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FY 2008 Congressional Budget Request

Environmental Management

February 2007

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The Department of Energy's Congressional Budget justification is available on the Office of Chief Financial Officer/CFO homepage at http://www.cfo.doe.gov/budget.

Department of Energy
Appropriation Account Summary
(dollars in thousands - OMB Scoring)

	FY 2006 Current Approp.	FY 2007 Cong. Request	FY 2007 CR Rate	FY 2008 Cong. Request	FY 2008 Request vs. FY 2007 Request	
					$	%
Discretionary Summary By Appropriation						
Energy And Water Development, And Related Agencies						
Appropriation Summary:						
Energy Programs						
Energy supply and Conservation	1,812,397	1,923,361	1,817,487	2,187,943	+264,582	+13.8%
Fossil energy programs						
Clean coal technology	-20,000	——	-5,000	-58,000	-58,000	N/A
Fossil energy research and development	580,669	469,686	558,204	566,801	+97,115	+20.7%
Naval petroleum and oil shale reserves	21,285	18,810	18,275	17,301	-1,509	-8.0%
Elk Hills school lands fund	83,520	——	2,000	——	——	——
Strategic petroleum reserve	207,340	155,430	155,430	331,609	+176,179	+113.3%
Northeast home heating oil reserve	——	4,950	4,950	5,325	+375	+7.6%
Strategic petroleum account	-43,000	——	——	——	——	——
Total, Fossil energy programs	829,814	648,876	733,859	863,036	+214,160	+33.0%
Uranium enrichment D&D fund	556,606	579,368	556,525	573,509	-5,859	-1.0%
Energy information administration	85,314	89,769	85,185	105,095	+15,326	+17.1%
Non-Defense environmental cleanup	349,687	310,358	309,946	180,937	-129,421	-41.7%
Uranium Sales and Remediation	——	——	——	——	——	——
Science	3,632,044	4,101,710	3,605,000	4,397,876	+296,166	+7.2%
Nuclear waste disposal	148,500	156,420	141,511	202,454	+46,034	+29.4%
Departmental administration	120,595	128,825	102,582	148,548	+19,723	+15.3%
Inspector general	41,580	45,507	41,784	47,732	+2,225	+4.9%
Innovative Technology Loan Guarantee Program	——	——	——	8,390	+8,390	N/A
Total, Energy Programs	7,576,537	7,984,194	7,393,879	8,715,520	+731,326	+9.2%
Atomic Energy Defense Activities						
National nuclear security administration:						
Weapons activities	6,355,297	6,407,889	6,412,001	6,511,312	+103,423	+1.6%
Defense nuclear nonproliferation	1,619,179	1,726,213	1,620,901	1,672,646	-53,567	-3.1%
Naval reactors	781,605	795,133	780,343	808,219	+13,086	+1.6%
Office of the administrator	354,223	386,576	341,991	394,656	+8,080	+2.1%
Total, National nuclear security administration	9,110,304	9,315,811	9,155,236	9,386,833	+71,022	+0.8%
Environmental and other defense activities:						
Defense environmental cleanup	6,129,729	5,390,312	5,551,812	5,363,905	-26,407	-0.5%
Other defense activities	635,578	717,788	638,129	763,974	+46,186	+6.4%
Defense nuclear waste disposal	346,500	388,080	346,163	292,046	-96,034	-24.7%
Total, Environmental & other defense activities	7,111,807	6,496,180	6,536,104	6,419,925	-76,255	-1.2%
Cerro grande fire activities	742	——	——	——	——	——
Total, Atomic Energy Defense Activities	16,222,853	15,811,991	15,691,340	15,806,758	-5,233	-0.0%
Power marketing administrations:						
Southeastern power administration	5,544	5,723	5,544	6,463	+740	+12.9%
Southwestern power administration	29,864	31,539	29,864	30,442	-1,097	-3.5%
Western area power administration	231,652	212,213	212,213	201,030	-11,183	-5.3%
Falcon & Amistad operating & maintenance fund	2,665	2,500	2,500	2,500	——	——
Colorado River Basins	——	-23,000	——	-23,000	——	——
Total, Power marketing administrations	269,725	228,975	250,121	217,435	-11,540	-5.0%
Federal energy regulatory commission	——	——	——	——	——	——
Subtotal, Energy And Water Development and Related Agencies	24,069,115	24,025,160	23,335,340	24,739,713	+714,553	+3.0%
Uranium enrichment D&D fund discretionary payments	-446,490	-452,000	——	-463,000	-11,000	-2.4%
Excess fees and recoveries, FERC	-50,015	-19,221	——	-17,462	+1,759	+9.2%
Total, Discretionary Funding	**23,572,610**	**23,553,939**	**23,335,340**	**24,259,251**	**+705,312**	**+3.0%**

Strategic Performance Overview

The Overviews in these budget requests will describe, Mission, Benefits, Strategic Themes, and Funding by Strategic Goal. These items together put the appropriation in perspective. 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, the Overviews will address R&D Investment Criteria, and Program Assessment Rating Tool (PART).

Strategic Context

Following publication of the Administration's National Energy Policy, the Department developed a Strategic Plan that defines its mission, five strategic themes for accomplishing that mission, and 16 strategic goals to support the strategic goals. Each appropriation has developed quantifiable goals to support the strategic goals. Thus, the "performance cascade" is the following:

Department Mission → Strategic Theme → Strategic Goal → GPRA Unit Program Goal (GPRA Unit) → Annual Targets → Milestones

The performance 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).

To provide a concrete link between budget, performance, and reporting, the Department developed a "GPRA[1] 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 Program Assessment Rating Tool (PART). A unique program goal was developed for each GPRA unit. A numbering scheme has been established for tracking performance and reporting.[2]

R&D Investment Criteria

Another important component of our strategic planning – and the President's Management Agenda – is use of the Administration's R&D investment criteria to plan and assess programs and projects. The criteria were developed in 2001 and further refined with input from agencies, Congressional staff, the National Academy of Sciences, and numerous private sector and nonprofit stakeholders.

The chief elements of the R&D investment criteria are quality, relevance, and performance. Programs must demonstrate fulfillment of these elements. For example, to demonstrate relevance, programs are expected to have complete plans with clear goals and priorities. To demonstrate quality, programs are expected to commission periodic independent expert reviews. There are several other requirements, many of which R&D programs have and continue to undertake.

An additional set of criteria were established for R&D programs developing technologies that address industry issues. Some key elements of the criteria include: the ability of the programs to articulate the

[1] Government Performance and Results Act of 1993

[2] The numbering scheme uses the following numbering convention: x.x.xx.xx. The first position identifies the Strategic Theme (01 through 05); the second position identifies the Strategic Goal; the third position identifies the GPRA Unit Program; the fourth position is reserved for future use.

appropriateness and need for Federal assistance; relevance to the industry and the marketplace; identification of a transition point to industry commercialization (or of an off-ramp if progress does not meet expectations), and; the potential public benefits, compared to alternative investments, that may accrue if the technology is successfully deployed.

OMB-OSTP on-going guidance describes the R&D investment criteria fully and identifies steps agencies should take to fulfill them. Where appropriate throughout these justification materials, especially in the Explanation of Funding Changes subheadings, specific R&D investment criteria and requirements are cited to explain the Department's allocation of resources.

Environmental Management
Overview
Appropriation Summary

	(dollars in thousands)			
	FY 2006 Current Appropriation	FY 2007 Request	FY 2007 CR	FY 2008 Request
Defense Environmental Cleanup	6,316,047	5,390,312	5,551,812	5,363,905
Non-Defense Environmental Cleanup	349,687	310,358	309,946	180,937
Uranium Enrichment Decontamination and Decommissioning Fund	556,606	579,368	556,525	573,509
Subtotal, Environmental Management	7,222,340	6,280,038	6,418,283	6,118,351
Offsets	-632,808	-452,000	-452,000	-463,000
Total, Environmental Management	6,589,532	5,828,038	5,966,283	5,655,351

Appropriation Summary by Program

	(dollars in thousands)		
	FY 2006 Current Appropriation	FY 2007 Request	FY 2008 Request
Defense Environmental Cleanup			
Closure Sites			
Ashtabula	15,841	295	295
Closure Sites Administration	0	25,896	11,834
Columbus	26,834	0	0
Fernald	349,844	258,877	0
Miamisburg	170,578	34,869	30,308
Rocky Flats	514,709	1,000	0
Total, Closure Sites	1,077,806	320,937	42,437
Hanford Site			
2012 Completion Projects	440,711	423,618	413,038
2035 Completion Projects	332,162	381,098	464,042
Total, Hanford Site	772,873	804,716	877,080
Idaho National Laboratory	532,862	512,604	504,026
NNSA Sites			
California Site Support	545	370	370
Kansas City Plant	4,481	0	0
Lawrence Livermore National Laboratory	29,283	11,580	8,680
Los Alamos National Laboratory	140,792	90,602	139,467
Nevada Off-Sites	2,818	0	0
Nevada	84,177	79,668	81,106
NNSA Service Center	8,221	26,122	29,096
Pantex	19,458	23,726	12,411
Sandia National Laboratories	9,672	0	0
Total, NNSA Sites	299,447	232,068	271,130
Oak Ridge	254,790	159,862	179,284
Office of River Protection			
Tank Farm Activities	327,575	274,127	273,443
Waste Treatment and Immobilization Plant	520,759	690,000	690,000

	(dollars in thousands)		
	FY 2006 Current Appropriation	FY 2007 Request	FY 2008 Request
Total, Office of River Protection	848,334	964,127	963,443
Savannah River Site			
2012 Completion Projects	250,924	236,132	31,000
2035 Completion Projects	486,676	277,338	510,071
Tank Farm Activities	533,373	570,924	665,019
Total, Savannah River Site	1,270,973	1,084,394	1,206,090
Waste Isolation Pilot Plant	228,331	213,278	219,739
Program Support	32,519	37,881	33,146
Program Direction	241,386	291,216	309,760
Safeguards and Security	281,189	295,840	273,381
Technology Development and Deployment	29,047	21,389	21,389
Federal Contribution to the Uranium Enrichment D&D Fund	446,490	452,000	463,000
Total, Defense Environmental Cleanup	6,316,047	5,390,312	5,363,905
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D	45,652	34,843	10,342
Gaseous Diffusion Plants			
Oak Ridge	4,836	0	0
Paducah Gaseous Diffusion Plant	50,312	35,201	17,366
Portsmouth Gaseous Diffusion Plant	78,122	72,215	20,754
Total, Gaseous Diffusion Plants	133,270	107,416	38,120
Small Sites			
Argonne National Laboratory	10,382	10,726	2,437
Brookhaven National Laboratory	33,985	28,272	23,699
California Site Support	99	160	160
Closure Sites Administration and Program Support	0	0	1,200
Energy Technology Engineering Center	8,910	16,000	13,000
Idaho National Laboratory	5,221	7,000	5,400
Inhalation Toxicology Laboratory	302	2,931	427
Lawrence Berkeley National Laboratory	3,861	0	0
Los Alamos National Laboratory	485	1,025	1,905
Moab	27,726	22,865	23,952
Stanford Linear Accelerator Center	3,465	5,720	5,900
Total, Small Sites	94,436	94,699	78,080
West Valley Demonstration Project	76,329	73,400	54,395
Total, Non-Defense Environmental Cleanup	349,687	310,358	180,937

	(dollars in thousands)		
	FY 2006 Current Appropriation	FY 2007 Request	FY 2008 Request
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities			
Oak Ridge	242,620	311,473	230,406
Paducah Gaseous Diffusion Plant	103,950	96,575	116,676
Portsmouth Gaseous Diffusion Plant	190,236	151,320	206,427
Total, D&D Activities	536,806	559,368	553,509
U/Th Reimbursements	19,800	20,000	20,000
Total, Uranium Enrichment Decontamination and Decommissioning Fund	556,606	579,368	573,509
Subtotal, Environmental Management	7,222,340	6,280,038	6,118,351
Use of Prior Year (Defense)	-166,318	0	0
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Proj 05-D-405)	-20,000	0	0
D&D Fund Offset	-446,490	-452,000	-463,000
Total, Environmental Management	6,589,532	5,828,038	5,655,351

Preface

Fifty years of nuclear weapons production and energy research generated millions of gallons of liquid radioactive waste, millions of cubic meters of solid radioactive wastes, thousands of tons of spent nuclear fuel and special nuclear material, along with huge quantities of contaminated soil and water. The Environmental Management (EM) program was established in 1989 to achieve the successful cleanup of this Cold War legacy.

Funding by Budget Chapters

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Carlsbad	228,331	213,278	219,739
Idaho			
Idaho National Laboratory	538,083	519,604	509,426
Oak Ridge			
Oak Ridge	502,246	471,335	409,690
Paducah			
Paducah Gaseous Diffusion Plant	154,262	131,776	134,042
Portsmouth			
Portsmouth Gaseous Diffusion Plant	268,358	223,535	227,181
Richland	818,525	839,559	887,422
River Protection	848,334	964,127	963,443
Savannah River	1,270,973	1,084,394	1,206,090

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
NNSA Sites			
California Site Support	545	370	370
Kansas City Plant	4,481	0	0
Lawrence Livermore National Laboratory	29,283	11,580	8,680
Los Alamos National Laboratory	141,277	91,627	141,372
Nevada Off-Sites	2,818	0	0
Nevada	84,177	79,668	81,106
NNSA Service Center	8,221	26,122	29,096
Pantex	19,458	23,726	12,411
Sandia National Laboratories	9,672	0	0
Total, NNSA Sites	299,932	233,093	273,035
Closure Sites			
Ashtabula	15,841	295	295
Closure Sites Administration and Program Support	0	0	1,200
Closure Sites Administration	0	25,896	11,834
Columbus	26,834	0	0
Fernald	349,844	258,877	0
Headquarters	244	0	0
Miamisburg	170,578	34,869	30,308
Rocky Flats	514,709	1,000	0
Total, Closure Sites	1,078,050	320,937	43,637
Headquarters Operations			
Headquarters	52,075	57,881	53,146
West Valley Demonstration Project	76,329	73,400	54,395
All Other Sites			
Argonne National Laboratory	10,382	10,726	2,437
Brookhaven National Laboratory	33,985	28,272	23,699
California Site Support	99	160	160
Energy Technology Engineering Center	8,910	16,000	13,000
Inhalation Toxicology Laboratory	302	2,931	427
Lawrence Berkeley National Laboratory	3,861	0	0
Moab	27,726	22,865	23,952
Stanford Linear Accelerator Center	3,465	5,720	5,900
Total, All Other Sites	88,730	86,674	69,575
Program Direction	241,386	291,216	309,760
Safeguards and Security	281,189	295,840	273,381
D&D Fund Deposit	446,490	452,000	463,000
Technology Development & Deployment	29,047	21,389	21,389
Subtotal, Environmental Management	7,222,340	6,280,038	6,118,351
Use of Prior Year (Defense)	-166,318	0	0
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Proj 05-D-405)	-20,000	0	0
D&D Fund Offset	-446,490	-452,000	-463,000
Total, Environmental Management	6,589,532	5,828,038	5,655,351

Mission
The mission of EM is the safe and successful cleanup of the Cold War legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research. In order to execute the mission, EM has ranked in priority order those activities with the greatest risk reduction. Safety remains the utmost priority. EM is committed to its safety principles and will continue to maintain and demand the highest safety performance to protect the workers and the communities where EM operates.

Benefits
EM's mission is to clean up the environmental legacy of nuclear weapons production and nuclear energy research. Through its focused, project management approach, EM is remediating sites and reducing the risks to future generations. EM's goal is to continue to reduce the environmental liability associated with the EM program, consistent with the ideals previously discussed above.

Summary
As in FY 2007, EM will implement the following risk reduction activities in priority order to solve its cleanup challenges:

- Stabilizing radioactive tank waste in preparation for treatment (about 31 percent of the FY 2008 request);
- Storing, stabilizing, and safeguarding nuclear materials and spent nuclear fuel (about 17 percent of the FY 2008 request);
- Disposing of transuranic, low-level and other solid wastes (about 16 percent of the FY 2008 request);
- Remediating major areas of our sites and decontamination and decommissioning excess facilities (about 26 percent of the FY 2008 request).

Overlaid onto these activities are other equally crucial priorities - priorities important not only to the achievement of our cleanup objectives, but also important to the communities and states where our sites are located. EM will endeavor to discharge its responsibilities within the resources afforded the cleanup program with the goal of accomplishing the following objectives:

- Establishing a disposition capability for radioactive liquid tank waste and spent nuclear fuel;
- Securing and storing nuclear material in a stable, safe configuration in secure locations to protect national security;
- Transporting and disposing of transuranic and low-level wastes in a safe and cost effective manner to reduce risk;
- Remediating soil and groundwater in a manner that will assure long-term environmental and public protection; and
- Decontaminating and decommissioning facilities that provide no further value to reduce long-term liabilities while remediating the surrounding environment.

These objectives have served the program well to reduce risk and complete site cleanup. For instance, in FY 2006, the EM program was successful in physically completing the cleanup at the Rocky Flats site, Lawrence Livermore National Laboratory-Main Site, and Kansas City Plant. In addition, by the end of FY 2007 EM expects to complete cleanup at five additional sites – Fernald, Columbus, Ashtabula,

Miamisburg, and Lawrence Berkeley National Laboratory. Additionally, despite numerous regulatory and technical challenges, EM has made significant cleanup progress at its remaining sites, such as:

- Stabilizing and packaging for disposition all plutonium residues, metals, and oxides (Savannah River Site, Hanford).
- Producing well over 2,000 cans of vitrified high-level waste from highly radioactive liquid wastes. (Savannah River Site, West Valley Demonstration Project)
- Retrieving and packaging for disposal over 2,100 metric tons of spent nuclear fuel from K-basins on the Hanford site to protect the Columbia River.
- Characterizing, certifying, and shipping close to 40,000 cubic meters of transuranic waste from numerous sites to the Waste Isolation Pilot Plant for permanent disposal.
- Disposing of close to one million cubic meters of legacy low-level waste and mixed low-level waste.
- Eliminating 11 of 13 high-risk material access areas through material consolidation and cleanup.
- Cleaning up the Melton Valley area at the Oak Ridge Reservation and completing the decontamination and decommissioning of three gaseous diffusion buildings at the Oak Ridge Reservation (K-29, 31, 33).
- Disposing of over 8,500 tons of scrap metal from Portsmouth, Ohio.

However, even with these numerous accomplishments, EM has experienced some setbacks. As with many complex and diversified programs, the challenges behind achieving highly visible and significant results are not always apparent. At the core of these setbacks are planning assumptions that have not materialized. For example, EM based its cleanup plans on such optimistic assumptions as:

- Performance-based acquisition strategies and other initiatives would greatly improve the cost efficiency of performing cleanup work.
- Maintaining a defined scope for the EM program with no additional work scope or emerging requirements.
- Receiving flexibility from State regulatory officials to implement cost-effective disposition of EM waste and materials.

However, these assumptions have not withstood the test of time. For example:

- Regulatory permit and intersite waste shipment approvals have been delayed or are still pending, leading to increased costs and delayed schedules at several sites. In particular, the passage and implementation of the FY 2005 National Defense Authorization Act language on tank waste disposition (Section 3116) was not factored into earlier plans.

- Acquisition strategies did not take into account that ultimately, the government bears the risk should contractors fail to meet milestones and contractual obligations. Cost estimates were based on achieving overall optimistic levels of performance.

- One of the most visible projects on which progress has slowed is the Waste Treatment and Immobilization Plant at Hanford. The Waste Treatment and Immobilization Plant, widely recognized as a complex environmental construction project, has encountered design and construction setbacks.

