reimbursements to licensees (\$15.896 million) by the regulatory deadline (FY 2003).</li> </ul>						

(dollars in thousands)

FY 2003	FY 2004	FY 2005
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- Annually reimburse uranium and thorium licensees for a portion (the Federal-related byproduct material at each site) of their costs of cleanup in accordance with Title X of the Energy Policy Act of 1992 and 10 Code of Federal Regulations Part 765 (September 2004/September 2005).

<b>Total, Uranium/Thorium Reimbursement.....</b>	<b>15,896</b>	<b>50,699</b>	<b>100,614</b>
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### Explanation of Funding Changes

	FY 2005 vs. FY 2004 (\$000)
<b>HQ-UR-0100 / Reimbursements to Uranium/Thorium Licensees.....</b>	
▪ Increase to pay backlog claim balances.....	49,915
<b>Total Funding Change, Uranium/Thorium Activities.....</b>	<b>49,915</b>

**Title X of the Energy Policy Act of 1992: Uranium/Thorium Reimbursement Program  
Status of Payments through Fiscal Year 2003 and Estimated Future Payments**

Licensees

Total Payments FY 1994- FY 2003	Approved but Unpaid Claim Balances After FY 2003 Payment	Estimated Payments: FY 2004 through End of Program	Estimated Unpaid Uranium Claim Balances in Excess of Dry Short Ton Ceilings at End of Program
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**Uranium**

American Nuclear Corp. Site

American Nuclear Corporation.....	820	0	0	0
State of Wyoming.....	1,224	0	758	0
Atlantic Richfield Company <sup>a</sup> .....	32,306	0	0	0
Atlas Corporation/Moab Mill Reclamation Trust <sup>a</sup> .....	9,694	0	0	0
Cotter Corporation.....	2,463	841	729	1,580
Dawn Mining Company.....	3,456	396	7,215	0
Homestake Mining Company.....	37,234	1,429	18,497	0
Pathfinder Mines Corporation.....	8,588	1,235	2,228	0
Petrotomics Company.....	2,644	51	189	0
Quivira Mining Company.....	15,422	911	7,817	0
Tennessee Valley Authority.....	12,704	12,426	3,753	8,672
Umetco Minerals Corporation-CO.....	44,571	10,319	13,168	14,398
Umetco Minerals Corporation-WY.....	15,006	2,756	6,293	2,696
Western Nuclear, Incorporated.....	28,348	541	3,053	0
Subtotal, Uranium.....	<u>214,480</u>	<u>30,905</u>	<u>63,698</u>	<u>27,346</u>

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<sup>a</sup> Reimbursements have been completed to the Atlantic Richfield Company and the licensees of the Moab site.

**Thorium**

Kerr-McGee Chemical Corp.....	170,538	71,615	164,932	0
Subtotal, Thorium.....	170,538	71,615	164,932	0
Total, Uranium and Thorium.....	385,018	102,520	228,630 <sup>b</sup>	27,346 <sup>c</sup>

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<sup>b</sup> These amounts are the totals of approved, unpaid claims within the uranium dry short ton ceiling and estimates of future claims provided voluntarily by licensees in late 2003.

<sup>c</sup> These amounts are estimates of approved claims that would be in excess of the uranium dry short ton ceiling near the end of the program. Under Sec. 1001. (b) (2) (E) of the Energy Policy Act of 1992, the Secretary may allow reimbursement of these claims if there is an excess of uranium reimbursement authority.



## PBS Subprojects Summary

(dollars in thousands)

Total Estimated Cost (TEC)	Prior-Year Appropriations	FY 2003	FY 2004	FY 2005	Unappropriated Balance
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### Defense Site Acceleration Completion

#### 2012 Accelerated Completions

Advanced Mixed Waste Treatment Project, ID, INEEL-0013.....	632,739	413,513	104,317	112,625	0	0
Exhaust Upgrades, 221-H, SR, SR-0011B.....	TBD	0	0	685	0	TBD
<b>Total, 2012 Accelerated Completions...</b>	<b>N/A</b>	<b>413,513</b>	<b>104,317</b>	<b>113,310</b>	<b>0</b>	<b>N/A</b>

#### 2035 Accelerated Completions

Initial Tank Retrieval Systems, RP, ORP-0014.....	212,453	58,931	20,506	18,680	15,960	98,376
Tank Farm Restoration and Safe Operations, RP, ORP-0014.....	188,645	131,257	29,891	21,497	6,000	0
A-8 Electrical Substation Upgrade, RL, RL-0040.....	13,786	0	400	983	1,064	11,339
High-Level Waste Removal from Filled Waste Tanks, SR, SR-0014C..	352,271	325,086	14,558	12,627	0	0
Saltstone Vault #2, SR, SR-0014C...	18,170	0	2,893	10,081	5,196	0
EM Waste Management Facility, OR, OR-0041.....	133,562	45,550	0	204	152	98,387
<b>Total, 2035 Accelerated Completions...</b>	<b>N/A</b>	<b>560,824</b>	<b>68,248</b>	<b>64,072</b>	<b>28,372</b>	<b>N/A</b>

### Defense Environmental Services

#### Non-Closure Environmental Services

Spent Nuclear Fuel Dry Storage, ID, HQ-SNF-0012Y.....	222,970	126,409	53,052	43,162	0	0
<b>Total, Non-Closure Environmental Activities.....</b>	<b>N/A</b>	<b>126,409</b>	<b>53,052</b>	<b>43,162</b>	<b>0</b>	<b>N/A</b>

### Uranium Enrichment D&D Fund

#### Uranium Enrichment D&D Fund

ETTP Three-Building D&D and Recycle Project, OR, OR-0040.....	350,500	245,635	70,259	34,421	0	0
<b>Total, Uranium Enrichment D&amp;D Fund..</b>	<b>N/A</b>	<b>245,635</b>	<b>70,259</b>	<b>34,421</b>	<b>0</b>	<b>N/A</b>





# Initial Tank Retrieval Systems

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

## Subproject Detail, Hanford Site PBS ORP-0014

### 1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2005 Budget Request .....	4Q 1994	4Q 2007	3Q 2000	1Q 2013	212,453	250,925

### 2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Prior Years	58,931	58,931	45,370
2003	20,506	20,506	20,303
2004	18,680	18,680	14,632
2005	15,960	15,960	16,825
2006	16,523	16,523	16,523
2007	25,720	25,720	25,720
2008	18,650	18,650	18,650
2009	10,645	10,645	10,645
2010	13,860	13,860	13,860
2011	12,978	12,978	12,978
2012	0	0	11,617
2013	0	0	3,192
2014	0	0	2,138

### 3. Subproject Description, Justification and Scope

Reduction to the total cost is a result of the conversion of this project from line item control to operating expense funding in FY2004, eliminating General and Site Services overhead costs.

The selected feed and staging tanks contain both supernatant liquids and settled solids, most of which must be mixed before transfer for processing or storage. Initial tank design did not anticipate transfers of settled solids, but consolidation and concentration of wastes stored in these tanks as well as feed specifications supporting vitrification processing have made mixing and settled solids transfer systems necessary. The consolidation of wastes stored in these double-shell tanks resulted from waste removal from older design and leaking single shell tanks, thereby relieving threats to the environment. Concentration of wastes has avoided the need for construction of additional tanks.

The project will provide mixing and pumping systems for the retrieval of radioactive wastes from ten double-shell tanks at Hanford and the waste transfer system between the existing tank farms and the Waste Treatment and Immobilization Plant. The typical retrieval system for the selected tanks consists of 300 horsepower mixer pumps to mobilize solids in the tank and a transfer system for removal of the tank contents. Tank internal components, such as thermocouple trees, will be replaced with higher strength equipment to withstand the forces induced by the mixer pumps. Monitoring and control systems will be installed to measure performance of the mixer pumps and tank operations. Remote decontamination equipment and disposable containment equipment will be utilized for removal and disposal of tank components. Waste transfer components include upgrades to valve pits (including new jumpers) and waste transfer lines.

The FY 2005 budget request will be used for detailed design on two retrieval systems; long lead procurement for two retrieval systems; on-going construction on one retrieval system; initiation of construction on one retrieval system; and, performing associated project management.

This project has met the intent of DOE Order 413.3 requirements for Critical Decisions 0, 1, 2, and 3.

The CH2M HILL Hanford Group will manage the project for the Office of River Protection. A local architect-engineer will perform design as well as title III engineering services during construction. Long-lead procurements and construction contracts will be competitively bid. Fixed-price contracts will be utilized to the maximum extent possible.

#### 4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimates	Previous Estimate
Design Phase		
Preliminary and Final Design Costs.....	28,182	28,540
Design Management Costs (2.8 percent of Total Estimated Cost).....	6,020	5,700
Project Management Costs (3.0 percent of Total Estimated Cost).....	6,360	6,200
Subtotal, Design Phase.....	40,562	40,440
Execution Phase		
Buildings and improvements to land.....	2,218	3,080
Specialized Equipment.....	88,090	96,140
Other (major utilities/comp items, specialized facilities, etc.).....	13,750	12,390
Removal costs less salvage.....	14,470	14,620
Inspection, Design, and Project Liaison, Testing, Checkout and Acceptance.....	20,970	18,800
Project Management.....	11,920	21,130
Construction Management.....	18,880	13,600
Subtotal, Execution Phase.....	170,298	179,760
Contingencies		
Design Phase (0.1 percent of Total Estimated Cost).....	238	1,000
Execution Phase (0.6 percent of Total Estimated Cost).....	1,355	15,900
Subtotal, Contingencies (0.7 percent of Total Estimated Cost).....	1,593	16,900
Total, Line-Item Cost (Total Estimated Cost).....	212,453	237,100
Other Project Costs		
Conceptual Design.....	1,595	1,595
NEPA.....	10	10
Other Project Costs.....	36,867	31,195
Subtotal, Other Project Costs.....	38,472	32,800
Total, Project Cost.....	250,925	269,900