- New scope and requirements have also been added to the EM program that were not included in its baselines. These include:
    - Design Basis Threat requirements that require augmentation of safeguard and security assets and physical improvements to facilities at Hanford, Savannah River Site, Portsmouth, and Paducah.
    - The need for a Plutonium Vitrification Disposition Facility at the Savannah River Site.
    - More robust design criteria for the Salt Waste Processing Facility at the Savannah River Site.
    - Removal of the mill tailings pile from the Moab Site, rather than leaving it in place as assumed in the baseline.
    - Increased cleanup and D&D scope at the Los Alamos National Laboratory as a result of the new consent order.
    - D&D of the Portsmouth and Paducah Gaseous Diffusion Plants.
    - Increased pension and benefit liabilities at the closure sites and across the complex.

- EM has been identified as the organization to take on additional cleanup work scope from other programs including:
    - D&D of additional excess and unwanted science and nuclear security facilities at the Oak Ridge National Laboratory and Y-12.
    - D&D of facilities at Argonne, Brookhaven, and other Office of Science national laboratories.
    - D&D of facilities at the Los Alamos National Laboratory consistent with the 2005 Consent Order.
    - D&D of excess facilities at the Idaho National Laboratory from the Office of Nuclear Energy.

As a result, EM now estimates that the life-cycle cost for the program could increase by $50 billion. Of this increase, approximately $10 billion is attributable to new scope not in EM's previous baseline and $40 billion is associated with existing scope.

However, EM continues to take steps to address these challenges and improve the effectiveness and efficiency of its operations. These steps include:

- Continued focus on project management. As of January 2007, based on dollar value, 73 percent of all near-term baselines have been validated. Additionally, 96 percent of validated baselines are currently operating within an acceptable performance range. However, when calculated on a dollar value basis, the acceptable performance drops to 44 percent. The drop is due to delays in the large dollar value Waste Treatment Plant and its corresponding impact on Tank Farm operations.

- Reviewing project performance, schedules, and costs on a regular basis.
- Implementing and integrating both industry-standard and DOE-directed project management systems.
- Increasing emphasis on identification and management of risks and their potential impacts to planned performance.
- Instituting safety reviews earlier in the design process and providing an additional level of oversight for selected projects.
- Placing more emphasis on the maturity of technology solutions through the conduct of independent technical reviews on selected projects and taking steps to combine our engineering and technology offices to bring about timely solutions to our highest priority issues.

In addition, instrumental in refining the technical and business approaches to project management are the senior leadership and staff. EM is ensuring that leaders, project managers, and staff are trained to meet its project management and mission objectives. EM is committed to enhancing the experience level of its personnel for the important work that lies ahead.

Another tool assisting EM project management are the cleanup contracts. The contracts define EM work scope and also set expectations and standards, which in turn delineate the operating principles and requirements. EM's goal is to ensure that the site contracts, integrated with project management principles, risk management, and performance plans, are designed to drive outstanding performance and accountability. EM is ensuring a competitive and open selection of contractors, paid with the appropriate contract type and fee earning method for the scope of work and the business case analysis. EM will ensure that each contract provides the best performance in meeting programmatic objectives.

Finally, EM is striving for constant, real-time feedback of lessons learned to improve project planning and execution. A formal lessons learned process is critical to assist EM with achieving successful execution and completion of its cleanup program.

As noted above, over the past several years EM has made substantial progress in cleaning up the legacy of nuclear weapons production and research. The Department remains committed to completing this important and necessary mission. When funding is adjusted sites that have closed in recent years, the FY 2008 request is about the same as the FY 2007 request. However, as also noted above, unrealized planning assumptions, increased scope, and additional mandated requirements have caused an increase in EM's life-cycle costs. As a result, in formulating the FY 2008 budget, EM has made some tough choices. EM chose to prioritize risk reduction activities over some lower risk activities, some of which may be associated with regulatory commitments.

For FY 2008, EM's funding priorities are as follows, in priority order of risk reduction to solve its cleanup challenges:

- Requisite safety, security, and services across EM cleanup sites;
- Radioactive tank waste storage, treatment, and disposal;
- Spent nuclear fuel storage, receipt, and remediation;
- Solid waste (transuranic, low-level, and mixed low-level wastes) treatment, storage, and disposal;
- Special nuclear materials storage, processing, and disposition;

- Soil and groundwater remediation; and
- Decontamination and decommissioning of contaminated facilities.

Based on these priorities, EM's FY 2008 request of $5.65 billion will fund the following activities:

- Design Basis Threat (2005) compliance except at Hanford (which is assumed to be shipping material off-site);
- Pension and medical benefits for current and former workers;
- Tank farm operations – Hanford, Idaho, Savannah River Site;
- Spent nuclear fuel receipt, storage, and cleanup – Hanford K-Basin, Idaho, Savannah River Site;
- Waste treatment projects:
  - Operations – Defense Waste Processing Facility; Idaho Advanced Mixed Waste Treatment, Oak Ridge TSCA Incinerator, Portsmouth/Paducah DUF6 conversion
  - Design/construction – Hanford Waste Treatment and Immobilization Plant, Savannah River Salt Waste Processing Facility, Idaho Sodium-Bearing Waste Treatment Facility;
- Waste disposition projects:-
  - Waste Isolation Pilot Plant – places priority on Idaho/Los Alamos transuranic waste: and supports contact- and remote-handled shipments.
  - Low-level and mixed low-level waste disposal – Hanford, Nevada, Idaho, Savannah River Site, Oak Ridge (remediation waste);
- Special nuclear material storage, surveillance, and disposition - Savannah River material processing in H-Canyon and plutonium vitrification design, consolidation of Hanford plutonium and unirradiated category 1 and 2 nuclear fuel to an off-site location (pending a consolidation decision); consolidation of Idaho uranium to off-site storage, Oak Ridge Building 3019 U-233 disposition project design and long-lead procurement;
- Uranium/Thorium payments for mill tailings site cleanup;
- Technology development and deployment - in support of high-level waste, soil and groundwater, and facility D&D;
- High priority waste retrieval, soil/groundwater remediation and D&D of excess facilities at the Hanford, Idaho, Savannah River Site, Oak Ridge, Portsmouth, Paducah, Los Alamos, and other sites.

While the Department is committed to meeting all of its cleanup commitments, the Department believes that focusing on risk reduction makes the best overall use of its FY 2008 funding request. However, the Department recognizes that the priorities supported in the FY 2008 request may require the Department to renegotiate some commitments with its regulators. In addition, at some sites, lagging performance and other factors will necessitate that the Department renegotiate milestone dates with regulators. The Department will enter into these negotiations in good faith with the goal of achieving a mutually acceptable resolution of these regulatory commitments.

EM will continue to achieve risk reduction, environmental cleanup and closure. Over the next several years, EM will continue to close sites such as the Inhalation Toxicology Laboratory, Pantex Plant, Lawrence Livermore National Laboratory-Site 300, Argonne National Laboratory-East, and Sandia National Laboratory. In addition, through implementation of a robust project management system and acquisition strategy that promotes performance and efficiency, EM is building a reliable and high

performing organization that will continue to effectively clean up the legacy of the nuclear weapons complex.

Strategic Themes and Goals and GPRA Program Goals

The Department's Strategic Plan identifies five Strategic Themes (one for nuclear, energy, science, management, and environmental aspects of the mission) plus 16 Strategic Goals that tie to the Strategic Themes. The three EM appropriations (Defense Environmental Cleanup, Non-Defense Environmental Cleanup, and Uranium Enrichment Decontamination and Decommissioning Fund) support the following strategic theme and strategic goal:

Strategic Theme 4, Environmental Responsibility: Protecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production.

Strategic Theme Goal 4.1, Environmental Cleanup: Complete cleanup of nuclear weapons manufacturing and testing sites across the United States; completing cleanup of 100 contaminated sites by 2025[a].

The programs funded within the Defense Environmental Cleanup, the Non-Defense Environmental Cleanup, and the Uranium enrichment D&D Fund have one Program Goal that contributes to the General Goals in the "goal cascade." This goal is:

Program Goal 4.1.53.00 (Environmental Management): EM is targeting 95 geographic sites to be completed by the end of FY 2012[b].

Contribution to Strategic Goal

Integral to meeting the Strategic Goal 4.1 is the completion of 95 contaminated geographic sites by the end of 2012. EM's Program Goal contributes directly to the Department's ability to meet its Strategic Theme 4.1 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 to complete site cleanup.

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[a] In the FY 2007 Congressional Budget Request, EM identified a goal of completing 101 sites by the end of FY 2025. The goal has been modified to 100 sites to reflect that completion of Savannah River Site is now scheduled for FY 2031.

[b] In the FY 2007 Congressional Budget Request, EM identified site completion targets of 83 by FY 2006 and 95 by FY 2012. EM completed cleanup of 81 sites by the end of FY 2006. In addition, completion of physical work at the Miamisburg Site in Ohio was completed in 2006, except for Congressionally directed work at OU-1.

Funding by Strategic and GPRA Unit Program Goal

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Strategic Goal 4, Environmental Responsibility			
GPRA Unit Program Goal 4.1.53.00, Environmental Management			
Defense Environmental Cleanup			
Closure Sites	1,075,639	320,560	42,437
Hanford Site	757,616	786,384	857,460
Idaho National Laboratory	529,351	508,921	500,239
NNSA Sites	289,042	227,566	266,794
Oak Ridge	249,177	154,863	173,318
Office of River Protection	847,868	963,656	962,972
Program Support	32,519	37,881	33,146
Safeguards and Security	281,189	295,840	273,381
Savannah River Site	1,258,057	1,071,852	1,193,590
Technology Development and Deployment	29,047	21,389	21,389
Waste Isolation Pilot Plant	192,147	188,156	193,050
Total, Defense Environmental Cleanup	5,541,652	4,577,068	4,517,776
Non-Defense Environmental Cleanup			
Closure Sites	0	0	1,200
Fast Flux Test Reactor Facility D&D	45,652	34,843	10,342
Gaseous Diffusion Plant	133,270	107,416	38,120
Small Sites	94,290	94,449	76,630
West Valley Demonstration Project	76,329	73,400	54,395
Total, Non-Defense Environmental Cleanup	349,541	310,108	180,687
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities	536,806	559,368	553,509
Total, Uranium Enrichment Decontamination and Decommissioning Fund	536,806	559,368	553,509
All Other			
Community and Regulatory Support	86,665	70,278	73,619
Federal Contribution to the Uranium Enrichment D&D Fund	446,490	452,000	463,000
Program Direction	241,386	291,216	309,760
U/Th Reimbursements	19,800	20,000	20,000
Total, All Other	794,341	833,494	866,379
Total, Strategic Goal 4,Environmental Responsibility	7,222,340	6,280,038	6,118,351

Annual Performance Results and Targets

EM has developed 16 corporate performance measures to enable the program to monitor annual and life-cycle progress towards meeting the Department's Strategic Goal 4 and EM's Program Goal. These corporate performance measures are:

1. Certified DOE storage/treatment/disposal 3013 containers (or equivalent) of plutonium metal or oxide packaged ready for long-term storage;
2. Certified containers of enriched uranium packaged ready for long-term storage;
3. Plutonium or uranium residues packaged for disposition (kg of bulk material);
4. Depleted and other uranium packaged for disposition (metric tons).
5. Liquid waste eliminated (millions of gallons);
6. Number of liquid tanks closed;
7. Canisters of high-level waste packaged for final disposition;
8. Spent nuclear fuel packaged for final disposition (metric tons of heavy metal);
9. Transuranic waste shipped for disposal at the Waste Isolation Pilot Plant (cubic meters);
10. Low-level waste/mixed low-level waste disposed (cubic meters);
11. Number of material access areas eliminated;
12. Number of nuclear facilities completed;
13. Number of radioactive facilities completed;
14. Number of industrial facilities completed;
15. Number of geographic sites closed;
16. Number of release sites remediated.

Each of these 16 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 configuration control, thereby establishing performance expectations and accountability for those expectations within a given funding level. Through configuration control, EM is able to make corporate decisions that will keep the program on track, monitor and control costs and schedules, and manage site closure expectations. In addition to the corporate measures, performance is also tracked through the establishment of baselines, which are used to demonstrate whether a project and site are on track to achieve agreed upon performance expectations. Recently, the corporate performance measures have been updated to be consistent with current approved baselines. As part of this effort, performance measure annual targets and life-cycle estimates have been updated to better reflect current project baselines. Significant changes in life-cycle quantities are footnoted in the discussion below. Current progress against each of the 16 corporate performance measures is available on the EM web site at www.em.doe.gov and is discussed in the site project baseline summary narratives. The following pages discuss progress to date for each of these measures, based on appropriations received and this budget request.

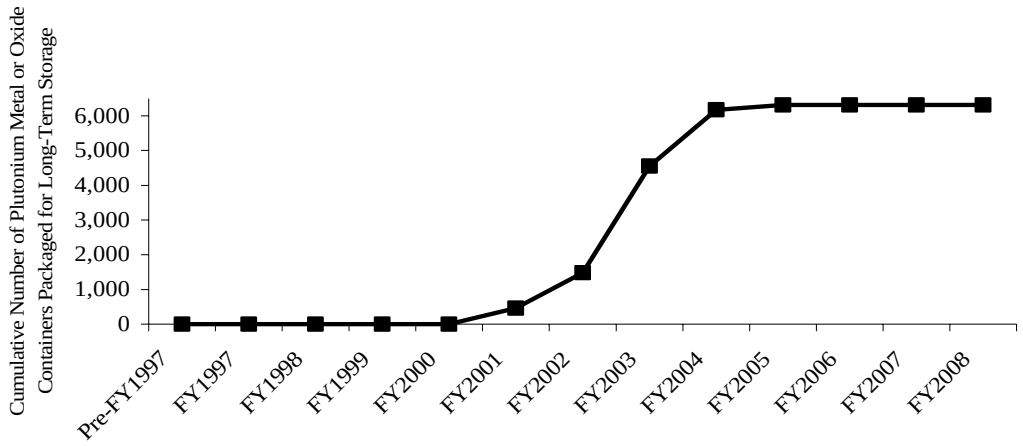
Nuclear Materials

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 that mainly contribute to each of the measures for which work scope remains) are depicted below.

- Plutonium metal or oxide containers packaged for long-term storage (all work for this corporate performance measure has been completed);
- Enriched uranium containers packaged for long-term storage (Hanford Site, Savannah River Site, and Idaho National Laboratory)[a]
- Plutonium or uranium residues packaged for disposition (all work for this corporate performance measure has been completed except for a small fraction remaining at the Savannah River Site); and
- Depleted and other uranium packaged for disposition (Hanford, Savannah River Site, Paducah, and Portsmouth).

Plutonium Metal or Oxide Progress

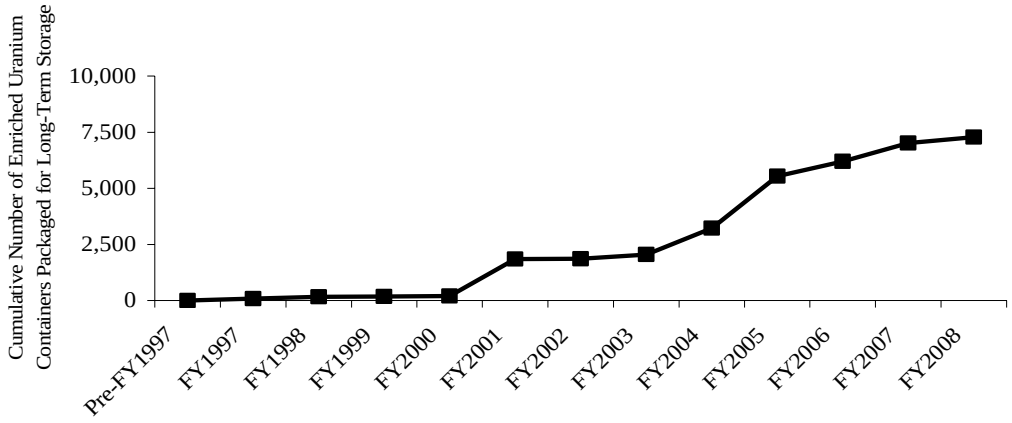
Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
6,314	**Measure Completed**			100%	6,314



[a] New assays and disposition plans for enriched uranium containers resulted in revised life-cycle quantities.

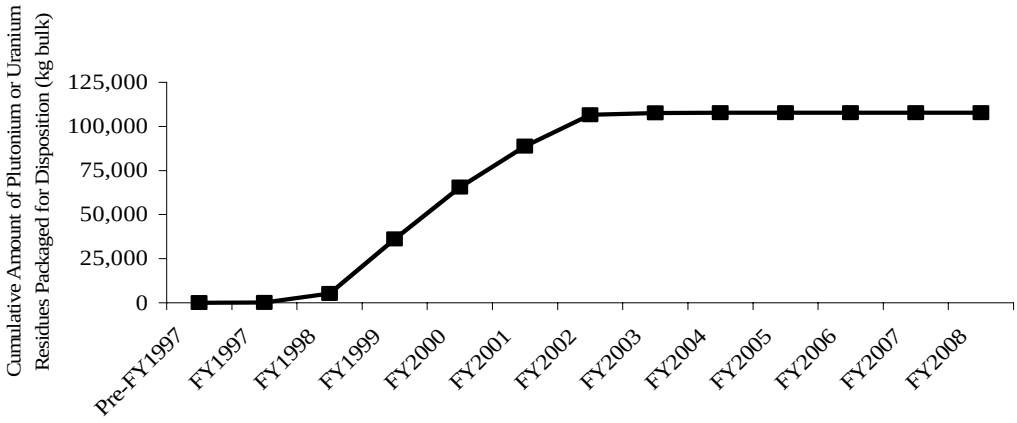
Enriched Uranium Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
5,541	6,461	6,972	7,192	97%	7,413



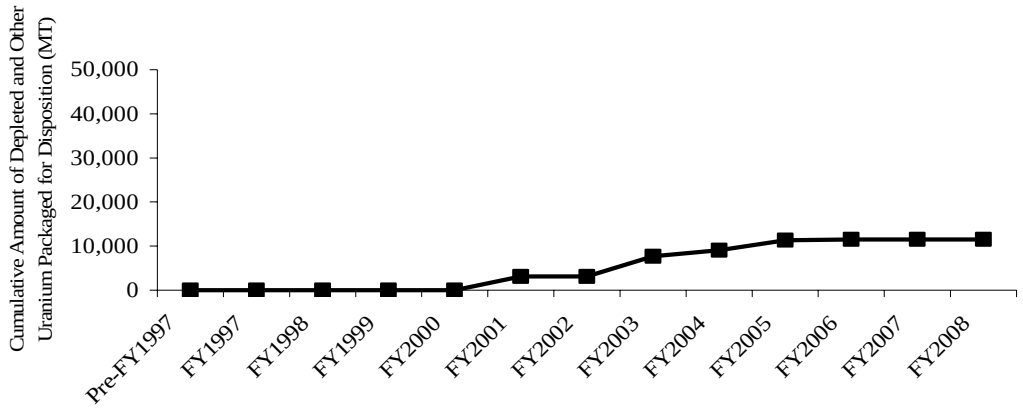
Plutonium or Uranium Residues Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
107,789	107,817	107,828	107,828	100%	107,828



Depleted and Other Uranium Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
11,309	11,804	11,855	17,116	2%	698,243



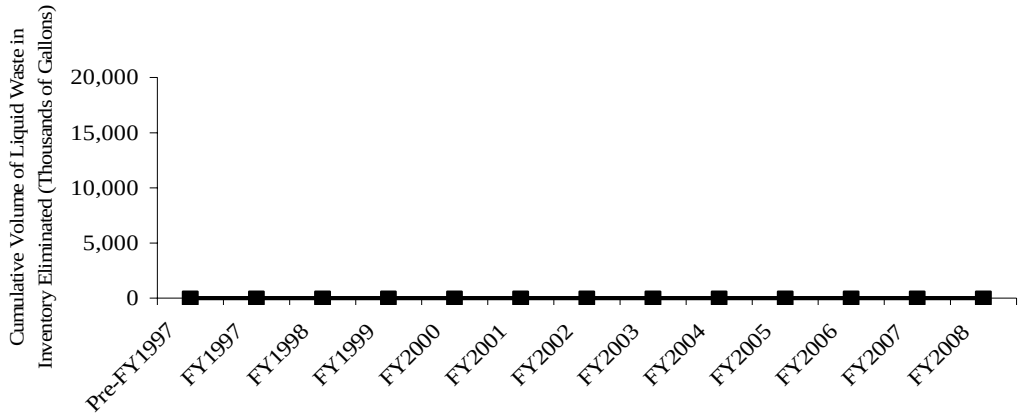
Liquid Waste

By reducing the amount of high risk radioactive liquid waste in the inventory and subsequent closing of the liquid waste tanks, EM is demonstrating tangible evidence of the program's goal to reduce the highest risks in the complex first. 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 that mainly contribute 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).

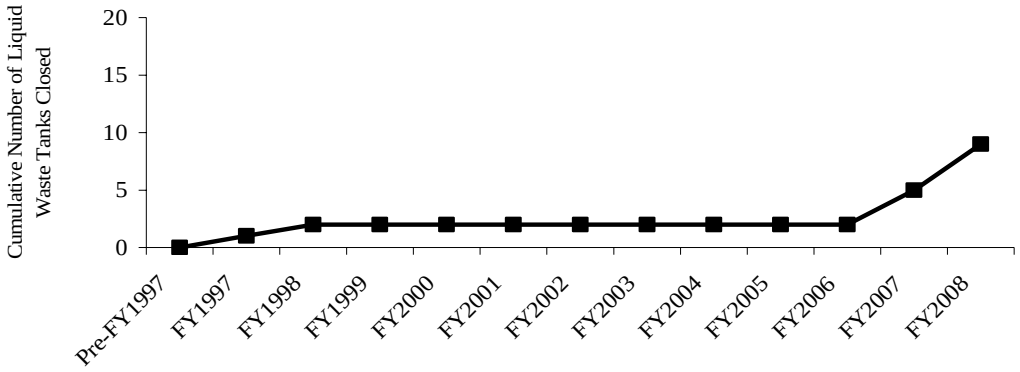
Liquid Waste in Inventory Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
0	0	700	1,400	2%	88,000



Liquid Waste Tank Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
2	2	5	9	4%	239



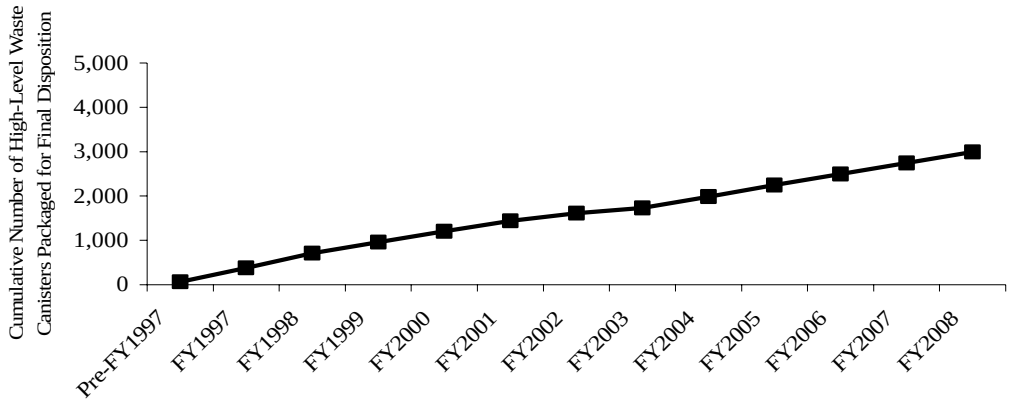
High-Level Waste and Spent Nuclear Fuel

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[a] and the spent nuclear fuel measure. Both corporate performance measures are depicted below.

[a] Changes in high level waste canisters totals reflect revised estimate at the Savannah River Site in response to new regulatory requirements and updated estimate from the Office of River Protection.

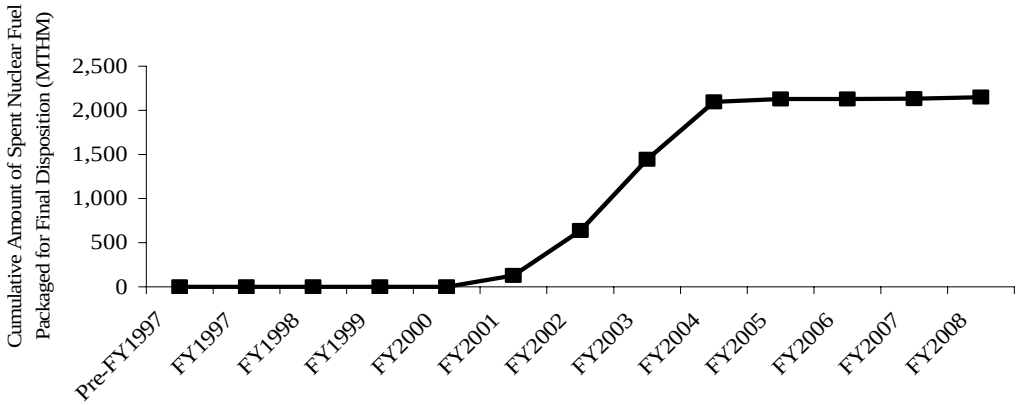
High-Level Waste Canister Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
2,244	2,489	2,675	2,861	14%	20,004



Spent Nuclear Fuel Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
2,126	2,127	2,127	2,127	88%	2,417

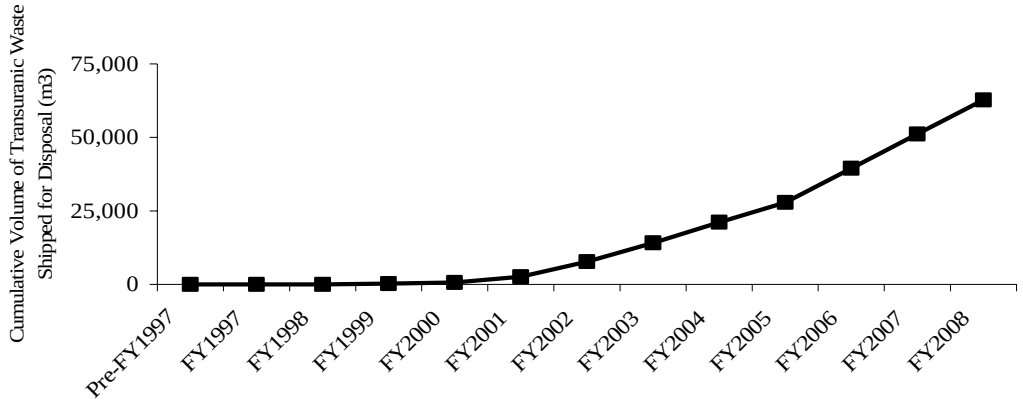


Transuranic Waste and Low-Level/Mixed Low-Level Waste

The shipment of transuranic waste to the Waste Isolation Pilot Plant measures a site's progress towards accelerating cleanup and reducing risk. In FY 2007, the Idaho National Laboratory, Savannah River Site, Los Alamos National Laboratory, and Hanford Site primarily contribute to the transuranic waste corporate measure. The disposal of low-level waste and mixed low-level waste reflects the intensity of cleanup activities at a site. A number of sites contribute to the low-level and mixed low-level waste measure.[a] The two corporate measures portrayed below demonstrate progress towards EM's ultimate goal of site completion.

Transuranic Waste Progress

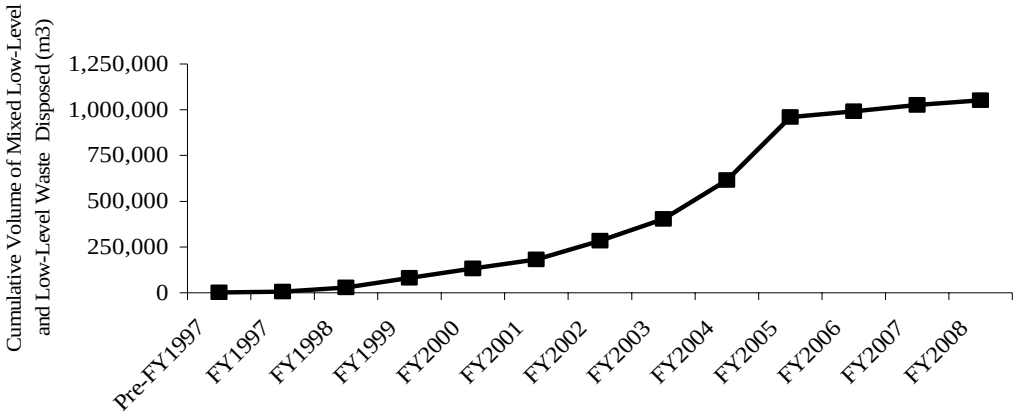
Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
27,593	37,008	43,701	54,466	40%	135,353



[a] Life-cycle quantity changes based largely on updated estimates from the Office of River Protection who is using different technologies for Low-Level and Mixed Low-Level Waste treatment and disposition and revised estimates from the Savannah River Site to better reflect their current baseline.

Low-Level and Mixed Low-Level Waste Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
931,700	965,854	987,249	1,004,386	76%	1,316,169

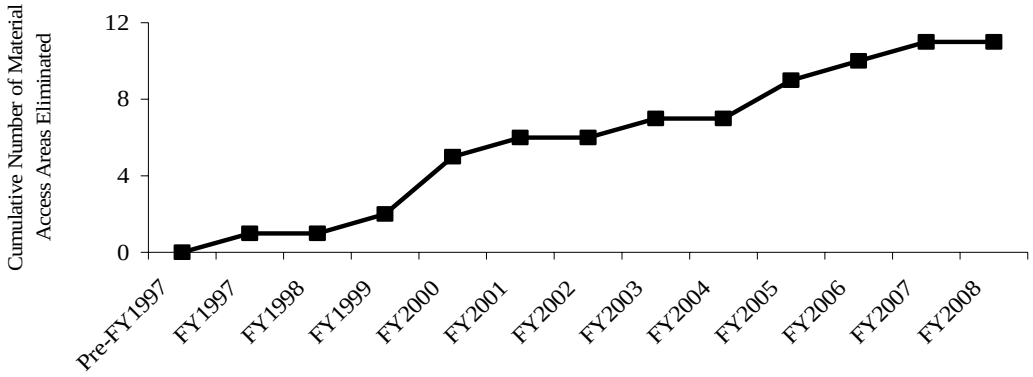


Material Access Areas

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 progress 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.

Material Access Area Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
9	11	11	11	85%	13



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.[a] The endpoint corresponds to one of the following: decommissioning, deactivation, dismantlement, demolishment, 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.

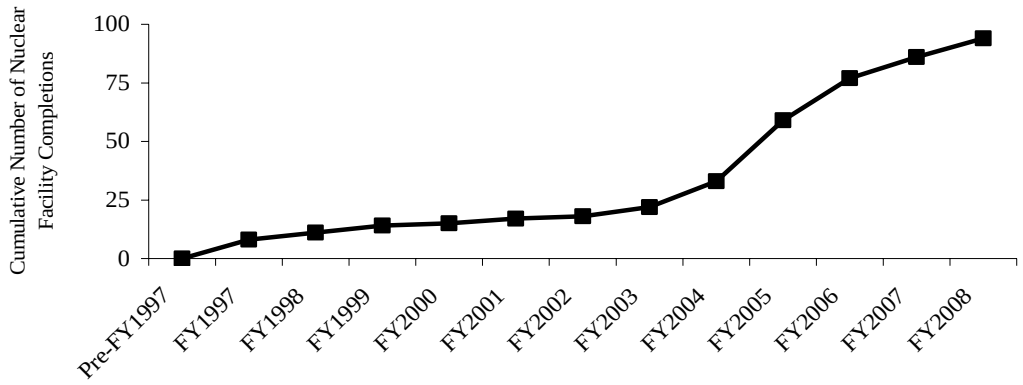
- Nuclear facility completions;

[a] The total number and classifications of facilities throughout the complex are the results of audits and inspections throughout the complex, this includes the addition of facilities not previously counted and reassigning the type of facility based on standardized classifications. This has resulted in changes in the lifecycle totals being reported.

- Radioactive facility completions; and
- Industrial facility completions.

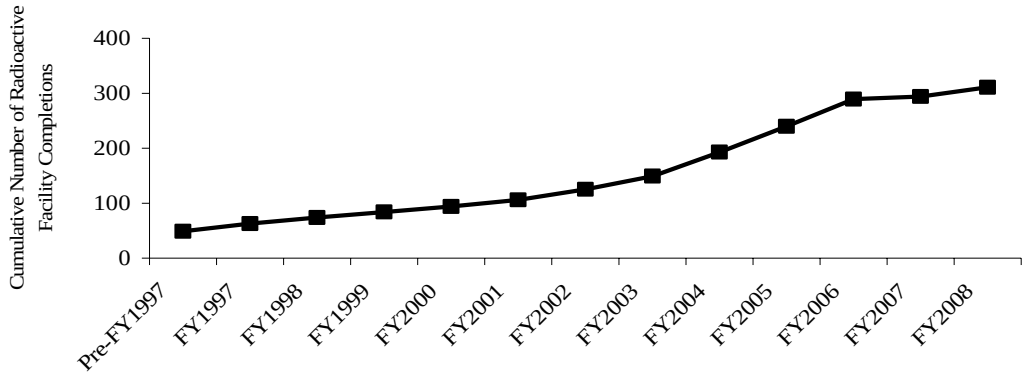
Nuclear Facility Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
59	76	81	82	20%	407



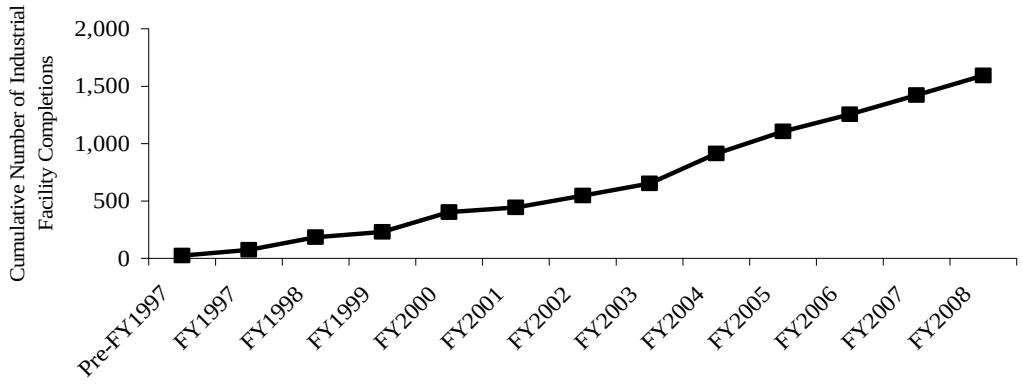
Radioactive Facility Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
250	302	322	337	40%	848



Industrial Facility Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
1,125	1,335	1,417	1,560	47%	3,298



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 108[a] contaminated sites.

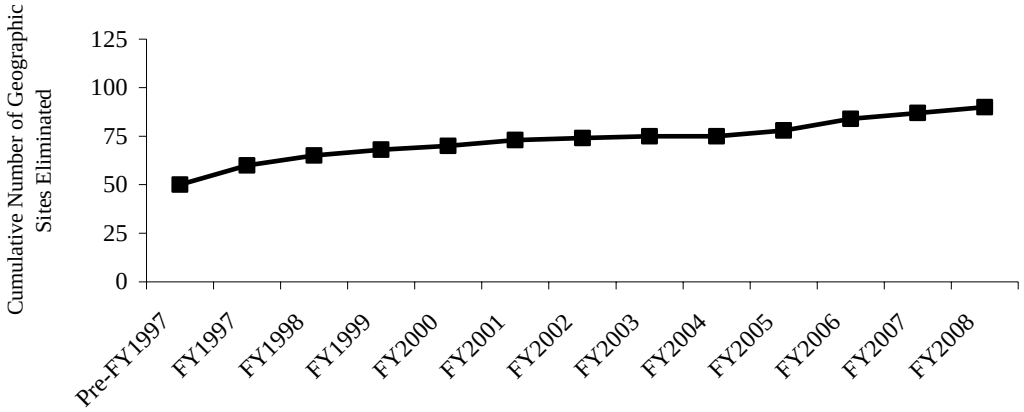
- In FY 2006, EM completed cleanup at three sites – Rocky Flats, Lawrence Livermore National Laboratory-Main Site, and Kansas City Plant.
- In FY 2007 EM expects to cleanup five additional sites – Fernald, Columbus, Ashtabula, Miamisburg, and the Lawrence Berkeley National Laboratory.
- In FY 2008 EM plans to cleanup an additional three sites – Pantex Plant, Inhalation Toxicology Laboratory, and Lawrence Livermore National Laboratory-Site 300.

In order to complete a geographic site (e.g., Fernald), EM must complete remediation of all 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.

[a] Total has been adjusted to reflect transfer of six Nevada Off-sites to the Office of Legacy Management in the FY 2007 request.

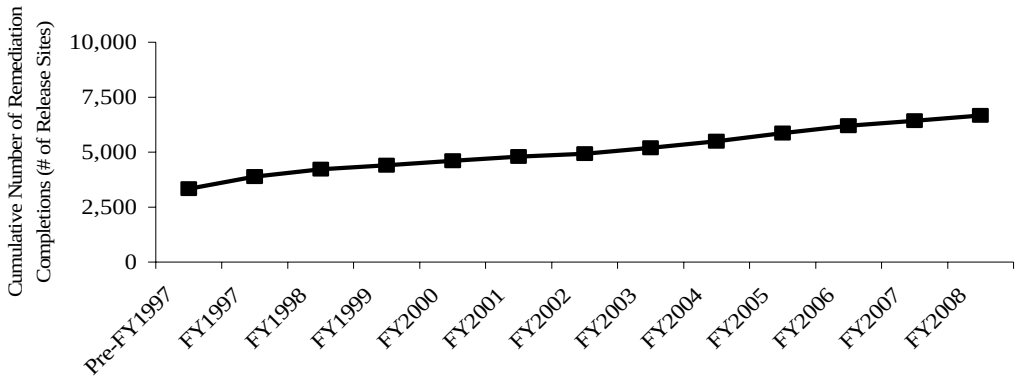
Geographic Sites Eliminated

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
78	81	86	89	82%	108



Remediation Completion Progress

Pre-FY2006 Cumulative Actual	FY2006 Cumulative Actual	FY2007 Cumulative Target	***FY2008 Cumulative Target***	% Complete Through FY 2008	Life-cycle Total
5,872	6,242	6,532	6,781	65%	10,470



Annual Performance Results and Targets

A subset of the 16 corporate performance measures EM uses to track program performance: eight corporate measures in addition to an efficiency measure. These measures represent the broad scope of cleanup challenges the program faces in completing its mission. These targets and EM's actual performance are reported in the Annual Performance and Accountability Report.