# Tank Farm Restoration and Safe Operations

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

## Subproject Detail, Hanford Site PBS ORP-0014

### 1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2005 Budget Request .....	2Q 1997	4Q 2003	2Q 1998	3Q 2005	188,645	248,920

### 2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Prior Years	131,257	131,257	127,596
2003	29,891	29,891	28,771
2004	21,497	21,497	26,278
2005	6,000	6,000	6,000

### 3. Subproject Description, Justification and Scope

The appropriations, obligations and costs have been revised to reflect baseline incorporation of project efficiencies and scope reductions. This change reduces the Total Estimated Cost from \$216,960K to \$188,645K and the Total Project Cost from \$285,260K to \$248,920K. The baseline schedule and budget continues to achieve the TPA Milestone M-43-00 by the required due date of June 2005.

This project installs waste retrieval piping systems and upgrades ancillary equipment in double shell tank farms. This supports the Department's goal to retrieve and stabilize radioactive waste stored in the tanks at Hanford by 2035.

The scope of this project includes upgrades for selected tank farm instrumentation control, tank ventilation, waste transfer, and electrical systems in order to restore these systems to an acceptable design basis. This project is integrated with other planned/ongoing upgrades, waste retrieval, and major maintenance activities to ensure that the combined upgrades are performed in a cost-effective manner and that they will adequately support the overall River Protection Project mission.

During Phase I, the project will provide major upgrades to the waste transfer systems, the master pump shutdown system, and the leak detection system, including transfer piping systems between tank farms. During Phase II, the project will provide upgrades to ventilation and electrical systems and additional transfer systems.

For the Waste Transfer system, new valve manifold assemblies will be provided in selected pits used for the double-shell tank waste transfer operations. In addition, the project will install three new transfer routes (pipe-in-pipe configuration, equipped with appropriate leak detection and cathodic protection capabilities); one bypassing the A/A valve pit (200 East Area), and two bypassing the 244-S double-contained receiver tank (200 West Area). Existing pits used for the double-shell tank waste transfer operations will have special protective coating applied to the walls, floor, and underside of cover blocks to facilitate decontamination and support compliance with regulatory requirements for secondary containment. New transfer systems will be fully compliant with Resource Conservation and Recovery Act requirements and with Washington State regulations governing hazardous waste handling.

The project will upgrade the master pump shutdown system and associated alarms. All new instrumentation/control equipment will be capable of providing remote readout and/or alarm at selected manned facilities, resulting in a significant reduction in the amount of manual field data collection in the double-shell tank farms.

The project will replace the existing primary ventilation systems for Tank Farms 241-AN, -AP, and -AW with new, high-capacity exhaust filtration systems. A new exhaust stack, along with stack effluent monitoring and ventilation control equipment, will be included in these upgrades. New seal pots and associated condensate piping will be installed to support the collection of condensate from the new ventilation systems and return it to the primary tank system.

The existing electrical power supplies for the equipment supporting the double-shell tanks primary/annulus ventilation systems will be upgraded and/or replaced to provide backup power capabilities.

The FY 2005 Appropriation will be used to:

- # Complete construction of AP Phase 2 upgrades;

The CH2M HILL Hanford Group will manage the project for the Office of River protection and the onsite engineer-constructor will perform design and construction. Fixed-price contracts will be utilized to the maximum extent possible.

#### 4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimates	Previous Estimate
Design Phase		
Preliminary and Final Design Costs (9.2 percent of Total Estimated Cost).....	17,300	30,286
Design Management Costs (2.7 percent of Total Estimated Cost).....	5,050	5,050
Subtotal, Design Phase.....	22,350	35,336
Execution Phase		
Buildings and improvements to land.....	50,459	45,250
Specialized Equipment.....	24,291	21,784
Other (major utilities/comp items, specialized facilities, etc.).....	7,150	7,150
Removal costs less salvage.....	4,784	4,784
Inspection, Design, and Project Liaison, Testing, Checkout and Acceptance.....	35,885	25,799
Project Management.....	28,395	23,922
Construction Management.....	15,331	15,331
Subtotal, Execution Phase.....	166,295	144,020
Contingencies		
Design Phase (0.0 percent of Total Estimated Cost).....	0	1,842
Construction Phase (0.0 percent of Total Estimated Cost).....	0	35,762
Subtotal, Contingencies (0.0 percent of Total Estimated Cost).....	0	37,604
Total, Line-Item Cost (Total Estimated Cost).....	188,645	216,960
Other Project Costs		
Conceptual Design.....	13,995	13,324
NEPA.....	12	12
Other Project Costs.....	46,268	54,964
Subtotal, Other Project Costs.....	60,275	68,300
Total, Project Cost.....	248,920	285,260





# A-8 Electrical Substation Upgrade

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

## Subproject Detail, Richland PBS RL-0040

### 1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2005 Budget Request .....	1Q 2005	4Q 2005	1Q 2005	4Q 2007	13,786	14,801

### 2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2003	400	400	400
2004	983	983	983
2005	1,064	1,064	1,064
2006	7,709	7,709	7,709
2007	3,630	3,630	3,630

### 3. Subproject Description, Justification and Scope

As part of the Hanford Site Clean-up mission, the U.S. Department of Energy (DOE) has embarked upon a course of actions to update and maintain Hanford Site core infrastructure. The infrastructure includes utilities such as water, sewer, electrical, roads, telecommunication and facilities. Such infrastructure systems must be maintained to provide long-term safe and reliable support for the sites cleanup mission.

The Hanford site mission has evolved from one of defense production to environmental restoration. Present site cleanup activities are scheduled through FY 2035. Hanford site core infrastructure systems were originally installed with an expected life of 20 years. Most of these systems have been in service for over 55 years, well beyond their expected useful life. Deterioration and system failures are becoming more frequent and more significant.

This project originally provided for the upgrade of the A-8 electrical substation in the southern portion of the Hanford Central Plateau. Since the FY 2004 Congressional Budget submission, however, the following events have added significant scope and cost to this project. An engineering analysis determined that electrical power to the Hanford outer areas from Substation A-8 would be non-functional. As a result, additional scope is being added to refurbish Substation A-7 at northern end of the site (in the 100 K-West area). In addition, an engineering analysis determined upgrades to the existing centralized electrical dispatch center at the A-8 substation, rather than transferring those functions elsewhere, result in life cycle cost savings and efficiencies in electrical utilities day-to-day operation. Finally, recent work force reductions in electrical utilities staff caused a modification from the seven-day-a-week, twenty-four hours a day (365 day) operation to a 40-hour per week operation. This change confirms the value of the A-8 centralized electrical dispatch upgrades. The result of these changes causes an increase in the project design and execution, but realizes reductions in overall cost because of the efficiency of combining design, bid, award, total construction, and management.

The A-7 substation, located north of the 100-KW Area, supplies electrical power to vital cleanup facilities such as the 100-B and 100-D Area Water Plants, Spent Nuclear Fuel Project and N-Reactor support facilities. The upgrades include replacement of the 230 kV transformers, 230 kV oil circuit breakers and supporting electrical equipment in the substation. Because of decreased loads in the 100 Area, the transformers will be sized to match existing loads.

The A-8 substation, located in the southern, 600 Area of the site, consists of two 50 MVA (230-13.8 kV) transformers, three 230 kV Oil Circuit Breakers, two 13.8 kV grounding transformers and supporting switchyard equipment. This substation serves as the Hanford Site electrical dispatch center and houses the Supervisory Control and Data Acquisition System, which monitors status and alarms, and provides remote control to allow the dispatcher to change electrical routings through three primary sub-stations (two in the 100/200 Areas and one in the 300 Area) and two switching stations in the 300 Area. The upgrade to the A-8 Substation will modernize 33 to 46 year old equipment and allow for the downsizing of the 50 MVA transformers, which are significantly underutilized.

The FY 2005 funding will continue design and engineering activities.

A cost-plus contract will be used for Architect Engineering services for design and engineering and for construction management services. A firm-fixed-price contract will be used to acquire construction activities.

#### 4. Details of Cost Estimate

	Estimates	Estimate
Design Phase		
Preliminary and Final Design Costs .....	856	288
Design Management Costs .....	0	0
Subtotal, Design Phase.....	856	288
Execution Phase		
Buildings and improvements to land.....	1,055	929
Specialized Equipment.....	9,415	4,304
Inspection, Design, and Project Liaison, Testing, Checkout and Acceptance.....	682	807
Project Management.....	736	269
Construction Management.....	617	613
Subtotal, Execution Phase.....	12,505	6,922
Contingencies		
Design Phase (0.18 percent of Total Estimated Cost).....	25	8
Execution Phase (2.90 percent of Total Estimated Cost).....	400	812
Subtotal, Contingencies (3.08 percent of Total Estimated Cost).....	425	820
Total, Line-Item Cost (Total Estimated Cost).....	13,786	8,030
Other Project Costs		
Conceptual Design.....	400	0
NEPA.....	10	10
Other Project Costs.....	605	271
Subtotal, Other Project Costs.....	1,015	281
Total, Project Cost.....	14,801	8,311



# Saltstone Vault #2

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

## Subproject Detail, Savannah River PBS SR-0014C

### 1. Construction Schedule

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 2005 Budget Request .....	1Q 2003	4Q 2003	1Q 2004	2Q 2005	18,170	19,600

### 2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2003	2,893	2,893	2,893
2004	10,081	10,081	10,081
2005	2,598	2,598	2,598
Outyears	2,598	2,598	2,598

### 3. Subproject Description, Justification and Scope

This initiative supports the expedited processing of the 37 million gallons of high level waste currently stored at the Savannah River Site by 2019, which is 8 years earlier than scheduled. The need for this vault by mid FY 2005 is based on a new strategy of emptying existing waste storage tanks for ultimate tank closure. This strategy segregates low curie salt waste from other salt waste. By separating the waste, the low curie salt can be disposed of economically in vaults and less will be processed through the Defense Waste Processing Facility and require disposal in a permanent federal facility.