Measures	FY 2003 Results	FY 2004 Results	FY 2005 Results	FY 2006 Results	FY 2007 Cumulative Targets	FY 2008 Cumulative Targets
Strategic Goal 4, Environmental Management						
GPRA Unit Program Goal 04.1.53.00, Environmental Management						
Plutonium and Uranium Residues Packaged for Disposition	Not an Annual Performance Plan (APP) measure in FY 2004.	Package a cumulative total of 107,706 kg of PU/U residues. (Not an APP measure in FY 2004.)	Package a cumulative total of 107,775 kg of PU/U residues. (MET GOAL)	Not an APP measure in FY 2006.	Not an APP measure in FY 2007.	**Measure Complete**
Transuranic Waste (TRU) Shipped for Disposal at WIPP	Ship for disposal at WIPP a cumulative total of 12,242 cubic meters of transuranic waste. (MET GOAL)	Ship for disposal at WIPP a cumulative total of 24,944 cubic meters of transuranic waste. (GOAL NOT MET)	Ship for disposal at WIPP a cumulative total of 39,856 cubic meters of transuranic waste. (GOAL NOT MET)	Ship for disposal at WIPP a cumulative total of 50,095 cubic meters of transuranic waste. (GOAL NOT MET)	Ship for disposal at WIPP a cumulative total of 47,301 cubic meters of transuranic waste.	Ship for disposal at WIPP a cumulative total of 54,466 cubic meters of transuranic waste.
Liquid Waste Tanks Closed	Close a cumulative total of 3 liquid waste tanks. (GOAL NOT MET)	Close a cumulative total of 12 liquid waste tanks. (Not an APP measure in FY 2004)	Close a cumulative total of 12 liquid waste tanks. (GOAL NOT MET)	Not an APP measure in FY 2006.	Not an APP measure in FY 2007.	Not an APP measure in FY 2008.
High-Level Waste Canisters Packaged	Package a cumulative total of 1,742 canisters of high-level waste. (NEARLY MET GOAL)	Package a cumulative total of 1,992 canisters of high-level waste. (Not an APP measure in FY 2004)	Package a cumulative total of 2,242 canisters of high-level waste. (MET GOAL)	Package a cumulative total of 2,492 canisters of high-level waste. (MET GOAL)	Package a cumulative total of 2,675 canisters of high-level waste.	Package a cumulative total of 2,861 canisters of high-level waste.
Release Sites Completed	Complete a cumulative total of 5,141 release sites. (MET GOAL)	Complete a cumulative total of 5,330 release sites. (MET GOAL)	Complete a cumulative total of 5,630 release sites. (MET GOAL)	Complete a cumulative total of 6,018 release sites. (MET GOAL)	Complete a cumulative total of 6,532 release sites.	Complete a cumulative total of 6,781 release sites.
Enriched Uranium Packaged for Disposition	Package for disposition a cumulative total of 2,130 containers of enriched uranium. (GOAL NOT MET)	Package for disposition a cumulative total of 3,055 containers of enriched uranium. (Not an APP measure in FY 2004)	Package for disposition a cumulative total of 3,944 containers of enriched uranium. (MET GOAL)	Package for disposition a cumulative total of 6,159 containers of enriched uranium. (MET GOAL)	Package for disposition a cumulative total of 6,972 containers of enriched uranium.	Package for disposition a cumulative total of 7,192 containers of enriched uranium.
Combined Radioactive and Nuclear Facility Completions	Complete a cumulative total of 151 combined nuclear and radioactive facilities. (MET GOAL)	Complete a cumulative total of 194 combined nuclear and radioactive facilities. (Radioactive Facilities: NEARLY MET GOAL) (Nuclear Facilities were not an APP measure in FY 2004.)	Complete a cumulative total of 261 combined nuclear and radioactive facilities. (MET GOAL)	Complete a cumulative total of 315 combined nuclear and radioactive facilities. (MET GOAL)	Complete a cumulative total of 403 combined nuclear and radioactive facilities.	Complete a cumulative total of 419 combined nuclear and radioactive facilities.
Efficiency Measure: Cost and Schedule Variance of Selected Projects	N/A	N/A	N/A	No greater than 10% negative cost and schedule variance for the overall cost – weighted mean cost and schedule performance indices for 80 operating projects and nine line item projects that are baselined and under configuration control. (MET GOAL)	No greater than 10% negative cost and schedule variance for the overall cost – weighted mean cost and schedule performance indices for 80 operating projects and nine line item projects that are baselined and under configuration control.	No greater than 10% negative cost and schedule variance for the overall cost – weighted mean cost and schedule performance indices for 80 operating projects and nine line item projects that are baselined and under configuration control.

Means and Strategies

The EM program will pursue the following means and strategies to achieve its program goals:

- Eliminate significant environmental, health and safety risks as soon as possible.
    - High-level waste/tank waste storage, treatment, disposal
    - Spent nuclear fuel storage, receipt, disposition
    - Solid waste (transuranic waste and low-level waste/mixed low-level waste) storage, treatment, disposal
    - Special nuclear material storage, processing and disposition
    - Higher risk groundwater remediation
    - Soil and groundwater remediation
    - Decontamination and decommissioning of contaminated facilities
- Hold cleanup contractors accountable to high safety standards; and empower them to pursue the most direct path to success.
- Acquisition strategies will promote contractor efficiencies through competition, performance incentives and through use of appropriate contracting vehicles (such as Indefinite Delivery /Indefinite Quantity).
- Perform risk reduction and site closure in concert with regulators and stakeholders to determine the most appropriate remediation schedules and approaches.
- Project contingency funding will not be requested with the exception of capital projects. Unexpected project expenditures will reduce planned annual project performance.
- Streamline EM program activities to focus on risk reduction and cleanup.
- Continue to revitalize human capital as it is only with well-trained and qualified people that EM will be able to accomplish its cleanup mission.

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

- 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.
- 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 Disposition: Accomplishment of risk reduction and site closure is dependent upon the continued availability of commercial options for mixed low-level waste and low-level waste treatment and disposal.
- Constrained Flexibility: New regulations, statutes, orders, or litigation may constrain the program's flexibility in accomplishing the goal of cleanup completion and risk reduction in a fiscally responsible manner. EM will be given sufficient flexibility by Congress to execute its budget efficiently within established appropriation control points.
- Waste Incidental to Reprocessing: EM can proceed with key aspects of its planned tank waste programs consistent with the FY 2005 authorization legislation and current status of the litigation related to waste incidental to reprocessing.
- New Mission or Responsibilities: EM will not initiate additional work scope, associated with cleanup of excess facilities from other DOE programs, until there is room within EM's budget based on risk reduction priorities to accomplish this new work scope or the other DOE programs transfer budget target to EM.

- Pension Plans: Fluctuating budgetary requirements relative to market-based contractor pension plan contributions may affect planned accomplishments (milestones and metrics).

In carrying out the program's risk reduction and cleanup 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. Compliance with environmental laws and agreements continue to be a major cost element of the EM program.
- Defense Nuclear Facilities Safety Board: EM works with the 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 cleanup.
- EM Site Specific Advisory Boards: EM solicits advice and guidance on site operations from nine Site Specific Advisory Boards across the EM complex.
- National Academy of Public Administration (NAPA): EM works with NAPA on its recommendations regarding organization, managerial and human capital issues.
- National Academy of Science (NAS): EM works with the NAS on its recommendations regarding various technical and scientific issues confronting the EM program.

EM also solicits advice and guidance from other external liaison groups, including the National Governors' Association, National Association of Attorney's General, State and Tribal Governments Working Group, Energy Communities Alliance, and the Environmental Council of the States.

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 Government Accountability 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. Headquarters offices conduct routine assessments of baseline performance.

Program Assessment Rating Tool (PART)

The Department implemented a tool to evaluate selected programs. The 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 2008 budget, 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). OMB's assessment found that the program was generally effective in planning and managing cleanup activities. Average or above scores of 80, 88, and 73 were received in the "Purpose," "Planning," and "Management" sections of the PART evaluation, respectively. For the last section of the PART 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 made 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 progress made to further develop project management techniques and associated cost and schedule performance measures.

FY 2005 PART EM made significant progress over the year, demonstrated by the program receiving a FY 2005 PART score of 61 (adequate). OMB assigned scores in the "Purpose," "Planning," and "Management Sections" of 100, 80, and 100, respectively. The assessment found that EM's managers were implementing reforms that were improving program performance. It was noted that the EM program had been redesigned to focus on its cleanup mission. The score for the "Results/Accountability" section was 26, also an improvement compared to 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 has taken steps to fully incorporate and address this finding. It was 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. (See FY 2006 PART for update.)

FY 2006 PART Given its participation the past two years, it was not necessary for EM to do a PART evaluation for the FY 2006 budget. EM has made significant progress towards meeting its goal to have resource-loaded baselines in place at each EM site that reflect its accelerated closure strategy. All site baselines have been reviewed for acceptance into the program's configuration control process. All but four site baselines (West Valley, Stanford Linear Accelerator Center, Los Alamos National Laboratory, and Energy Technology Engineering Center) are under configuration control. These sites did not have defined end states to enable firm baselines; they are targeted to be placed under configuration control in FY 2006. When the remaining site baselines are placed under configuration control, all project earned value cost and schedule information will be tracked.

FY 2007 PART EM was not required to do a PART evaluation for the FY 2007 budget. However, EM has updated information from previous PART evaluations and posted it to the website: www. ExpectMore.gov. This allows for rapid reporting of progress on activities meeting mission goals while performing work safely. EM also seeks to improve the linkage between performance measures so that there is a clearer, discernable relationship between how much cleanup has been accomplished and costs incurred in completing the work and identify and highlight in its progress using those performance measures that are the most critical to assessing overall progress toward meeting accelerated cleanup plan goals.

In addition, EM continues to utilize earned value management system (EVMS) data as a means to link performance and cost and to more completely integrate performance accomplishments into the budget decision-making process. The Office of Engineering and Construction Management has implemented a program to certify the EVMS of the Department's contractors. This certification confirms that a standard, capable EVMS is in place and is being used to manage EM projects. In addition, EM will be emphasizing project risk management as a method to better manage the uncertainties associated with achieving mission goals.

FY 2008 PART EM was not required to do a PART evaluation for the FY 2008 budget. However, EM continues to update previous PART information and posting it to the OMB website, allowing for rapid reporting of progress on activities towards meeting its mission goals while performing work safely.

EM has applied project management principles to all cleanup projects and formally reports project progress to senior Departmental leadership on a monthly basis. In addition to line-item construction projects, EM is the only DOE program that is applying DOE Order 413.3A project management requirements to its portfolio of operations-funded projects. EM completed initial reviews of resource-loaded cost and schedule baselines for 89 mission-related projects, including 7 line-item construction projects. These mission-related projects, which reflect EM's cleanup and closure strategy, describe in detail the activities, schedule, and resources required to complete the EM cleanup mission at each site or to construct a major facility at a site. For these projects, EM is collecting and analyzing earned value cost and schedule information on a monthly basis to monitor and measure the cleanup progress of each site against its cleanup objectives and take corrective action as necessary. Senior EM management conducts quarterly project reviews as well. With EM's management of the EM site baselines, the program is effectively monitoring performance towards meeting its mission goals.

Life-cycle Costs

As part of its application of DOE Order 413.3A to operating expense-funded cleanup projects, EM identifies contingency (that is not funded) that increases the probability of success up to the 80 percent confidence range. This unfunded contingency is a critical component of the independent validation of the baselines by the DOE Office of Engineering and Construction Management. However, the EM budget requests do not include this contingency. The life-cycle cost of these projects are shown as single point estimates based on the most probable cost of the project at a 50 percent confidence level. As these operating expense-funded projects achieve Critical Decision 2 status (baseline validation), DOE is moving in a direction whereby its life-cycle cost estimates will be adjusted to reflect a range of costs to incorporate the higher confidence parameter. The life-cycle cost estimates shown in this budget do not reflect this approach at this time. In addition to being used for project reporting these costs are used to report the environmental liability estimate for the Department. Line-item construction projects that have achieved baseline validation at Critical Decision 2 will continue to have a single point total project cost/life-cycle cost reflecting an 80 percent confidence level.

Corporate Performance Measures – EM Totals

	Cumulative FY 2006 Target	Cumulative FY 2007 Target	Cumulative FY 2008 Target
Geographic Sites Eliminated (number of sites)	81	86	89
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	6,314	6,314	6,314
Enriched Uranium packaged for disposition (Number of Containers)	6,461	6,972	7,192
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	107,817	107,828	107,828
Depleted and Other Uranium packaged for disposition (Metric Tons)	11,804	11,855	17,116
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	700	1,400
Liquid Waste Tanks closed (Number of Tanks)	2	5	9
High-Level Waste packaged for final disposition (Number of Containers)	2,489	2,675	2,861
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2,127	2,127	2,127
Transuranic Waste shipped for disposal (Cubic meters)	37,008	43,701	54,466
Material Access Areas eliminated (Number of Material Access Areas)	11	11	11
Nuclear Facility Completions (Number of Facilities)	76	81	82
Radioactive Facility Completions (Number of Facilities)	302	322	337
Industrial Facility Completions (Number of Facilities)	1,335	1,417	1,560
Remediation Complete (Number of Release Sites)	6,242	6,532	6,781
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	965,854	987,249	1,004,386

In preparing the FY 2008 budget, EM used performance data in making management and budget decisions. The following examples illustrate how budget decisions were influenced by program performance.

The Los Alamos National Laboratory has brought on a new cleanup contractor and is making good progress on developing a validated baseline for its remediation work. In addition, DOE conducted an independent cost estimate for all legacy cleanup activities. For this reason, the FY 2008 budget requests increased funding for the Los Alamos National Laboratory remediation work that is required under the Los Alamos National Laboratory Consent Order in the areas of soil and groundwater cleanup and solid waste disposition.

The FY 2008 funding request includes funding for two key disposition capabilities: the disposition of Uranium 233 (Building 3019 project) at the Oak Ridge National Laboratory and the Plutonium Vitrification Project at the Savannah River Site. The increased funding reflects increased confidence in project execution and adherence to sound project management principles as outlined in DOE Order 413.3A.

Based on the progress discussed below, the Department requests $690 million to continue design and construction of the Waste Treatment and Immobilization Plant at the Office of River Protection. Lacking stable funding, the project would once again require re-planning and rescheduling with consequential impact. During the past year, EM has made significant progress in resolving the issues and problems that have been identified. These include:

- Establishing a senior-level oversight team at the Department's Headquarters that is actively engaged in all facets of the project.
- Hiring personnel to enhance the contracting, legal, and project management capabilities at the Office of River Protection.
- Engaging an independent expert team that completed an After Action Fact Finding Review to better understand the management issues associated with the project.
- Completing a comprehensive in-depth technical review by senior external professionals to ensure the functional capability of the Waste Treatment and Immobilization Plant design.
- Working with the U.S. Army Corps of Engineers and the Defense Nuclear Facilities Safety Board to ensure the Waste Treatment and Immobilization Plant design complies with the latest earthquake ground motion criteria.
- Developing a revised project cost and schedule baseline by the project contractor and engagement of the U.S. Army Corps of Engineers to independently validate the baseline.
- Working to implement an Earned Value Management System that fully complies with the American National Standards Institute criteria and is certified by the Defense Contracts Management Agency.

On December 22, 2006, the Department approved a new Performance Baseline for the Waste Treatment and Immobilization Plant that increases the Total Project Cost from $5,781,000,000 to $12,263,000,000.

Site Closure Dates

The dates shown on the following table are based not only on DOE's current estimates for cleanup completion (either from validated baselines or unvalidated baselines), but also on DOE acceptance of completion as declared by the cleanup contractor. Note that the dates in the table are based on fiscal years to conform with the budget cycle. Changes from the FY 2007 Congressional Request are noted as appropriate, and discussed more fully in each site's budget narrative.

Site Closure Dates[a]

Site	Completion Date (Fiscal Year)
Kansas City Plant	2006
Lawrence Livermore National Laboratory - Main Site	2006
Rocky Flats Environmental Technology Site	2006
Fernald Environmental Management Project (Note 1)	2007
Ashtabula Environmental Management Project (Note 2)	2007
Lawrence Berkeley National Laboratory (Note 3)	2007
Miamisburg Environmental Management Project (Note 4)	2007
Columbus Environmental Management Project - West Jefferson (Note 5)	2007
Inhalation Toxicology Laboratory	2008
Lawrence Livermore National Laboratory - Site 300	2008
Pantex Plant	2008
Sandia National Laboratories - NM (Note 6)	2009
Argonne National Laboratory - East	2009
Stanford Linear Accelerator Center (Note 7)	2009
Energy Technology Engineering Center (Note 7)	2009
Brookhaven National Laboratory (Note 8	2010
West Valley Demonstration Project (Note 9)	2012
General Electric Vallecitos Nuclear Center	2014
Separations Process Research Unit	2014
Oak Ridge Reservation	2015
Los Alamos National Laboratory	2015
Portsmouth Gaseous Diffusion Plant	2025
Nevada Test Site	2027
Moab (Note 10)	2028
Paducah Gaseous Diffusion Plant	2030
Savannah River Site (Note 11)	2031
Idaho National Laboratory	2035
Waste Isolation Pilot Plant	2035
Hanford Site; excluding ORP	2035
Office of River Protection (Note 12)	2042

Note 1: Physical completion was declared on October 2006 and DOE acceptance in January 2007.
Note 2: Physical completion was accepted by DOE in December 2006.
Note 3: A one-year delay in the closure date due to regulatory closeout issues.
Note 4: The Conference Report accompanying the Energy and Water Development. Appropriations Act, 2006 requires additional remediation work (OU-1) at Miamisburg which delayed the scheduled closure date.
Note 5: Physical completion in June 2006, DOE agreement with site owner on completion in January 2007.
Note 6: A three-year delay in the closure date due to regulatory issues.
Note 7: This date reflects the current baseline; delays due to regulatory issues possible.
Note 8: Two-year delay possible on facility D&D workscope.
Note 9: Reflects interim end state.
Note 10: The revised end date from 2011 is an estimate, pending validation of the baseline.
Note 11: Revised end date based on current tank waste processing estimates.
Note 12: The new Waste Treatment Plant baseline results in a seven-year delay to site completion.

a) Refer to text for explanation of site closure dates.

Facilities Maintenance and Repair

The Department's Facilities Maintenance and Repair activities are tied to its programmatic missions, goals, and objectives. Facilities Maintenance and Repair activities funded by this budget are displayed below.