Existing vaults are permitted with the South Carolina Department of Health, Education and Control and accelerating the processing of low level waste will fill the remaining space in FY 2005. Two waste streams feed the vaults, one is from the high level waste storage tanks and the other is the Effluent Treatment Facility concentrate. The treatment at the Saltstone Facility prior to going into the vault includes mixing the waste streams with cement, flyash and slag. The resulting grout is pumped into the reinforced concrete cell. The grout cures into a solidified waste form called saltstone, which immobilizes and disposes of the salt solution waste containing low levels of radioactivity.

This project will improve the design of vault #2 based on experience from building and operating vaults #1 and 4. The current plan for vault #2 is to use a 200' x 200' x 35' open cell design. This new design will incorporate new cost-saving techniques, new regulatory requirements from the South Carolina Department of Health and Environmental Control, and added worker protection features to accommodate low curie salt.

Specific scopes of work within this project may be accomplished by fixed-price contracts awarded on the basis of competitive bidding rather than using direct hire construction forces.

#### 4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimates	Previous Estimate
Design Phase		
Preliminary and Final Design Costs (Design, Drawings, and Specifications).....	2,910	2,910
Design Management Costs (0 percent of Total Estimated Cost).....	0	0
Subtotal, Design Phase.....	2,910	2,910
Execution Phase		
Execution Phase.....	10,459	10,459
Construction Management Cost.....	582	582
Project Management.....	1,328	1,328
Subtotal, Execution Phase.....	12,369	12,369
Contingencies		
Design Phase.....	364	364
Execution Phase.....	2,527	2,546
Subtotal, Contingencies.....	2,891	2,910
Total, Line-Item Cost (Total Estimated Cost).....	18,170	18,189
Other Project Costs		
Conceptual Design.....	0	0
NEPA.....	0	0
Other Project Costs.....	1,430	1,430
Subtotal, Other Project Costs.....	1,430	1,430
Total. Project Cost.....	19,600	19,619

# **Environmental Management Waste Management Disposal, Oak Ridge, Tennessee (OR-0041)**

(Changes from FY 2003 Congressional Notification are denoted with a vertical line [ | ] in the left margin.)

## **Significant Changes**

- # This updated Fiscal Year 2005 budget request reflects a decrease in the TEC of \$14,902,000 to \$144,293,000 and an increase in the TPC of \$3,669,000 to \$311,951,000. The Waste Generation Forecast used for planning the outyear construction and operation of the Facility continues to fluctuate as the Oak Ridge Reservation (ORR) cleanup continues to mature. The most recent Waste Generation Forecast used to develop this updated Fiscal Year 2005 budget request reflects the need to reduce the capacity of the facility from 2,500,000 cubic yards to 2,200,000 cubic yards. This forecast supports the baseline that was incorporated into the ORR Accelerated Closure Contract signed with Bechtel Jacobs Company LLC in October 2003. The schedule for filling the facility and placing the final cap is now forecast to extend from 2011 to 2015 to accommodate the cleanup schedule for the Environmental Management (EM) program remaining after the accelerated closure projects are completed.

## 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		
<b>FY 1998 Budget Request</b> (A-E and technical design only) .....	N/A	N/A	FY 1999	FY 2001	(\$000) 85,000	(\$000) 170,000
<b>FY 1999 Budget Request</b> (Preliminary Estimate).....	"	"	"	"	85,000	185,000
<b>FY 2000 Budget Request</b> (Pre-Award Estimate).....	"	"	FY 2000	"	58,500	225,880
<b>Congressional Notification</b> (May 2000).....						
# Base facility (400,000 cy).....	FY 2000	FY 2001	FY 2001	FY 2001	19,500	65,505
# Upgrades for Classified Facility	"	"	"	"	1,300	5,304
<b>Total FY 2000 Congressional Notification</b> .....					20,800	70,809
<b>Congressional Notification</b> (December 2000)						
# Base facility (400,000 cy).....	FY 2000	FY 2001	FY 2001	FY 2001	20,800	70,809
# Provision for Contract Changes .	"	"	"	"	3,330	3,330
Total FY 2000 Budget Update.....					<u>24,130</u>	<u>74,139</u>
<b>FY 2002 Budget Request</b>						
# Base facility (400,000 cy).....	FY 2000	FY 2001	FY 2001	FY 2001	24,130	74,139
# Expanded facility (400,000 cy to 2,000,000 cy).....	"	"	"	"	83,097	160,799
<b>Total FY 2002 Budget Request</b> .....					<u>107,227</u>	<u>234,938</u>
<b>Congressional Notification</b> (July 2001)						
# Base facility (400,000 cy).....	FY 2000	FY 2001	FY 2001	FY 2002	24,130	74,139
# Provision or Contract Changes ..	"	"	FY 2004	FY 2005	1,691	1,691
# Expanded facility (400,000 to 2,000,000 cy).....	"	"	"	"	83,097	160,799
<b>Total FY 2002 Budget Update</b> .....					<u>108,918</u>	<u>236,629</u>