Direct-Funded Maintenance and Repair

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Carlsbad	10,277	11,038	10,335
East Tennessee Technology Park	11,129	12,564	8,711
Idaho National Laboratory	18,512	15,982	12,584
Paducah	1,924	2,336	2,406
Portsmouth	12,279	10,592	8,745
Richland Operations Office	83,889	81,415	79,642
Office of River Protection	26,061	23,971	27,939
Savannah River	125,714	126,000	117,000
	289,785	283,898	267,362

Indirect-Funded Maintenance and Repair

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Carlsbad	0	0	0
East Tennessee Technology Park	0	0	0
Idaho National Laboratory	0	0	0
Paducah	81	0	0
Portsmouth	2,511	2,574	2,638
Richland Operations Office	1,505	1,564	1,614
Office of River Protection	0	0	0
Savannah River	41,904	42,000	39,000
	46,001	46,138	43,252

ANCILLARY TABLES

Detailed Funding Table

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Closure Sites			
Operating	1,077,806	320,937	42,437
Hanford Site			
2012 Completion Projects			
Operating	440,711	423,618	413,038
2035 Completion Projects			
Operating	332,162	381,098	464,042
Total, Hanford Site	772,873	804,716	877,080
Idaho National Laboratory			
Operating	461,025	481,604	391,226
Construction:			
04-D-414 / 04-02 PED: Sodium Bearing Waste Treatment, ID	41,108	0	0
06-D-401 / Sodium Bearing Waste Treatment Project, Idaho National Laboratory (INL), Idaho	30,729	31,000	112,800
Total, Construction	71,837	31,000	112,800
Total, Idaho National Laboratory	532,862	512,604	504,026
NNSA Sites			
Operating	299,447	232,068	271,130
Oak Ridge			
Operating	254,790	159,862	179,284
Office of River Protection			
Waste Treatment and Immobilization Plant			
Construction:			
01-D-16A / Low Activity Waste Facility, RL	161,376	77,800	143,000
01-D-16B / Analytical Laboratory, RL	44,552	21,800	45,000
01-D-16C / Balance of Facilities, RL	64,352	48,900	72,000
01-D-16D / High Level Waste Facility, RL	102,964	253,700	177,000
01-D-16E / Pretreatment Facility, RL	147,515	287,800	253,000
Total, Construction	520,759	690,000	690,000
Tank Farm Activities			
Operating	327,575	274,127	273,443
Total, Office of River Protection	848,334	964,127	963,443

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Savannah River Site			
2012 Completion Projects			
Operating	232,509	211,897	0
Construction:			
04-D-414 / 04-01 PED: 3013 Container Surveillance Capability in 235-F, SR	18,415	2,935	0
04-D-423 / 3013 Container Surveillance Capability in 105-K, SR	0	21,300	31,000
Total, Construction	18,415	24,235	31,000
Total, 2012 Completion Projects	250,924	236,132	31,000
2035 Completion Projects			
Operating	486,676	277,338	495,071
Construction:			
08-D-414 / PED: 08-01 Plutonium Vitrification Facility	0	0	15,000
Total, 2035 Completion Projects	486,676	277,338	510,071
Tank Farm Activities			
Operating	495,983	507,724	524,018
Construction:			
03-D-414 / 03-01 PED: Salt Waste Processing Facility Alternative, SR	34,990	37,500	10,001
04-D-408 / Glass Waste Storage Building #2, SR	1,905	0	0
05-D-405 / Salt Waste Processing Facility, SR	495	25,700	131,000
Total, Construction	37,390	63,200	141,001
Total, Tank Farm Activities	533,373	570,924	665,019
Total, Savannah River Site	1,270,973	1,084,394	1,206,090
Waste Isolation Pilot Plant			
Operating	228,331	213,278	219,739
Program Support			
Operating	32,519	37,881	33,146
Program Direction			
Operating	241,386	291,216	309,760
Safeguards and Security			
Operating	281,189	295,840	273,381
Technology Development and Deployment			
Operating	29,047	21,389	21,389
Federal Contribution to the Uranium Enrichment D&D Fund			
Operating	446,490	452,000	463,000
Subtotal, Defense Environmental Cleanup	6,316,047	5,390,312	5,363,905

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D			
Operating	45,652	34,843	10,342
Gaseous Diffusion Plants			
Operating	48,325	74,860	38,120
Construction:			
02-U-101 / Depleted Uranium Hexafluoride Conversion Project, Paducah, KY & Portsmouth, OH	84,945	32,556	0
Total, Gaseous Diffusion Plants	133,270	107,416	38,120
Small Sites			
Operating	94,436	94,699	78,080
West Valley Demonstration Project			
Operating	76,329	73,400	54,395
Total, Non-Defense Environmental Cleanup	349,687	310,358	180,937
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities			
Operating	536,806	559,368	553,509
U/Th Reimbursements			
Operating	19,800	20,000	20,000
Total, Uranium Enrichment Decontamination and Decommissioning Fund	556,606	579,368	573,509
Subtotal, Environmental Management	7,222,340	6,280,038	6,118,351
Use of Prior Year (Defense)	-166,318	0	0
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Proj 05-D-405)	-20,000	0	0
D&D Fund Offset	-446,490	-452,000	-463,000
Total, Environmental Management	6,589,532	5,828,038	5,655,351

Funding Summary by Office

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Carlsbad	228,331	213,278	219,739
Idaho	538,083	519,604	509,426
Oak Ridge	502,246	471,335	409,690
Paducah	154,262	131,776	134,042
Portsmouth	268,358	223,535	227,181
Richland	818,525	839,559	887,422
River Protection	848,334	964,127	963,443
Savannah River	1,270,973	1,084,394	1,206,090
NNSA Sites	299,932	233,093	273,035
Closure Sites	1,078,050	320,937	43,637
Headquarters Operations	52,075	57,881	53,146
West Valley Demonstration Project	76,329	73,400	54,395
All Other Sites	88,730	86,674	69,575
Program Direction	241,386	291,216	309,760
Safeguards and Security	281,189	295,840	273,381
D&D Fund Deposit	446,490	452,000	463,000
Technology Development & Deployment	29,047	21,389	21,389
Subtotal, Environmental Management	7,222,340	6,280,038	6,118,351
Offsets	-632,808	-452,000	-463,000
Total, Environmental Management	6,589,532	5,828,038	5,655,351

Environmental Management Federal Staffing[a]

	(Full-Time Equivalents)		
	FY 2006 Appropriation	FY 2007 Appropriation	FY 2008 Request
Carlsbad	42	51	50
Chicago	10	7	0
Idaho	58	67	67
Oak Ridge	88	83	83
Portsmouth/Paducah Project Office	34	45	45
Ohio	31	20	0
Richland	238	245	244
River Protection	101	115	112
Rocky Flats	4	0	0
Savannah River	328	343	339
Small Sites	0	21	46
Nevada Site Office	24	30	30
NNSA Sites	40	38	35
Subtotal, Field, Full-Time Equivalents	998	1,065	1,051
Headquarters Operations	272	280	299
Consolidated Business Center	120	150	150
Total, Field, Full-Time Equivalents	1,390	1,495	1,500

[a] FTEs from Headquarters (22 from Oakland (Energy Technology Engineering Center, Stanford Linear Accelerator Center, and Lawrence Berkeley National Laboratory), Moab, Separations Process Research Unit); Chicago (6 from Argonne National Laboratory, Brookhaven National Laboratory); and Ohio (18 from West Valley Demonstration Project) have been realigned to the Small Sites.

Funding by Office/Site/Location

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Carlsbad			
Carlsbad Field Office	36,184	25,122	26,689
Waste Isolation Pilot Plant	192,147	188,156	193,050
Total, Carlsbad	228,331	213,278	219,739
Idaho			
Argonne National Laboratory-West	120	0	0
Idaho National Laboratory	537,963	519,604	509,426
Total, Idaho	538,083	519,604	509,426
Oak Ridge			
East Tennessee Technology Park	251,488	321,567	233,759
Oak Ridge National Laboratory	60,789	40,500	71,446
Oak Ridge Reservation	168,082	69,268	84,630
Y-12 Plant	21,887	40,000	19,855
Total, Oak Ridge	502,246	471,335	409,690
Paducah			
Paducah Gaseous Diffusion Plant	154,262	131,776	134,042
Portsmouth			
Portsmouth Gaseous Diffusion Plant	268,358	223,535	227,181
Richland			
Hanford Site	803,268	821,227	867,802
Richland Operations Office	15,257	18,332	19,620
Total, Richland	818,525	839,559	887,422
River Protection			
River Protection	848,334	964,127	963,443

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Savannah River			
Savannah River National Laboratory	49,207	43,300	39,300
Savannah River Operations Office	12,916	12,542	12,500
Savannah River Site	1,208,850	1,028,552	1,154,290
Total, Savannah River	1,270,973	1,084,394	1,206,090
NNSA Sites			
California Site Support	545	370	370
Kansas City Plant	4,481	0	0
Lawrence Livermore National Laboratory	29,283	11,580	8,680
Los Alamos National Laboratory	141,277	91,627	141,372
Nevada Test Site	84,177	79,668	81,106
NNSA Service Center	8,221	26,122	29,096
Offsites	2,818	0	0
Pantex Plant	19,458	23,726	12,411
Sandia National Laboratory	9,672	0	0
Total, NNSA Sites	299,932	233,093	273,035
Closure Sites			
Ashtabula	15,841	295	295
Columbus	26,834	0	0
Consolidated Business Center	0	25,896	13,034
Fernald	349,844	258,877	0
Miamisburg	170,578	34,869	30,308
Rocky Flats Environmental Technology Site	491,726	1,000	0
Rocky Flats Field Office	23,227	0	0
Total, Closure Sites	1,078,050	320,937	43,637
Headquarters Operations			
Headquarters	52,075	57,881	53,146
West Valley Demonstration Project			
West Valley Demonstration Project	76,329	73,400	54,395

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
All Other Sites			
Argonne National Laboratory-East	10,382	10,726	2,437
Brookhaven National Laboratory	33,985	28,272	23,699
California Site Support	99	160	160
Energy Technology Engineering Center	8,910	16,000	13,000
Inhalation Toxicology Laboratory	302	2,931	427
Lawrence Berkeley National Laboratory	3,861	0	0
Moab	27,726	22,865	23,952
Stanford Linear Accelerator Center	3,465	5,720	5,900
Total, All Other Sites	88,730	86,674	69,575
Program Direction			
Program Direction	241,386	291,216	309,760
Safeguards and Security			
Carlsbad Field Office	4,181	4,324	4,927
East Tennessee Technology Park	28,567	22,889	18,490
Fernald	1,377	1,216	0
Hanford Site	81,335	77,836	87,297
Paducah Gaseous Diffusion Plant	10,904	8,707	0
Portsmouth Gaseous Diffusion Plant	17,664	15,642	11,667
Savannah River Site	135,379	163,626	149,400
West Valley Demonstration Project	1,782	1,600	1,600
Total, Safeguards and Security	281,189	295,840	273,381
D&D Fund Deposit			
D&D Fund Deposit	446,490	452,000	463,000
Technology Development & Deployment			
Technology Development and Deployment	29,047	21,389	21,389
Subtotal, Environmental Management	7,222,340	6,280,038	6,118,351
Use of Prior Year (Defense)	-166,318	0	0
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Proj 05-D-405)	-20,000	0	0
D&D Fund Offset	-446,490	-452,000	-463,000
Total, Environmental Management	6,589,532	5,828,038	5,655,351

Corporate Measures Totals by Site [a]

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
Carlsbad					
Waste Isolation Pilot Plant					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Idaho					
Argonne National Laboratory - West					
Remediation Complete (Number of Release Sites)	37	37	37	37	37
Argonne National Laboratory-West					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Idaho National Laboratory					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Enriched Uranium packaged for disposition (Number of Containers)	910	1,121	1,205	1,425	1,646
High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	0	4,200
Industrial Facility Completions (Number of Facilities)	111	111	114	118	257
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	0	900
Liquid Waste Tanks closed (Number of Tanks)	0	0	3	7	11
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	44,461	53,672	56,468	59,057	108,276
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	1	1
Nuclear Facility Completions (Number of Facilities)	20	20	21	22	74
Radioactive Facility Completions (Number of Facilities)	17	20	25	27	51
Remediation Complete (Number of Release Sites)	160	199	204	210	313
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	0	0	0	0	253
Transuranic Waste shipped for disposal (Cubic meters)	6,338	14,105	18,736	26,645	60,821
Idaho Operations Office					
Remediation Complete (Number of Release Sites)	233	233	233	233	233

[a] 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.

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
Maxey Flats					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Monticello Remedial Action Project					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Pinellas Plant					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Oak Ridge					
East Tennessee Technology Park					
Industrial Facility Completions (Number of Facilities)	160	242	316	414	575
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	38,250	38,250	38,250	38,250	38,250
Nuclear Facility Completions (Number of Facilities)	4	5	6	6	8
Radioactive Facility Completions (Number of Facilities)	1	4	6	9	16
Remediation Complete (Number of Release Sites)	28	68	85	85	162
FUSRAP					
Geographic Sites Eliminated (number of sites)	25	25	25	25	25
Oak Ridge National Laboratory					
Industrial Facility Completions (Number of Facilities)	7	7	7	7	25
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,880	6,852	7,752	8,653	9,484
Nuclear Facility Completions (Number of Facilities)	0	0	0	0	15
Radioactive Facility Completions (Number of Facilities)	3	3	3	3	26
Remediation Complete (Number of Release Sites)	80	80	80	82	178
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	76	98
Oak Ridge Operations Office					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Industrial Facility Completions (Number of Facilities)	3	3	3	3	3
Remediation Complete (Number of Release Sites)	97	97	97	97	97
Oak Ridge Reservation					
Geographic Sites Eliminated (number of sites)	1	1	1	1	2

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
Industrial Facility Completions (Number of Facilities)	2	2	2	2	25
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	56,604	59,284	60,499	61,633	64,959
Nuclear Facility Completions (Number of Facilities)	0	2	2	2	2
Radioactive Facility Completions (Number of Facilities)	2	10	15	15	29
Remediation Complete (Number of Release Sites)	58	111	112	113	114
Transuranic Waste shipped for disposal (Cubic meters)	0	0	289	905	2,568
Weldon Spring Site					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Y-12 Plant					
Industrial Facility Completions (Number of Facilities)	1	1	1	1	2
Remediation Complete (Number of Release Sites)	28	28	28	28	138
Paducah					
Paducah Gaseous Diffusion Plant					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	3,000	421,960
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	8,393	9,769	12,278	15,433	25,091
Radioactive Facility Completions (Number of Facilities)	0	0	0	0	2
Remediation Complete (Number of Release Sites)	86	86	91	93	205
Portsmouth					
Portsmouth Gaseous Diffusion Plant					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	2,261	250,001
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	17,335	22,423	27,751	29,654	29,654
Remediation Complete (Number of Release Sites)	149	149	149	149	150
Richland					
Hanford Site					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Depleted and Other Uranium packaged for disposition (Metric Tons)	3,100	3,100	3,100	3,100	3,100

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
Enriched Uranium packaged for disposition (Number of Containers)	2,958	2,958	2,958	2,958	2,958
Industrial Facility Completions (Number of Facilities)	233	279	281	286	1,051
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	43,524	44,082	44,188	44,294	50,864
Material Access Areas eliminated (Number of Material Access Areas)	0	1	1	1	2
Nuclear Facility Completions (Number of Facilities)	15	24	24	24	80
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	3,500	3,500	3,500	3,500	3,500
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	3,437	3,437	3,437	3,437	3,437
Radioactive Facility Completions (Number of Facilities)	20	40	47	56	333
Remediation Complete (Number of Release Sites)	365	427	460	514	1,645
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2,123	2,124	2,124	2,124	2,124
Transuranic Waste shipped for disposal (Cubic meters)	1,288	1,781	2,279	2,749	28,369
River Protection					
River Protection					
High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	0	9,667
Industrial Facility Completions (Number of Facilities)	0	0	0	0	128
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	0	54,000
Liquid Waste Tanks closed (Number of Tanks)	0	0	0	0	177
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	0	1,500	2,871	197,832
Nuclear Facility Completions (Number of Facilities)	0	0	0	0	18
Radioactive Facility Completions (Number of Facilities)	0	0	0	0	114
Remediation Complete (Number of Release Sites)	5	5	5	5	278
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	0	4,038
Savannah River					
Savannah River Site					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Depleted and Other Uranium packaged for disposition (Metric Tons)	8,209	8,704	8,755	8,755	23,182
Enriched Uranium packaged for disposition (Number of Containers)	1,673	2,382	2,809	2,809	2,809

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
High-Level Waste packaged for final disposition (Number of Containers)	1,969	2,214	2,400	2,586	5,862
Industrial Facility Completions (Number of Facilities)	164	224	226	262	765
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	700	1,400	33,100
Liquid Waste Tanks closed (Number of Tanks)	2	2	2	2	51
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	78,952	86,888	90,444	93,224	140,442
Material Access Areas eliminated (Number of Material Access Areas)	1	2	2	2	3
Nuclear Facility Completions (Number of Facilities)	7	10	13	13	191
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	919	919	919	919	919
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	451	479	490	490	490
Radioactive Facility Completions (Number of Facilities)	2	8	9	9	42
Remediation Complete (Number of Release Sites)	315	325	344	358	516
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2	2	2	2	39
Transuranic Waste shipped for disposal (Cubic meters)	3,687	4,302	4,952	5,602	15,553
NNSA Sites					
Kansas City Plant					
Geographic Sites Eliminated (number of sites)	0	1	1	1	1
Remediation Complete (Number of Release Sites)	42	43	43	43	43
Lawrence Livermore National Laboratory					
Geographic Sites Eliminated (number of sites)	0	1	1	2	2
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	2,707	2,766	2,766	2,766	2,766
Remediation Complete (Number of Release Sites)	181	189	193	194	194
Transuranic Waste shipped for disposal (Cubic meters)	125	125	125	125	125
Los Alamos National Laboratory					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,909	5,909	5,909	5,909	5,909
Radioactive Facility Completions (Number of Facilities)	0	0	0	0	1
Remediation Complete (Number of Release Sites)	1,398	1,410	1,478	1,546	2,129

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
Transuranic Waste shipped for disposal (Cubic meters)	771	1,267	1,892	2,936	7,127
Nevada Test Site					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Remediation Complete (Number of Release Sites)	781	864	920	991	2,020
Transuranic Waste shipped for disposal (Cubic meters)	348	392	392	392	392
New Mexico Site Support					
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,319	1,319	1,319	1,319	1,319
Remediation Complete (Number of Release Sites)	155	155	155	155	155
NNSA Service Center					
Nuclear Facility Completions (Number of Facilities)	0	0	0	0	4
Remediation Complete (Number of Release Sites)	0	0	0	4	6
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	0	50
Offsites					
Geographic Sites Eliminated (number of sites)	3	3	3	3	9
Remediation Complete (Number of Release Sites)	47	53	53	53	53
Pantex Plant					
Geographic Sites Eliminated (number of sites)	0	0	0	1	1
Industrial Facility Completions (Number of Facilities)	3	4	4	4	4
Remediation Complete (Number of Release Sites)	101	103	180	206	206
Sandia National Laboratory					
Geographic Sites Eliminated (number of sites)	1	1	1	1	2
Radioactive Facility Completions (Number of Facilities)	1	1	1	1	1
Remediation Complete (Number of Release Sites)	244	262	262	262	262
Separations Process Research Unit					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Closure Sites					
Ashtabula					
Geographic Sites Eliminated (number of sites)	0	0	1	1	1

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
Industrial Facility Completions (Number of Facilities)	1	3	3	3	3
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	104	104	104	104	104
Radioactive Facility Completions (Number of Facilities)	20	26	26	26	26
Remediation Complete (Number of Release Sites)	0	0	3	3	3
Columbus					
Geographic Sites Eliminated (number of sites)	1	1	2	2	2
Nuclear Facility Completions (Number of Facilities)	0	1	1	1	1
Radioactive Facility Completions (Number of Facilities)	12	14	14	14	14
Remediation Complete (Number of Release Sites)	1	2	2	2	2
Fernald					
Geographic Sites Eliminated (number of sites)	0	0	1	1	1
Industrial Facility Completions (Number of Facilities)	1	1	1	1	1
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	7,085	7,085	7,085	7,085	7,085
Radioactive Facility Completions (Number of Facilities)	28	29	29	29	29
Remediation Complete (Number of Release Sites)	2	4	6	6	6
Miamisburg					
Geographic Sites Eliminated (number of sites)	0	0	1	1	1
Industrial Facility Completions (Number of Facilities)	97	116	116	116	116
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,947	3,947	3,947	3,947	3,947
Nuclear Facility Completions (Number of Facilities)	7	8	8	8	8
Radioactive Facility Completions (Number of Facilities)	10	11	11	11	11
Remediation Complete (Number of Release Sites)	145	178	178	178	178
Rocky Flats Environmental Technology Site					
Geographic Sites Eliminated (number of sites)	0	1	1	1	1
Industrial Facility Completions (Number of Facilities)	317	317	317	317	317
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	602,188	602,188	602,188	602,188	602,188
Material Access Areas eliminated (Number of Material Access Areas)	7	7	7	7	7

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
Nuclear Facility Completions (Number of Facilities)	6	6	6	6	6
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	1,895	1,895	1,895	1,895	1,895
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	103,901	103,901	103,901	103,901	103,901
Radioactive Facility Completions (Number of Facilities)	54	54	54	54	54
Remediation Complete (Number of Release Sites)	360	360	360	360	360
Transuranic Waste shipped for disposal (Cubic meters)	15,036	15,036	15,036	15,036	15,036
<u>Headquarters Operations</u>					
Grand Junction					
Geographic Sites Eliminated (number of sites)	2	2	2	2	2
Headquarters					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
UMTRA					
Geographic Sites Eliminated (number of sites)	24	24	24	24	24
<u>West Valley Demonstration Project</u>					
West Valley Demonstration Project					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	10,353	16,594	19,954	23,121	23,121
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	0	1,176
<u>All Other Sites</u>					
Ames Laboratory					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Argonne National Laboratory-East					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Radioactive Facility Completions (Number of Facilities)	66	68	68	68	83
Remediation Complete (Number of Release Sites)	443	443	443	443	443
Brookhaven National Laboratory					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Radioactive Facility Completions (Number of Facilities)	10	10	10	10	10
Remediation Complete (Number of Release Sites)	76	76	76	76	76

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
California Site Support					
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	272	272	272	272	272
Remediation Complete (Number of Release Sites)	3	3	3	3	3
Chicago Operations Office					
Geographic Sites Eliminated (number of sites)	3	3	3	3	3
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	537	537	537	537	537
Remediation Complete (Number of Release Sites)	30	30	30	30	30
Energy Technology Engineering Center					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Industrial Facility Completions (Number of Facilities)	24	24	25	25	25
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,055	1,055	1,055	1,055	1,055
Radioactive Facility Completions (Number of Facilities)	4	4	4	5	6
Remediation Complete (Number of Release Sites)	4	4	4	4	14
Fermi National Accelerator Laboratory					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
General Atomics					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,716	1,716	1,716	1,716	1,716
Remediation Complete (Number of Release Sites)	2	2	2	2	2
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	1	1	1	1	1
General Electric					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Geothermal Test Facility					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Inhalation Toxicology Laboratory					
Geographic Sites Eliminated (number of sites)	0	0	0	1	1
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	165	198	323	354	354
Remediation Complete (Number of Release Sites)	9	9	9	9	9

	Complete Through 2005	Complete Through 2006	Targeted Completion Through 2007	Targeted Completion Through 2008	Life-cycle Estimates
Laboratory for Energy-Related Health Research					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Industrial Facility Completions (Number of Facilities)	1	1	1	1	1
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	944	944	944	944	944
Remediation Complete (Number of Release Sites)	16	16	16	16	16
Lawrence Berkeley National Laboratory					
Geographic Sites Eliminated (number of sites)	0	0	1	1	1
Remediation Complete (Number of Release Sites)	174	174	174	174	174
Moab					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
New Mexico Site Support					
Geographic Sites Eliminated (number of sites)	5	5	5	5	5
Ohio Field Office					
High-Level Waste packaged for final disposition (Number of Containers)	275	275	275	275	275
Princeton Plasma Physics Laboratory					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
South Valley					
Geographic Sites Eliminated (number of sites)	1	1	1	1	1
Stanford Linear Accelerator Center					
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Remediation Complete (Number of Release Sites)	17	17	17	17	20

Budget Authority

Estimates by Project Baseline Summary Category

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
NM Stabilization & Disposition	612,786	443,695	516,183
Non-Nuclear Facility D&D	95,568	3,010	0
Nuclear Facility D&D	1,129,603	1,151,177	962,977
Operate Waste Disposal Facility	165,018	164,208	191,012
Other:			
Community and Regulatory Support	54,437	41,255	43,458
Fed. Contribution to the UE D&D Fund	446,490	452,000	463,000
Other	140,382	183,289	155,356
Program Direction	241,386	291,216	309,760
Technology Development	29,047	21,389	21,389
Rad Liquid Waste Stabilization & Disposition	1,023,595	949,094	1,112,407
Rad Liquid Waste Stabilization & Disposition - Major Construction	520,759	690,000	690,000
Safeguards & Security	281,189	295,840	273,381
SNF Stabilization & Disposition	173,550	129,152	165,536
Soil & Water Remediation	1,432,492	744,377	517,243
SW Stabilization & Disposition	838,782	687,396	669,515
Waste & Material Transportation	37,256	32,940	27,134
Subtotal, Environmental Management	7,222,340	6,280,038	6,118,351
Offsets	-632,808	-452,000	-463,000
Total, Environmental Management	6,589,532	5,828,038	5,655,351

Budget Authority Distribution and Life-cycle Costs by Project Baseline Summary

(dollars in thousands)

			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Carlsbad									
WIPP	CB-0080	Operate Waste Disposal Facility-WIPP	4,477,304	1,447,992	116,773	132,026	133,018	2,647,495	9/30/2035
WIPP	CB-0081	Central Characterization Project	433,085	26,242	38,118	23,190	32,898	312,637	9/30/2035
WIPP	CB-0090	Transportation-WIPP	757,015	213,573	37,256	32,940	27,134	446,112	9/30/2030
CBFO	CB-0100	US/Mexico/Border/Material Partnership Initiative	10,992	11,429	0	0	0	See Note b	9/30/2006
CBFO	CB-0101	Economic Assistance to the State of New Mexico	251,829	95,044	36,184	25,122	26,689	68,790	9/30/2011
CBFO	CB-0900	Pre-2004 Completions	7,137	40,605	0	0	0	See Note c	9/30/2003
Subtotal, Carlsbad			5,937,362	1,834,885	228,331	213,278	219,739	3,475,034	0
Idaho									
ANL-W	CH-ANLW-0030	Soil and Water Remediation-Argonne National Laboratory-West	8,619	7,569	120	0	0	930	9/30/2003
INL	HQ-HLW-0014X	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	91,429	0	0	0	0	91,429	9/30/2035
INL	HQ-HLW-0014X-ID	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2035

[a] For cells with "See Note a": Lifecycle cost for this project has been adjusted to include predecessor PBSs.
[b] For cells with "See Note b": The accurate unappropriated balance cannot be determined until EM conducts the next life-cycle cost estimate for this project.
[c] For cells with "See Note c": A portion of the Budget Authority in FY 1997-2002 includes funding for privatization projects that were cancelled and were used as a "Use of Prior Year Balance" offset in future years. Thus, there are no life-cycle costs related to these privatization projects resulting in a lower overall life-cycle cost than the budget authority appropriated for this PBS.
[d] This date reflects completion of active EM remediation activities. Funding may continue for surveillance and maintenance and long-term response activities.

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
INL	HQ-HLW-0014Y	Radioactive Liquid Tank Waste Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2035
INL	HQ-HLW-0014Y-ID	Radioactive Liquid Tank Waste Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2035
INL	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	76,009	12,540	0	0	See Note b	9/30/2025
INL	HQ-SNF-0012X-ID	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2025
INL	HQ-SNF-0012Y	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	232,341	0	0	0	See Note b	9/30/2004
INL	HQ-SNF-0012Y-ID	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2004
INL	ID-0011	NM Stabilization and Disposition	18,119	9,432	1,540	1,000	2,250	3,897	9/30/2009
INL	ID-0012B-D	SNF Stabilization and Disposition-2012 (Defense)	590,126	460,183	18,967	18,415	29,188	63,373	9/30/2012
INL	ID-0012B-N	SNF Stabilization and Disposition-2012 (Non-Defense)	See Note a	0	5,101	7,000	5,400	See Note b	9/30/2012
INL	ID-0012C	SNF Stabilization and Disposition-2035	1,594,274	45,651	0	0	0	1,548,623	9/30/2035
INL	ID-0013	Solid Waste Stabilization and Disposition	2,692,923	1,478,909	138,620	193,910	168,623	712,861	9/30/2012
INL	ID-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012	1,796,892	951,092	163,113	104,514	174,416	403,757	9/30/2012
INL	ID-0014B-T	Radioactive Liquid Tank Waste Stabilization and Disposition-HLW Legis Proposal	See Note a	96,522	0	0	0	See Note b	9/30/2012

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
INL	ID-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035	3,103,771	34,761	0	0	0	3,069,010	9/30/2035
INL	ID-0030B	Soil and Water Remediation-2012	1,367,251	826,443	159,880	120,510	112,389	148,029	9/30/2012
INL	ID-0030C	Soil and Water Remediation-2035	1,369,092	33,207	0	0	0	1,335,885	9/30/2035
INL	ID-0040B	Nuclear Facility D&D-2012	890,602	81,697	4,976	67,562	13,373	722,994	9/30/2012
INL	ID-0040C	Nuclear Facility D&D-2035	1,047,392	0	0	0	0	1,047,392	9/30/2035
INL	ID-0050B	Non-Nuclear Facility D&D-2012	145,437	106,012	29,715	3,010	0	6,700	9/30/2012
INL	ID-0050C	Non-Nuclear Facility D&D-2035	See Note a	0	0	0	0	0	9/30/2035
INL	ID-0100	Idaho Community and Regulatory Support	171,382	47,733	3,511	3,683	3,787	112,668	9/30/2035
ID Ops	ID-0900	Pre-2004 Completions (Defense)	310,261	271,513	0	0	0	38,748	9/30/2003
Subtotal, Idaho			15,197,570	4,759,074	538,083	519,604	509,426	9,306,296	0
Oak Ridge									
HQ	HQ-MS-0100	Policy, Management, and Technical Support	See Note a	0	0	0	0	0	9/30/2035
ORNL	HQ-SW-0013X	Solid Waste Stabilization and Disposition-Science Current Generation	See Note a	95,560	19,025	0	0	See Note b	9/30/2005
ORNL	HQ-SW-0013X-OR	Solid Waste Stabilization and Disposition-Science Current Generation	136,084	0	0	18,544	0	117,540	9/30/2005
Y-12	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation	See Note a	207,439	0	0	0	See Note b	9/30/2008
ETTP	OR-0011Y	NM Stabilization and Disposition-ETTP Uranium Facilities Management	46,466	46,330	4,836	0	0	See Note b	9/30/2008
ORNL	OR-0011Z	Downblend of U-233 in Building 3019	See Note a	0	17,821	0	20,000	See Note b	9/30/2006
ORR	OR-0013A	Solid Waste Stabilization and Disposition-2006	464,481	446,549	60	0	0	17,872	9/30/2006
ORR	OR-0013B	Solid Waste Stabilization and Disposition-2012	1,024,379	735,286	93,247	48,888	72,285	74,673	9/30/2015

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
ORR	OR-0030	Soil and Water Remediation-Melton Valley	360,918	295,337	62,438	0	0	3,143	9/30/2006
ORR	OR-0031	Soil and Water Remediation-Offsites	63,921	39,421	6,724	15,381	6,379	See Note b	9/30/2008
ETTP	OR-0040	Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)	2,205,910	1,060,433	221,871	275,764	201,556	446,286	9/30/2009
Y-12	OR-0041	Nuclear Facility D&D-Y-12	994,416	259,253	21,887	40,000	19,855	653,421	9/30/2015
ORNL	OR-0042	Nuclear Facility D&D-Oak Ridge National Laboratory	662,648	199,691	23,943	21,956	51,446	365,612	9/30/2015
ETTP	OR-0043	Nuclear Facility D&D-East Tennessee Technology Park (Defense)	111,915	63,038	4,032	10,094	3,353	31,398	9/30/2009
ORR	OR-0100	Oak Ridge Reservation Community & Regulatory Support (Defense)	134,498	55,986	5,613	4,999	5,966	61,934	9/30/2015
ORR	OR-0101	Oak Ridge Contract/Post-Closure Liabilities/Administration	103,438	141,522	0	0	0	See Note b	9/30/2015
ETTP	OR-0102	East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration	377,937	93,722	20,749	35,709	28,850	198,907	9/30/2009
ORR	OR-0103	Oak Ridge Reservation Community & Regulatory Support (D&D Fund)	43,717	4,320	0	0	0	39,397	9/30/2015
OR Ops	OR-0900-D	Pre-2004 Completions (Defense)	16,828	29,941	0	0	0	See Note c	9/30/2003
Multiple	OR-0900-N	Pre-2004 Completions (Non-Defense)	618,500	622,877	0	0	0	See Note c	9/30/2003
OR Ops	OR-0900-U	Pre-2004 Completions (D&D Fund)	See Note a	1,411	0	0	0	See Note c	9/30/2003
Subtotal, Oak Ridge			7,366,056	4,398,116	502,246	471,335	409,690	2,010,183	0

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Paducah									
Paducah	PA-0011	NM Stabilization and Disposition-Paducah Uranium Facilities Management	50,762	27,300	2,396	2,501	1,966	16,599	9/30/2019
Paducah	PA-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	1,257,182	108,352	47,916	32,700	15,400	1,052,814	9/30/2030
Paducah	PA-0013	Solid Waste Stabilization and Disposition	309,005	182,563	10,597	23,831	40,367	51,647	9/30/2010
Paducah	PA-0040	Nuclear Facility D&D-Paducah	5,492,241	445,181	91,036	69,022	72,620	4,814,382	9/30/2010
Paducah	PA-0100	Paducah Community and Regulatory Support (Non-Defense)	10,534	10,273	0	0	0	261	9/30/2010
Paducah	PA-0101	Paducah Contract/Post-Closure Liabilities/Administration (Non-Defense)	-1,856	11,416	0	0	0	See Note b	9/30/2003
Paducah	PA-0102	Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund)	116,946	43,608	977	1,299	1,206	69,856	9/30/2019
Paducah	PA-0103	Paducah Community and Regulatory Support (D&D Fund)	34,211	9,558	1,340	2,423	2,483	18,407	9/30/2019
Paducah	PA-0900	Pre-2004 Completions	See Note a	0	0	0	0	0	9/30/2003
Subtotal, Paducah			7,269,025	838,251	154,262	131,776	134,042	6,023,966	0
Portsmouth									
Portsmouth	PO-0011	NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management	205,452	76,116	10,431	19,515	7,754	91,636	9/30/2025
Portsmouth	PO-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	892,368	101,980	47,916	32,700	13,000	696,772	9/30/2025
Portsmouth	PO-0013	Solid Waste Stabilization and Disposition	350,416	263,922	51,985	19,410	34,313	See Note b	9/30/2006
Portsmouth	PO-0040	Nuclear Facility D&D-Portsmouth	5,434,391	293,554	137,363	131,202	170,838	4,701,434	9/30/2025
Portsmouth	PO-0041	Nuclear Facility D&D-Portsmouth GCEP	80,415	43,970	19,775	20,000	0	See Note b	9/30/2007

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Portsmouth	PO-0100	Portsmouth Community and Regulatory Support (Defense)	See Note a	0	0	0	0	0	10/1/2003
Portsmouth	PO-0101	Portsmouth Cold Standby	380,600	377,268	0	0	0	3,332	9/30/2007
Portsmouth	PO-0102	Portsmouth Contract/Post-Closure Liabilities/Administration (Non-Defense)	See Note a	23,891	0	0	0	See Note b	9/30/2025
Portsmouth	PO-0103	Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund)	13,204	12,914	600	410	720	See Note b	9/30/2009
Portsmouth	PO-0104	Portsmouth Community and Regulatory Support (D&D Fund)	8,097	826	288	298	556	6,129	10/1/2003
Portsmouth	PO-0900	Pre-2004 Completions	See Note a	2,000	0	0	0	See Note c	9/30/2003
Subtotal, Portsmouth			7,364,943	1,196,441	268,358	223,535	227,181	5,499,303	0
Richland									
Hanford	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	991	1,795	0	0	See Note b	9/30/2025
Hanford	HQ-SNF-0012X-RL	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2025
Hanford	HQ-SNF-0012Y	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2004
Hanford	HQ-SNF-0012Y-RL	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2004
Hanford	HQ-SW-0013X	Solid Waste Stabilization and Disposition-Science Current Generation	See Note a	0	0	0	0	0	9/30/2005
Hanford	HQ-SW-0013X-RL	Solid Waste Stabilization and Disposition-Science Current Generation	See Note a	0	0	0	0	0	9/30/2005
Hanford	RL-0011	NM Stabilization and Disposition-PFP	2,189,498	1,143,886	140,749	81,651	98,002	725,210	9/30/2009
Hanford	RL-0012	SNF Stabilization and Disposition	1,970,759	1,794,500	113,835	81,069	99,815	See Note b	9/30/2010

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Hanford	RL-0013	Solid Waste Stabilization and Disposition-200 Area	5,777,625	1,077,275	165,448	0	0	4,534,902	9/30/2035
Hanford	RL-0013B	Solid Waste Stabilization and Disposition-2012	See Note a	0	0	39,876	0	See Note b	9/30/2035
Hanford	RL-0013C	Solid Waste Stabilization and Disposition-2035	6,334,719	0	0	188,989	236,788	5,908,942	9/30/2042
Hanford	RL-0030	Soil and Water Remediation-Groundwater/Vadose Zone - 2035	1,658,962	331,445	73,753	75,973	105,552	1,072,239	9/30/2042
Hanford	RL-0031	Columbia River Cleanup Technologies	See Note a	0	0	0	0	0	9/30/2035
Hanford	RL-0040	Nuclear Facility D&D-Remainder of Hanford - 2035	7,010,115	753,850	70,106	94,270	98,753	5,993,136	9/30/2035
Hanford	RL-0041	Nuclear Facility D&D-River Corridor Closure Project	4,233,977	1,227,561	176,722	221,022	215,221	2,393,451	9/30/2012
Hanford	RL-0042	Nuclear Facility D&D-Fast Flux Test Facility Project	803,282	188,385	45,652	34,843	10,342	524,060	9/30/2018
Hanford	RL-0043	HAMMER Facility	See Note a	0	7,425	0	0	See Note b	9/30/2006
Hanford	RL-0044	B-Reactor Museum	See Note a	0	1,980	0	0	See Note b	9/30/2006
Hanford	RL-0080	Operate Waste Disposal Facility	84,145	56,035	5,803	3,534	3,329	15,444	9/30/2042
RL Ops	RL-0100	Richland Community and Regulatory Support	803,242	109,467	15,257	18,332	19,620	640,566	9/30/2035
RL Ops	RL-0900	Pre-2004 Completions	131,040	129,698	0	0	0	1,342	9/30/2003
Subtotal, Richland			30,997,364	6,813,093	818,525	839,559	887,422	21,809,292	0
<u>River Protection</u>									
ORP	HQ-HLW-0014X	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	38,715	0	0	0	See Note b	9/30/2035
ORP	HQ-HLW-0014X-RV	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	91,429	0	0	0	0	91,429	9/30/2035

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
ORP	HQ-HLW-0014Y-RV	Radioactive Liquid Tank Waste Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2035
ORP	ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	26,193,112	3,125,075	327,109	273,656	272,972	22,194,300	9/30/2042
ORP	ORP-0014-T	Radioactive Liquid Tank Waste Stabilization and Disposition-HLW Legis Proposal	See Note a	31,793	0	0	0	See Note b	9/30/2035
ORP	ORP-0060	Major Construction-Waste Treatment Plant	12,263,000	3,628,854	520,759	690,000	690,000	6,733,387	9/30/2018
ORP	ORP-0100	River Protection Community and Regulatory Support	7,454	0	466	471	471	6,046	9/30/2042
ORP	ORP-0101	Independent Project Oversite/Review	See Note a	0	0	0	0	0	7/31/2011
Subtotal, River Protection			38,554,995	6,824,437	848,334	964,127	963,443	29,025,162	0
Savannah River									
SRS	HQ-HLW-0014X	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2035
SRS	HQ-HLW-0014X-SR	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2020
SRS	HQ-HLW-0014Y-SR	Radioactive Liquid Tank Waste Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2035
SRS	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	130,022	13,751	0	0	See Note b	9/30/2025
SRS	HQ-SNF-0012X-SR	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	76,022	0	0	0	0	76,022	9/30/2025