Fiscal Quarter						
A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	Total Estimated Cost (\$000)		Total Project Cost (\$000)

Privatized      Non-Priv

**Congressional Notification (FY 2003)**

# Base facility (400,000 cy).....	FY 2000	FY 2001	FY 2001	FY 2002	24,044	0	67,253
# Expanded facility (400,000 cy to 1,200,000 cy).....	FY 2003	FY 2004	FY 2004	FY 2005	21,506	0	69,735
# Expanded facility (1,200,000 cy to 2,500,000 cy).....					0	113,645	171,294
<b>Total FY 2003 Budget Request.....</b>					<b>45,550</b>	<b>113,645</b>	<b>308,282</b>

**FY 2005 Budget Request**

# Base facility (400,000 cy).....	FY 2000	FY 2001	FY 2001	FY 2002	24,044	0	67,253
# Expanded facility (400,000 cy to 1,200,000 cy).....	FY 2003	FY 2004	FY 2004	FY 2005	21,506	0	69,735
# Expanded facility (1,200,000 cy to 2,200,000 cy).....	FY 2005	FY 2005	FY 2005	FY 2008	0	30,462	98,537
Final Cap of Facility.....	FY 2014	FY 2014	FY 2014	FY 2015	0	68,281	76,426
<b>Total FY 2005 Budget Update.....</b>					<b>45,550</b>	<b>98,743</b>	<b>311,951</b>

## 2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Defense Privatization			
1997	0	0	0
1998	5,000	0	0
1999	14,500	0	0
2000	0	14,239	0
2001	0	5,261	0
2002	26,050	7,000	20,645
2003	0	19,050	3,399
2004	0	0	0
2005	0	0	21,506
Total	45,550	45,550	45,550

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Defense Site Acceleration Completion Account			
2004	204	204	204
2005	152	152	152
2006	9,100	9,100	9,100
2007	12,676	12,676	12,676
2008	8,330	8,330	8,330
2009	0	0	0
Outyears	68,281	68,281	68,281
Total	98,743	98,743	98,743

## 3. Project Description, Justification and Scope

The EMWMF consists of a disposal cell with ancillary facilities to support operations and an area for the potential development for future treatment, storage, and disposal facilities. The disposal cell currently has a capacity of 400,000 cubic yards. It is an above-grade earthen structure that is compliant with the Resource Conservation and Recovery Act (RCRA). The project is being implemented under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and is currently authorized to receive wastes only from CERCLA remediation projects. The subcontract to add 800,000 cubic yards of capacity was awarded on October 20, 2003. Maximum site capacity will be determined in late FY2004 when the design for the 800,000 cubic yard expansion is issued. Based on projected waste volumes and cell design assumptions, the disposal cell is estimated to require 60 to 70 acres, with a total EMWMF footprint of 100 to 120 acres, including support facilities.

Support facilities required for initial operations included those needed for storage of cell leachate and contact

**Defense Site Acceleration Completion/2035 Accelerated  
Completions/Environmental Management Waste Management  
Disposal, Oak Ridge, Tennessee**

**FY 2005 Congressional Budget**

water, pending off-site disposal. An area reserved for future potential expansion would accommodate future facility needs not fully defined at this time. For example, while waste generators will be responsible for treatment to satisfy the RCRA land disposal regulations and the facility's waste acceptance criteria, treatment facilities may be located at the EMWMF in the future to enhance overall efficiency of operations.

The EMWMF offers several benefits to the ORR Accelerated Cleanup. On-site disposal capacity will streamline and expedite cleanup activities. Large volumes of waste from the cleanup of the ORR would make off-site transportation and disposal costs significantly higher than on-site disposal costs. Removal of additional waste sources will reduce the total risk at the ORR. Consolidating waste management and disposal activities, as opposed to capping multiple, discrete waste units in place with continued maintenance and institutional controls, will reduce the future mortgage for the ORR.

This budget update reflects a change in the accomplishment and funding of this facility. The capacity of the facility is being forecast at 2,200,000 cubic yards. Privatization funding has been appropriated for the initial 400,000 cubic yard facility and the first 800,000 cubic yard expansion. This budget request and all future requests for the remaining 1,000,000 cubic yard expansion will be requested as an expense funded project appropriated within the Defense Site Acceleration Completion account. A final cap will be placed over the entire closed facility at the conclusion of facility operations rather than separate caps as each increment of the disposal cell reaches capacity. The operations scope for the facility includes installation of an interim cap as each increment is filled up. Since the permanent cap for the closed facility will be constructed at the end of the expansion it will be funded and executed under a separate contract.