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
SRS	HQ-SNF-0012Y	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2004
SRS	HQ-SNF-0012Y-SR	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	0	0	0	0	0	9/30/2004
SRS	SR-0011A	NM Stabilization and Disposition-2006	128,814	145,186	0	0	0	See Note b	9/30/2004
SRS	SR-0011B	NM Stabilization and Disposition-2012	3,705,460	3,140,489	250,924	232,468	31,000	50,579	9/30/2014
SRS	SR-0011C	NM Stabilization and Disposition-2035	3,778,127	521,962	88,257	41,160	326,811	2,799,937	9/30/2020
SRS	SR-0012	SNF Stabilization and Disposition	1,456,079	227,792	7,561	22,668	31,133	1,166,925	9/30/2020
SRS	SR-0013	Solid Waste Stabilization and Disposition	1,886,373	730,226	159,367	85,276	61,528	849,976	9/30/2031
SRS	SR-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012	See Note a	0	0	0	0	0	9/30/2012
Multiple	SR-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035	17,540,408	3,619,968	533,373	570,924	665,019	12,151,124	9/30/2031
SRS	SR-0014C-T	Radioactive Liquid Tank Waste Stabilization and Disposition-HLW Legis Proposal	See Note a	161,300	0	0	0	See Note b	9/30/2025
SRS	SR-0030	Soil and Water Remediation	2,613,749	961,630	82,325	103,150	75,191	1,391,453	9/30/2025
SRS	SR-0040	Nuclear Facility D&D	1,326,787	349,976	122,499	0	0	854,312	9/30/2031
SRS	SR-0040B	Nuclear Facility D&D - 2012	See Note a	0	0	3,664	0	See Note b	9/30/2031
SRS	SR-0040C	Nuclear Facility D&D - 2035	2,985,524	0	0	12,542	2,908	2,970,074	9/30/2031
SRS	SR-0050	Non-Nuclear Facility D&D	See Note a	0	0	0	0	0	9/30/2035
SR Ops	SR-0100	Non-Closure Mission Support	348,749	177,137	5,333	5,000	5,000	156,279	9/30/2031
SR Ops	SR-0101	Savannah River Community and Regulatory Support	170,393	64,558	7,583	7,542	7,500	83,210	9/30/2031
SR Ops	SR-0900	Pre-2004 Completions	198,178	365,779	0	0	0	See Note c	9/30/2003
Subtotal, Savannah River			36,214,663	10,596,025	1,270,973	1,084,394	1,206,090	22,549,891	0

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unappropriated balance[bc]	Planned Completion Date[d]
NNSA Sites									
LLNL	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation	See Note a	88,970	0	0	0	See Note b	9/30/2006
LLNL	HQ-SW-0013Y-LLNL	Solid Waste Stabilization and Disposition-NNSA Current Generation	See Note a	0	0	0	0	0	9/30/2006
Y-12	HQ-SW-0013Y-Y12	Solid Waste Stabilization and Disposition-NNSA Current Generation	See Note a	0	0	0	0	0	9/30/2008
NV Offsites	NV-0030	Soil and Water Remediation-Nevada Offsites	113,061	0	2,818	0	0	110,243	9/30/2027
CSS	VL-FAO-0100-D	Nuclear Material Stewardship (Defense)	108,455	108,766	0	0	0	See Note b	10/1/2004
CSS	VL-FAO-0100-N	Nuclear Material Stewardship (Non-Defense)	14,954	17,585	0	0	0	See Note b	10/1/2004
NNSA SC	VL-FAO-0101	Miscellaneous Programs and Agreements in Principle	85,339	83,572	1,744	1,622	1,511	See Note b	9/30/2015
CSS	VL-FAO-0900	Pre-2004 Completions	232,229	219,063	0	0	0	13,166	9/30/2003
CSS	VL-FOO-0013A-D	Solid Waste Stabilization and Disposition-Oakland Sites-2006 (Defense)	See Note a	0	0	0	0	0	9/30/2006
CBC	VL-FOO-0013A-N	Solid Waste Stabilization and Disposition-Oakland Sites-2006 (Non-Defense)	See Note a	0	0	0	0	0	9/30/2006
CBC	VL-FOO-0013B-D	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense)	15,251	14,746	486	90	90	See Note b	9/30/2008
CBC	VL-FOO-0100-D	Oakland Community and Regulatory Support (Defense)	4,552	5,653	59	280	280	See Note b	9/30/2008
CSS	VL-FOO-0900-D	Pre-2004 Completions (Defense)	See Note a	0	0	0	0	0	10/1/2002
KCP	VL-KCP-0030	Soil and Water Remediation-Kansas City Plant	28,345	24,765	4,481	0	0	See Note b	9/30/2006
KCP	VL-KCP-LTS	NNSA Long-Term Stewardship	See Note a	0	0	0	0	0	9/30/2006
LANL	VL-LANL-0013	Solid Waste Stabilization and Disposition-LANL Legacy	429,717	249,601	42,374	44,592	42,523	50,627	9/30/2011

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
LANL	VL-LANL-0030	Soil and Water Remediation-LANL	999,699	526,517	98,418	28,310	96,944	249,510	9/30/2015
LANL	VL-LANL-0040-D	Nuclear Facility D&D-LANL (Defense)	See Note a	0	0	17,700	0	See Note b	9/30/2010
LANL	VL-LANL-0040-N	Nuclear Facility D&D-LANL (Non-Defense)	18,060	1,327	485	1,025	1,905	13,318	9/30/2011
LLNL	VL-LLNL-0013	Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory	68,457	160,713	0	0	0	See Note b	9/30/2006
LLNL	VL-LLNL-0030	Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site	123,154	108,202	16,038	0	0	See Note b	9/30/2006
LLNL	VL-LLNL-0031	Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300	122,580	89,259	13,245	11,580	8,680	See Note b	9/30/2008
LLNL	VL-LLNL-LTS	NNSA Long-Term Stewardship	See Note a	0	0	0	0	0	9/30/2006
NTS	VL-NV-0013	Solid Waste Stabilization and Disposition-Nevada Test Site	76,318	63,194	6,430	4,430	0	2,264	9/30/2007
NTS	VL-NV-0030	Soil and Water Remediation-Nevada Test Site	1,918,370	608,334	64,821	67,180	56,794	1,121,241	9/30/2027
NTS	VL-NV-0080	Operate Waste Disposal Facility-Nevada	165,966	58,269	4,324	5,458	21,767	76,148	9/30/2021
NTS	VL-NV-0100	Nevada Community and Regulatory Support	105,410	28,866	8,602	2,600	2,545	62,797	9/30/2027
Pinellas	VL-PL-0100	Pinellas Post Employment Benefits	See Note a	64,973	0	0	0	See Note b	9/30/2003
Pantex	VL-PX-0030	Soil and Water Remediation-Pantex	168,154	124,998	14,357	19,394	12,411	See Note b	9/30/2008
Pantex	VL-PX-0040	Nuclear Facility D&D-Pantex	18,368	9,326	5,101	4,332	0	See Note b	9/30/2007
SNL	VL-SN-0030	Soil and Water Remediation-Sandia	226,397	219,687	9,672	0	0	See Note b	9/29/2006
SNL	VL-SNL-LTS	NNSA Long-Term Stewardship	See Note a	0	0	0	0	0	9/29/2006
NNSA SC	VL-SPRU-0040	Nuclear Facility D&D-Separations Process Research Unit	242,650	16,827	6,477	24,500	27,585	167,261	9/30/2014
NTS	VL-SV-0100	South Valley Superfund	4,950	7,207	0	0	0	See Note b	9/30/2003
Subtotal, NNSA Sites			5,290,436	2,900,420	299,932	233,093	273,035	1,866,575	0

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Closure Sites									
CBC	CBC-0100-FN	CBC Post Closure Administration - Fernald	16,383	0	0	8,696	2,609	5,078	9/30/2070
CBC	CBC-0100-MD	CBC Post Closure Administration - Mound	18,740	0	0	11,200	3,075	4,465	9/30/2070
CBC	CBC-0100-RF	CBC Post Closure Administration - Rocky Flats	33,617	0	0	6,000	6,150	21,467	9/30/2070
CBC	CBC-ND-0100	CBC - Non-Defense Post Closure Administration and Program Support	See Note a	0	0	0	1,200	See Note b	9/30/2070
RFFO	CBC-RF-0102	Rocky Flats Future Use	2,669	0	244	0	0	2,425	12/15/2006
CBC	CBC-UM-0100	CBC - Non-Defense Post Closure Administration - UMTRA Sites	See Note a	0	0	0	0	0	9/30/2070
Moab	HQ-GJ-0031	Soil and Water Remediation-Moab	See Note a	21,390	0	0	0	See Note b	9/30/2011
GJO	HQ-GJ-0102	Rocky Flats Wildlife Refuge and Museum	See Note a	3,064	0	0	0	See Note b	12/15/2006
GJO	ID-GJ-0020	Safeguards and Security-Grand Junction	See Note a	1,441	0	0	0	See Note b	9/30/2035
GJO	ID-GJ-0030	Soil and Water Remediation-Monticello	See Note a	106,992	0	0	0	See Note b	9/30/2005
GJO	ID-GJ-0032	Soil and Water Remediation-Pinellas	See Note a	31,619	0	0	0	See Note b	9/30/1997
GJO	ID-GJ-0033	Soil and Water Remediation-UMTRA	See Note a	59,291	0	0	0	See Note b	9/30/2006
Maxey Flats	ID-GJ-0100	Maxey Flats	See Note a	20,715	0	0	0	See Note b	9/30/2004
GJO	ID-GJ-0101-D	Complex-Wide Stewardship Activities (Defense)	See Note a	0	0	0	0	0	9/30/2070
Multiple	ID-GJ-0101-N	Complex-Wide Stewardship Activities (Non-Defense)	See Note a	78,500	0	0	0	0	9/30/2070
Ashtabula	OH-AB-0030	Soil and Water Remediation-Ashtabula	147,054	122,300	15,841	295	295	8,323	12/31/2006
Columbus	OH-CL-0040	Nuclear Facility D&D-West Jefferson	170,241	146,098	26,834	0	0	See Note b	9/30/2006
Fernald	OH-FN-0013	Solid Waste Stabilization and Disposition-Fernald	1,478,092	1,562,517	51,458	0	0	See Note b	9/30/2006

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Fernald	OH-FN-0030	Soil and Water Remediation-Fernald	1,539,826	820,618	231,665	258,500	0	229,043	12/31/2006
Fernald	OH-FN-0050	Non-Nuclear Facility D&D-Fernald	187,512	190,729	65,853	0	0	See Note b	9/30/2006
Fernald	OH-FN-0100	Fernald Post-Closure Administration	304,714	0	0	0	0	304,714	9/30/2070
Fernald	OH-FN-0101	Fernald Community and Regulatory Support	14,123	11,404	868	377	0	1,474	9/30/2007
Miamisburg	OH-MB-0013	Solid Waste Stabilization and Disposition-Miamisburg	287,982	234,967	65,374	0	0	See Note b	9/30/2006
Miamisburg	OH-MB-0030	Soil and Water Remediation-Miamisburg	182,250	120,879	65,245	4,519	5,108	See Note b	12/31/2006
Miamisburg	OH-MB-0031	Soil and Water Remediation-OU-1	See Note a	0	30,000	0	0	See Note b	12/31/2006
Miamisburg	OH-MB-0040	Nuclear Facility D&D-Miamisburg	494,255	479,453	9,167	0	0	5,635	9/30/2006
Miamisburg	OH-MB-0100	Miamisburg Post-Closure Administration	861,644	0	0	30,350	25,200	806,094	9/30/2070
Miamisburg	OH-MB-0101	Miamisburg Community and Regulatory Support	8,902	7,325	792	0	0	785	9/30/2006
OH FO	OH-OPS-0900-D	Pre-2004 Completions (Defense)	57,689	199,950	0	0	0	See Note c	9/30/2003
RFETS	RF-0011	NM Stabilization and Disposition	471,203	259,773	0	0	0	211,430	2/24/2004
RFETS	RF-0013	Solid Waste Stabilization and Disposition	890,839	1,038,508	15,004	0	0	See Note b	10/13/2005
RFETS	RF-0030	Soil and Water Remediation	2,065,409	1,474,988	436,983	1,000	0	152,438	12/15/2006
RFETS	RF-0040	Nuclear Facility D&D-North Side Facility Closures	1,926,047	1,940,488	38,694	0	0	See Note b	10/15/2005
RFETS	RF-0041	Nuclear Facility D&D-South Side Facility Closures	746,448	791,451	1,045	0	0	See Note b	10/15/2005
RFFO	RF-0100	Rocky Flats Environmental Technology Site Contract Liabilities	2,854,598	43,677	22,476	0	0	2,788,445	9/30/2070
RFFO	RF-0101	Rocky Flats Community and Regulatory Support	36,425	32,197	507	0	0	3,721	9/30/2006
RFFO	RF-LTS	Rocky Flats Long-Term Stewardship	See Note a	0	0	0	0	0	9/30/2070
Subtotal, Closure Sites			14,796,662	9,800,334	1,078,050	320,937	43,637	4,545,537	0

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Headquarters Operations									
HQ	HQ-MS-0100	Policy, Management, and Technical Support	1,875,528	705,643	32,275	37,881	33,146	1,066,583	9/30/2035
HQ	HQ-OPS-0900	Pre-2004 Completions	See Note a	36,274	0	0	0	See Note c	9/30/2003
HQ	HQ-UR-0100	Reimbursements to Uranium/Thorium Licensees	561,737	394,797	19,800	20,000	20,000	107,140	9/30/2015
Subtotal, Headquarters Operations			2,437,265	1,136,714	52,075	57,881	53,146	1,173,723	0
West Valley Demonstration Project									
WVDP	OH-WV-0012	SNF Stabilization and Disposition-West Valley	32,319	33,967	0	0	0	See Note b	9/30/2004
WVDP	OH-WV-0013	Solid Waste Stabilization and Disposition-West Valley	226,461	144,327	19,305	19,500	12,938	30,391	9/30/2008
WVDP	OH-WV-0014	Radioactive Liquid Tank Waste Stabilization and Disposition-West Valley High-Level Waste Storage	378,665	0	0	0	0	378,665	9/30/2012
WVDP	OH-WV-0040	Nuclear Facility D&D-West Valley	594,205	323,510	57,024	53,900	41,457	118,314	9/30/2008
Subtotal, West Valley Demonstration Project			1,231,650	501,804	76,329	73,400	54,395	527,370	0
All Other Sites									
BNL	BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory	266,835	200,301	7,903	6,643	6,784	45,204	9/30/2010
BNL	BRNL-0031	Environmental Remediation - Brookhaven National Laboratory	See Note a	0	0	0	0	0	9/30/2009
BNL	BRNL-0040	Nuclear Facility D&D-Brookhaven Graphite Research Reactor	99,626	49,217	18,664	13,703	6,956	11,086	9/30/2010
BNL	BRNL-0041	Nuclear Facility D&D-High Flux Beam Reactor	50,722	7,653	7,369	7,776	9,809	18,115	9/30/2010

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
BNL	BRNL-0042	Nuclear Facility D&D - Brookhaven Medical Research Reactor	See Note a	0	0	0	0	0	9/30/2009
BNL	BRNL-0043	Facility D&D - Non-Reactor Buildings	See Note a	0	0	0	0	0	9/30/2009
BNL	BRNL-0100	Brookhaven Community and Regulatory Support	3,244	2,838	49	150	150	57	9/30/2010
CBC	CBC-CA-0013B-N	Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense)	6,624	0	2	60	60	6,502	9/30/2014
CBC	CBC-CA-0100-N	Oakland Community and Regulatory Support (Non-Defense)	2,320	0	97	100	100	2,023	9/30/2008
ETEC	CBC-ETEC-0040	Nuclear Facility D&D-Energy Technology Engineering Center	204,973	0	8,910	16,000	13,000	167,063	9/30/2009
ITL	CBC-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory	11,270	0	302	2,931	427	7,610	9/30/2008
LBNL	CBC-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory	35,004	0	3,861	0	0	31,143	9/30/2006
Moab	CBC-MOAB-0031	Soil and Water Remediation-Moab	836,493	0	27,726	22,865	23,952	761,950	9/30/2011
UnvArk	CBC-SEFOR-0040-N	Southwest Experimental Fast Oxide Reactor (SEFOR) to the University of Arkansas	See Note a	0	0	0	0	0	9/30/2006
SLAC	CBC-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center	35,725	0	3,465	5,720	5,900	20,640	9/30/2009
ANL-E	CH-ANLE-0030	Soil and Water Remediation-Argonne National Laboratory-East	30,274	29,910	411	426	437	See Note b	9/30/2005
ANL-E	CH-ANLE-0040	Nuclear Facility D&D-Argonne National Laboratory-East	47,800	29,383	9,971	10,300	2,000	See Note b	9/30/2009
CH Ops	CH-OPS-0900	Pre-2004 Completions	98,830	108,447	0	0	0	See Note c	9/30/2003
PPPL	CH-PPPL-0030	Soil and Water Remediation-Princeton Site A/B	309	1,130	0	0	0	See Note b	9/30/2004
HQ	HQ-MS-0100	Policy, Management, and Technical Support	See Note a	0	0	0	0	0	9/30/2035
ID Ops	ID-0900-N	Pre-2004 Completions (Non-Defense)	See Note a	19,468	0	0	0	See Note c	9/30/2003

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
HQ-LM	Legacy Mgmt	Office of Legacy Management (Non-Defense)	See Note a	28,189	0	0	0	See Note b	
LEHR	LEHR-0040	Nuclear Facility D&D-Laboratory for Energy-Related Health Research	39,549	0	0	0	0	39,549	9/30/2005
OH FO	OH-OPS-0900-N	Pre-2004 Completions (Non-Defense)	396,924	259,675	0	0	0	137,249	9/30/2003
ORR	OR-0011X	NM Stabilization and Disposition-Depleted Uranium Hexaflouride Conversion	See Note a	13,306	0	0	0	See Note b	9/30/2035
ORNL	OR-0011Z	Downblend of U-233 in Building 3019	See Note a	0	0	0	0	0	9/30/2006
ETEC	VL-ETEC-0040	Nuclear Facility D&D-Energy Technology Engineering Center	204,973	155,468	0	0	0	49,505	9/30/2009
CBC	VL-FOO-0013B-N	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non-Defense)	122	10,339	0	0	0	See Note b	9/30/2014
CBC	VL-FOO-0100-N	Oakland Community and Regulatory Support (Non-Defense)	See Note a	3,735	0	0	0	See Note b	9/30/2008
CBC	VL-FOO-0900-N	Pre-2004 Completions (Non-Defense)	20,839	22,090	0	0	0	See Note c	10/1/2002
GA	VL-GA-0012	SNF Stabilization and Disposition-General Atomics	15,226	14,355	0	0	0	871	9/30/2003
GE	VL-GE-0040	Nuclear Facility D&D-General Electric	See Note a	0	0	0	0	0	9/30/2014
ITL	VL-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory	10,614	6,724	0	0	0	3,890	9/30/2008
LBNL	VL-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory	35,977	30,768	0	0	0	5,209	9/30/2006
LEHR	VL-LEHR-0040	Nuclear Facility D&D-Laboratory for Energy-Related Health Research	38,671	40,106	0	0	0	See Note b	9/30/2005
SLAC	VL-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center	49,536	17,263	0	0	0	32,273	9/30/2009
Subtotal, All Other Sites			2,542,480	1,050,365	88,730	86,674	69,575	1,339,939	0