A total of \$167,658,000 from the Defense Site Acceleration Completion account will provide for the operation of the EMWMF, including the actual disposal of the waste into the EMWMF, and for support of the project by the closure contractor.

#### 4. Details of Cost Estimate

	Current Estimates	Previous Estimate
Design Phase		
Design for the Environmental Management/Waste Management Disposal Facility.....	1,800	1,800
Subtotal, Design Phase (1 percent of Total Estimated Cost).....	1,800	1,800
Execution Phase		
Phase 1 - Construction costs for the initial 400,000 cy EMWMF (percent of TEC).....	22,244	21,013
Phase 2 - Expansion from 400,000 to 1,200,000 cubic yards (percent of TEC).....	18,446	15,295
Contract Changes on Expansion (percent of Total Estimated Cost).....	3,060	3,060
Phase 3 - Expansion from 1,200,000 to 2,500,000 cubic yards (previous estimate).....	0	94,704
Contract Changes on Expansion (previous estimate).....	0	18,941
Phase 3 - Expansion from 1,200,000 to 2,200,000 cubic yards (percent of TEC).....	30,462	0
Contract Changes on Expansion.....	Incl in Ph 3	0
Final Cap of Facility (40 percent of Total Estimated Cost).....	68,281	0
Contract Changes on Final Cap.....	Incl in Ph 3	0
Total, Execution Phase (97 percent of Total Estimated Cost).....	142,493	153,013
Privatization Interest on Design/Construction/Closure.....	Incl in Ph 3	4,382
Total, Line-Item Costs (Total Estimated Cost).....	144,293	159,195

In general, the EMWMF project cost estimate is rated at a high level of confidence. This rating is based primarily on the fact that the costs are derived from fixed-price contracts that have been negotiated and put into place. Additionally project baselines have been subjected to multiple reviews from both internal and external entities to determine the reasonableness of project estimates. All reviews have indicated that the project scope is well defined, the required technology is based on existing industrial standards, and the labor and material estimates are consistent with current standards. Finally, the EMWMF cost data compares favorably with cost data from similar facilities across the DOE complex.

#### 5. Method of Performance

The DOE developed the approach to construct the EMWMF without impacting the remediation it is intended to support. The Department chose privatization of the facility (for the first 1,200,000 cubic yards of disposal capacity) by purchasing design and construction services from the private sector. For the first 400,000 cubic yards, the private sector vendor who did the design and construction is also providing the disposal services.

The first increment of facility expansion (Phase 2) of 800,000 cubic yards has commenced with the award on October 2003 of the privatized subcontract for design and construction of the expansion. Subsequent incremental expansions (from 1,200,000 cubic yards up to 2,200,000 cubic yards) and the cap for the entire facility will be constructed with Defense Site Acceleration Completion account funding. Facility construction utilizes several separate and distinct contracts: Phase 1 – base facility 400,000 cubic yards and Phase 2 first

800,000 cubic yard expansion increment were/are separate privatization contracts. Phase 3 – incremental expansion from 1,200,000 cubic yards up to 2,200,000 cubic yards; and Phase 4 - cap for entire facility will be separate non-privatization contracts).

Several external independent reviews of the EMWMF project have been completed. Detailed regulatory reviews were completed by the State of Tennessee and U.S. Environmental Protection Agency Region 4 in the areas of protection of human health and the environment, cost effectiveness, and compliance. These reviews were conducted under the CERCLA and culminated in the issuance of the EMWMF ROD in November 1999, which formally documented the decision to build an on-site disposal facility at Oak Ridge. In addition, the EMWMF was also the subject of a detailed external independent review conducted by the Office of Field Integration, (formerly the Office of Field Management). The Office of Field Integration conducted a detailed review of this project with a team of technical, regulatory, and cost estimating subject matter experts. Results of the review were presented in a report submitted to Congress in May 1999 and indicated that the project is well defined, technically sound, and the planning, cost estimating, and management procedures being used are consistent with “industry best standard practices.” The primary outstanding item identified and tracked in the Corrective Action Plan, securing regulatory approval of the final design, occurred in March 2001. Finally, the Corps of Engineers validated the lifecycle baseline for the project in February 2003.

The requirements of DOE Order 413.3, “Program and Project Management for the Acquisition of Capital Assets,” will be applied using the graded approach described in the Order. Critical Decision 4 “start of operations” was obtained in May 2002 prior to commencing facility operations.

## 6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	FY 2005	Outyears	Total
Project Cost						
Design Phase						
Payments to Vendors (400K facility) <b>PRIV. Funds</b> .....	20,645	3,399	0	0	0	24,044
Payments to Vendors (800K facility) <b>PRIV. Funds</b> .....	0	0	0	21,506	0	21,506
Payments to Vendors (1,600K facility) <b>NON-PRIV. Funds</b> .....	0	0	204	152	30,106	30,462
Payments to Vendors (final cap) <b>NON-PRIV. Funds</b> ...	0	0	0	0	68,281	68,281
Total, line item cost (Federal and Non-Federal).....	20,645	3,399	204	21,658	98,387	144,293
Other Project Costs						
Payments to Vendors (400K facility operations).....	7,735	6,866	7,113	4,036	0	25,750
Payments to Vendors (800K facility operations).....	0	0	0	4,036	18,938	22,974
Payments to Vendors (1,600K facility operations)	0	0	0	0	53,413	53,413
Facility Support						
Support/Other .....	22,704	3,363	5,004	3,612	16,838	51,521
Perpetual Care .....	3,000	1,000	1,000	1,000	8,000	14,000
Total Other Project Costs .....	33,439	11,229	13,117	12,684	97,189	167,658
Total Project Costs .....	54,084	14,628	13,321	34,342	195,576	311,951

## 7. Related Annual Funding Requirements

(dollars in thousands)

Current	Previous
Estimates	Estimate

Given the nature of the privatization contract, these operating costs are shown as part of the Total Estimated Cost.....	0	0
Total related annual funding.....	0	0

# General Provisions

## Proposed Appropriation Language

*SEC. 301. (a) None of the funds appropriated by this Act may be used to award a management and operating contract, or award a significant extension or expansion to an existing management and operating contract, unless such contract is awarded using competitive procedures or the Secretary of Energy grants, on a case-by-case basis, a waiver to allow for such a deviation. The Secretary may not delegate the authority to grant such a waiver.*

*(b) At least 60 days before a contract award for which the Secretary intends to grant such a waiver, the Secretary shall submit to the Subcommittees on Energy and Water Development of the Committees on Appropriations of the House of Representatives and the Senate a report notifying the Subcommittees of the waiver and setting forth, in specificity, the substantive reasons why the Secretary believes the requirement for competition should be waived for this particular award.*

*SEC. 302. None of the funds appropriated by this Act may be used to—*

*(1) develop or implement a workforce restructuring plan that covers employees of the Department of Energy; or*

*(2) provide enhanced severance payments or other benefits for employees of the Department of Energy, under section 3161 of the National Defense Authorization Act for Fiscal Year 1993 (Public Law 102–484; 42 U.S.C. 7274h).*

*SEC. 303. None of the funds appropriated by this Act may be used to prepare or initiate Requests For Proposals (RFPs) for a program if the program has not been funded by Congress.*

### *(Transfers of Unexpended Balances)*

*SEC. 304. The unexpended balances of prior appropriations provided for activities in this Act may be transferred to appropriation accounts for such activities established pursuant to this title. Balances so transferred may be merged with funds in the applicable established accounts and thereafter may be accounted for as one fund for the same time period as originally enacted.*

*SEC. 305. None of the funds in this or any other Act for the Administrator of the Bonneville Power Administration may be used to enter into any agreement to perform energy efficiency services outside the legally defined Bonneville service territory, with the exception of services provided internationally, including services provided on a reimbursable basis, unless the Administrator certifies in advance that such services are not available from private sector businesses.*

*SEC. 306. When the Department of Energy makes a user facility available to universities and other potential users, or seeks input from universities and other potential users regarding significant*

*characteristics or equipment in a user facility or a proposed user facility, the Department shall ensure broad public notice of such availability or such need for input to universities and other potential users.*

*For purposes of this section, the term “user facility” includes, but is not limited to:*

*(1) a user facility as described in section 2203(a)(2) of the Energy Policy Act of 1992 (42 U.S.C. 13503(a)(2));*

*(2) a National Nuclear Security Administration Defense Programs Technology Deployment Center/User Facility; and*

*(3) any other Departmental facility designated by the Department as a user facility.*

*SEC. 307. The Administrator of the National Nuclear Security Administration may authorize the plant manager of a covered nuclear weapons production plant to engage in research, development, and demonstration activities with respect to the engineering and manufacturing capabilities at such plant in order to maintain and enhance such capabilities at such plant: Provided, That of the amount allocated to a covered nuclear weapons production plant each fiscal year from amounts available to the Department of Energy for such fiscal year for national security programs, not more than an amount equal to 2 percent of such amount may be used for these activities: Provided further, That for purposes of this section, the term “covered nuclear weapons production plant” means the following:*

*(1) the Kansas City Plant, Kansas City, Missouri;*

*(2) the Y-12 Plant, Oak Ridge, Tennessee;*

*(3) the Pantex Plant, Amarillo, Texas;*

*(4) the Savannah River Plant, South Carolina; and*

*(5) the Nevada Test Site.*

*SEC. 308. Section 310 of the Energy and Water Development Appropriations Act, 2000 (Public Law 106-60), is hereby repealed.*

*SEC. 309. Funds appropriated by this or any other Act, or made available by the transfer of funds in this Act, for intelligence activities are deemed to be specifically authorized by the Congress for purposes of section 504 of the National Security Act of 1947 (50 U.S.C. 414) during fiscal year 2004 until the enactment of the Intelligence Authorization Act for fiscal year 2004.*

### **Explanation of Change**

Same language as in the FY 2004 Congressional Budget.