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Program Direction									
PD	HQ-PD-0100	Program Direction	9,471,520	3,029,752	241,386	291,216	309,760	5,599,406	9/30/2035
PD	HQ-PD-0101	Program Direction-Homeland Security	See Note a	33,410	0	0	0	See Note b	9/30/2002
Subtotal, Program Direction			9,471,520	3,063,162	241,386	291,216	309,760	5,599,406	0
Safeguards and Security									
CBFO	CB-0020	Safeguards and Security	194,067	16,312	4,181	4,324	4,927	164,323	9/30/2035
ANL-W	CH-ANLW-0020	Safeguards and Security-Argonne National Laboratory-West	See Note a	8,009	0	0	0	See Note b	9/30/2035
INL	ID-INEEL-0020	Safeguards and Security-INEEL	See Note a	108,060	0	0	0	See Note b	9/30/2003
Fernald	OH-FN-0020	Safeguards and Security-Fernald	16,353	17,849	1,377	1,216	0	See Note b	12/31/2006
Miamisburg	OH-MB-0020	Safeguards and Security-Miamisburg	28,279	28,974	0	0	0	See Note b	9/30/2006
WVDP	OH-WV-0020	Safeguards and Security-West Valley	47,876	9,436	1,782	1,600	1,600	33,458	9/30/2035
ETTP	OR-0020	Safeguards and Security	141,252	83,512	28,567	22,889	18,490	See Note b	9/30/2015
Paducah	PA-0020	Safeguards and Security	109,353	29,619	10,904	8,707	0	60,123	9/30/2030
Portsmouth	PO-0020	Safeguards and Security	687,850	71,804	17,664	15,642	11,667	571,073	9/30/2025
RFETS	RF-0020	Safeguards and Security	313,572	180,382	0	0	0	133,190	12/15/2006
Multiple	RL-0020	Safeguards and Security	1,119,448	294,451	81,335	77,836	87,297	578,529	9/30/2035
SRS	SR-0020	Safeguards and Security	2,999,649	589,911	135,379	163,626	149,400	1,961,333	9/30/2025
Subtotal, Safeguards and Security			5,657,699	1,438,319	281,189	295,840	273,381	3,502,029	0
D&D Fund Deposit									
D&D Deposit	HQ-DD-0100	Federal Contribution to the Uranium Enrichment D&D Fund	4,670,588	3,763,172	446,490	452,000	463,000	See Note b	9/30/2007

			(dollars in thousands)						
			Costs	Budget Authority					
Office / Installation	Project Number	Project Name	Life-cycle (current $)[a]	Prior Year (FY97-05)	FY 2006 Approp	FY 2007 Request	FY 2008 Request	Unapprop-riated balance[bc]	Planned Completion Date[d]
Technology Development & Deployment									
Tech. Dev.	HQ-TD-0100	Technology Development	2,254,458	1,803,831	29,047	21,389	21,389	378,802	9/30/2035
Management Reserve									
HQ	Mgmt Reserve	Management Reserve	See Note a	0	0	0	0	0	9/30/2007
Subtotal, Environmental Management			197,254,736	62,718,443	7,222,340	6,280,038	6,118,351	118,632,508	0
Use of Prior Year (Defense).....				-758,525	-166,318	0	0		
Privatization Prior Year Rescission.....				-15,329	0	0	0		
Reimbursable Work for Others (Safeguards & Security).....				-10,385	0	0	0		
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Proj 05-D-405)				0	-20,000	0	0		
Use of Prior Year (Non-Defense).....				-62,185	0	0	0		
Dupont Pension Fund.....				-71,799	0	0	0		
Use of Prior Year (D&D Fund).....				-3,000	0	0	0		
D&D Fund Offset.....				-3,763,172	-446,490	-452,000	-463,000		
Total, Environmental Management			197,254,736	58,034,048	6,589,532	5,828,038	5,655,351	118,632,508	0

Defense Environmental Cleanup

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 environmental cleanup 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, and the purchase of not to exceed three passenger motor vehicles for replacement only, $5,363,905,000, to remain available until expended, of which $463,000,000 shall be transferred to the "Uranium Enrichment Decontamination and Decommissioning Fund".

Defense Environmental Cleanup Appropriation

Appropriation Summary

(dollars in thousands)

	FY 2006 Current Appropriation	FY 2007 Request	FY 2007 CR	FY 2008 Request
Defense Environmental Cleanup	6,316,047	5,390,312	5,551,812	5,363,905

Funding Profile by Subprogram

(dollars in thousands)

	FY 2006 Current Appropriation	FY 2007 Request	FY 2008 Request
Defense Environmental Cleanup			
Closure Sites			
Ashtabula	15,841	295	295
Closure Sites Administration	0	25,896	11,834
Columbus	26,834	0	0
Fernald	349,844	258,877	0
Miamisburg	170,578	34,869	30,308
Rocky Flats	514,709	1,000	0
Total, Closure Sites	1,077,806	320,937	42,437
Hanford Site			
2012 Completion Projects	440,711	423,618	413,038
2035 Completion Projects	332,162	381,098	464,042
Total, Hanford Site	772,873	804,716	877,080
Idaho National Laboratory	532,862	512,604	504,026
NNSA Sites			
California Site Support	545	370	370
Kansas City Plant	4,481	0	0
Lawrence Livermore National Laboratory	29,283	11,580	8,680
Los Alamos National Laboratory	140,792	90,602	139,467
Nevada Off-Sites	2,818	0	0
Nevada	84,177	79,668	81,106
NNSA Service Center	8,221	26,122	29,096
Pantex	19,458	23,726	12,411
Sandia National Laboratories	9,672	0	0
Total, NNSA Sites	299,447	232,068	271,130
Oak Ridge	254,790	159,862	179,284
Office of River Protection			
Tank Farm Activities	327,575	274,127	273,443
Waste Treatment and Immobilization Plant	520,759	690,000	690,000
Total, Office of River Protection	848,334	964,127	963,443
Savannah River Site			
2012 Completion Projects	250,924	236,132	31,000
2035 Completion Projects	486,676	277,338	510,071
Tank Farm Activities	533,373	570,924	665,019
Total, Savannah River Site	1,270,973	1,084,394	1,206,090
Waste Isolation Pilot Plant	228,331	213,278	219,739

	(dollars in thousands)		
	FY 2006 Current Appropriation	FY 2007 Request	FY 2008 Request
Program Support	32,519	37,881	33,146
Program Direction	241,386	291,216	309,760
Safeguards and Security	281,189	295,840	273,381
Technology Development and Deployment	29,047	21,389	21,389
Federal Contribution to the Uranium Enrichment D&D Fund	446,490	452,000	463,000
Total, Defense Environmental Cleanup	6,316,047	5,390,312	5,363,905

Public Law Authorizations:
Public Law 95-91, "Department of Energy Organization Act (1977)"
Public Law 104-201, "Waste Isolation Pilot Plant Land Withdrawal Act (1996)"
Public Law 103-62, "Government Performance and Results Act of 1993"
Public Law 109-289, division B, “Continuing Appropriations Resolution, 2007”

Mission

The mission of EM is to complete the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research.

The Defense Environmental Cleanup appropriation provides for the cleanup and risk reduction of former nuclear weapons production complex sites. This appropriation includes the following accounts: Closure Sites; Idaho National Laboratory; Oak Ridge; Office of River Protection-Tank Farm Activities; Office of River Protection-Waste Treatment and Immobilization Plant; Hanford Site-2012 Completion Projects; Hanford Site-2035 Completion Projects; Savannah River Site-2012 Completion Projects; Savannah River Site-2035 Completion Projects; Savannah River Site-Tank Farm Activities; Waste Isolation Pilot Plant; NNSA Sites; Federal Contribution to the Uranium Enrichment D&D Fund; Program Direction; Program Support; Technology Development and Deployment; and Safeguards and Security.

The FY 2008 request for the Defense Environmental Cleanup appropriation is $5,363,905,000, a decrease of $26,407,000 from the FY 2007 request of $5,390,312,000.

Benefits

This appropriation provides funding to complete the safe cleanup of the environmental legacy 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.

Congressionally Directed Activities

The following Congressionally Directed Activities were funded under the Defense Environmental Cleanup Appropriation.

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Congressionally Directed Activities			
American Water Works Associated Research Foundation Arsenic Removal	6,930	0	0
Atomic Energy Agency Technical International Agreement	4,950	0	0
Center of Excellence for Hazardous Materials Management	1,980	0	0
Columbia River Contamination Migration	9,900	0	0
Community Education Support (WIPP), Infrastructure Improvements, etc	3,465	0	0
Consolidated Record Archives Relevant to the Waste Isolation Pilot Plant	4,950	0	0
Desert Research Institute's Yucca Mountain Environmental Monitoring Program	2,723	0	0
Desert Research Institute's CAVE Project	1,980	0	0
Diagnostic Instrumentation and Analysis Laboratory	4,950	0	0
Electrochemical System	2,970	0	0
Emergency and Non-Emergency Communications Systems Upgrades in Nye County	1,485	0	0
Energy and Environmental Hispanic Community Participation of Self Reliance Fund	743	0	0
East Tennessee Technology Park and Los Alamos National Laboratory Preservation Former Manhattan Projects ($495K each)	990	0	0
Great Basin Science Sample and Records Library	3,465	0	0
Hanford B-Reactor Preservation	990	0	0
Hanford Payment in Lieu of Taxes	3,564	0	0
Hanford Tank Waste Operations Simulator	1,980	0	0
Hazardous Materials Management and Emergency Response (HAMMER)	7,425	0	0
Hazardous Waste Worker Training Program (HAZWOPER)	9,900	0	0
Los Alamos Airport Landfill Stabilization	4,950	0	0
Mid-Atlantic Recycling for End of Life Electronics	990	0	0
Neutrino Research at Waste Isolation Pilot Plant	1,485	0	0
Nye County Groundwater Evaluation Program	1,485	0	0
Purchase of TRUPACT-III Shipping Containers	5,940	0	0
Real-Time Identification Warning System	248	0	0
Research Foundation at the University of Nevada-Las Vegas to assess earthquake hazards and seismic risk in Southern Nevada	990	0	0
University of Nevada-Reno School of Medicine Core Facilities Equipment	3,960	0	0
Water Management Decision Support Including Demonstration Programs w/New Mexico Office of the State Engineer and International Water Partnerships	3,465	0	0
Water Supply Technology Development	1,980	0	0
Western Environmental Technology Office (WETO)	4,950	0	0
Total, Congressionally Directed Activities	105,783	0	0

Funding by Strategic and GPRA Unit Program Goal

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Strategic Goal 4, Environmental Responsibility			
GPRA Unit Program Goal 4.1.53.00, Environmental Management			
Defense Environmental Cleanup			
Closure Sites	1,075,639	320,560	42,437
Hanford Site	757,616	786,384	857,460
Idaho National Laboratory	529,351	508,921	500,239
NNSA Sites	289,042	227,566	266,794
Oak Ridge	249,177	154,863	173,318
Office of River Protection	847,868	963,656	962,972
Program Support	32,519	37,881	33,146
Safeguards and Security	281,189	295,840	273,381
Savannah River Site	1,258,057	1,071,852	1,193,590
Technology Development and Deployment	29,047	21,389	21,389
Waste Isolation Pilot Plant	192,147	188,156	193,050
Total, Defense Environmental Cleanup	5,541,652	4,577,068	4,517,776
All Other			
Community and Regulatory Support	86,519	70,028	73,369
Federal Contribution to the Uranium Enrichment D&D Fund	446,490	452,000	463,000
Program Direction	241,386	291,216	309,760
Total, All Other	774,395	813,244	846,129
Total, Defense Environmental Cleanup	6,316,047	5,390,312	5,363,905

Capital Operating Expenses and Construction Summary

Capital Operating Expenses

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Capital Equipment	2,518	1,735	1,815
General Plant Projects	75,540	106,645	51,893
Total, Capital Operating Expenses	78,058	108,380	53,708

Construction Projects

	(dollars in thousands)					
	Total Estimated Cost (TEC)	Prior-Year Appro-priations	FY 2006	FY 2007	FY 2008	Unappro-priated Balance
Defense Environmental Cleanup						
Idaho National Laboratory						
04-D-414, 04-02 PED: Sodium Bearing Waste Treatment, ID, ID-0014B	86,188	45,080	41,108	0	0	0
06-D-401, Sodium Bearing Waste Treatment Project, Idaho National Laboratory (INL), Idaho, ID-0014B	257,520	0	30,729	31,000	112,800	82,991
Total, Idaho National Laboratory			71,837	31,000	112,800	
Office of River Protection						
01-D-16A, Low Activity Waste Facility, RL, ORP-0060	1,748,000	626,624	161,376	77,800	143,000	739,200
01-D-16B, Analytical Laboratory, RL, ORP-0060	676,000	117,448	44,552	21,800	45,000	447,200
01-D-16C, Balance of Facilities, RL, ORP-0060	1,137,000	330,648	64,352	48,900	72,000	621,100
01-D-16D, High Level Waste Facility, RL, ORP-0060	3,308,000	800,036	102,964	253,700	177,000	1,974,300
01-D-16E, Pretreatment Facility, RL, ORP-0060	5,394,000	1,245,323	147,515	287,800	253,000	3,460,362
Total, Office of River Protection			520,759	690,000	690,000	
Savannah River Site						
03-D-414, 03-01 PED: Salt Waste Processing Facility Alternative, SR, SR-0014C	162,000	79,509	34,990	37,500	10,001	0
04-D-408, Glass Waste Storage Building #2, SR, SR-0014C	70,590	63,615	1,905	0	0	5,070

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior-Year Appro-priations	FY 2006	FY 2007	FY 2008	Unappro-priated Balance
04-D-414, 04-01 PED: 3013 Container Surveillance Capability in 235-F, SR, SR-0011B	34,573	13,223	18,415	2,935	0	0
04-D-423, 3013 Container Surveillance Capability in 105-K, SR, SR-0011B	93,588	31,688	0	21,300	31,000	9,600
05-D-405, Salt Waste Processing Facility, SR, SR-0014C	397,600	5,792	495	25,700	131,000	234,613
08-D-414, PED: 08-01 Plutonium Vitrification Facility, SR-0011C	88,000	0	0	0	15,000	73,000
Total, Savannah River Site			55,805	87,435	187,001	
Total, Defense Environmental Cleanup			648,401	808,435	989,801	

Non-Defense Environmental Cleanup

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 non-defense environmental cleanup 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, and the purchase of not to exceed three passenger motor vehicles for replacement only, $180,937,000, to remain available until expended.

Non-Defense Environmental Cleanup Appropriation

Appropriation Summary

(dollars in thousands)

	FY 2006 Current Appropriation	FY 2007 Request	FY 2007 CR	FY 2008 Request
Non-Defense Environmental Cleanup	349,687	310,358	309,946	180,937

Funding Profile by Subprogram

(dollars in thousands)

	FY 2006 Current Appropriation	FY 2007 Request	FY 2008 Request
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D	45,652	34,843	10,342
Gaseous Diffusion Plants			
Oak Ridge	4,836	0	0
Paducah Gaseous Diffusion Plant	50,312	35,201	17,366
Portsmouth Gaseous Diffusion Plant	78,122	72,215	20,754
Total, Gaseous Diffusion Plants	133,270	107,416	38,120
Small Sites			
Argonne National Laboratory	10,382	10,726	2,437
Brookhaven National Laboratory	33,985	28,272	23,699
California Site Support	99	160	160
Closure Sites Administration and Program Support	0	0	1,200
Energy Technology Engineering Center	8,910	16,000	13,000
Idaho National Laboratory	5,221	7,000	5,400
Inhalation Toxicology Laboratory	302	2,931	427
Lawrence Berkeley National Laboratory	3,861	0	0
Los Alamos National Laboratory	485	1,025	1,905
Moab	27,726	22,865	23,952
Stanford Linear Accelerator Center	3,465	5,720	5,900
Total, Small Sites	94,436	94,699	78,080
West Valley Demonstration Project	76,329	73,400	54,395
Total, Non-Defense Environmental Cleanup	349,687	310,358	180,937

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 103-62, "Government Performance and Results Act of 1993"
Public Law 109-289, division B, “Continuing Appropriations Resolution, 2007”

Mission

The mission of EM is to complete the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research.

The Non-Defense Environmental Cleanup appropriation provides for the cleanup and risk reduction of sites used for civilian energy research. This appropriation includes four programs: Gaseous Diffusion Plants; Fast Flux Test Reactor Facility Decontamination and Decommissioning; West Valley Demonstration Project; and Small Sites (Argonne National Laboratory, Atlas (Moab) Site, Brookhaven National Laboratory, Closure Sites Administration and Program Support, Energy Technology Engineering Center, Idaho National Laboratory, Inhalation Toxicology Laboratory, Los Alamos National Laboratory, Lawrence Berkeley National Laboratory, Laboratory for Energy-Related Health Research, Oakland Sites, and Stanford Linear Accelerator Center).

The FY 2008 request for the Non-Defense Environmental Cleanup appropriation is $180,937,000, a decrease of $129,421,000, from the FY 2007 Request of $310,358,000.

Benefits

This appropriation provides funding to complete the safe cleanup of the environmental legacy 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.

Funding by Strategic and GPRA Unit Program Goal

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Strategic Goal 4, Environmental Responsibility			
GPRA Unit Program Goal 4.1.53.00, Environmental Management			
Non-Defense Environmental Cleanup			
Closure Sites	0	0	1,200
Fast Flux Test Reactor Facility D&D	45,652	34,843	10,342
Gaseous Diffusion Plant	133,270	107,416	38,120
Small Sites	94,290	94,449	76,630
West Valley Demonstration Project	76,329	73,400	54,395
Total, Non-Defense Environmental Cleanup	349,541	310,108	180,687
All Other			
Community and Regulatory Support	146	250	250
Total, Non-Defense Environmental Cleanup	349,687	310,358	180,937

Capital Operating Expenses and Construction Summary

Construction Projects

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior-Year Appro-priations	FY 2006	FY 2007	FY 2008	Unappro-priated Balance
Non-Defense Environmental Cleanup						
Gaseous Diffusion Plants						
02-U-101, Depleted Uranium Hexafluoride Conversion Project, Paducah, KY & Portsmouth, OH, PA-0011X	163,089	108,617	42,472	16,278	0	0
02-U-101, Depleted Uranium Hexafluoride Conversion Project, Paducah, KY & Portsmouth, OH, PO-0011X	163,090	100,061	42,473	16,278	0	4,278
Total, Gaseous Diffusion Plants			84,945	32,556	0	

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, $573,509,000, to be derived from the Fund, to remain available until expended, of which $20,000,000 shall be available in accordance with title X, subtitle A, of the Energy Policy Act of 1992.

Uranium Enrichment Decontamination and Decommissioning Fund

Appropriation Summary

(dollars in thousands)

	FY 2006 Current Appropriation	FY 2007 Request	FY 2007 CR	FY 2008 Request
Uranium Enrichment Decontamination and Decommissioning Fund	556,606	579,368	556,525	573,509

Funding Profile by Subprogram

(dollars in thousands)

	FY 2006 Current Appropriation	FY 2007 Request	FY 2008 Request
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities			
Oak Ridge	242,620	311,473	230,406
Paducah Gaseous Diffusion Plant	103,950	96,575	116,676
Portsmouth Gaseous Diffusion Plant	190,236	151,320	206,427
Total, D&D Activities	536,806	559,368	553,509
U/Th Reimbursements	19,800	20,000	20,000
Total, Uranium Enrichment Decontamination and Decommissioning Fund	556,606	579,368	573,509

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 103-62, "Government Performance and Results Act of 1993"
Public Law 109-289, division B, “Continuing Appropriations Resolution, 2007”

Mission

The mission of EM is to complete the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research.

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 Activities and the Uranium/Thorium Reimbursements.

The FY 2008 request for the Uranium Enrichment Decontamination and Decommissioning Fund appropriation is $573,509,000, a decrease of $5,859,000, from the FY 2007 Request of $579,368,000.

Benefits

This appropriation provides funding to 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.

Funding by Strategic and GPRA Unit Program Goal

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Strategic Goal 4, Environmental Responsibility			
GPRA Unit Program Goal 4.1.53.00, Environmental Management			
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities	536,806	559,368	553,509
All Other			
U/Th Reimbursements	19,800	20,000	20,000
Total, Uranium Enrichment Decontamination and Decommissioning Fund	556,606	579,368	573,509

Carlsbad

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Carlsbad Field Office	36,184	25,122	26,689
Waste Isolation Pilot Plant	192,147	188,156	193,050
Total, Carlsbad	228,331	213,278	219,739

Site Overview

The Carlsbad Field Office, located in Carlsbad, New Mexico, was created to serve as the focal point for the nation's transuranic waste management efforts since transuranic waste is currently stored at many DOE sites across the country. 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 certification, transportation, and disposal of defense-generated transuranic waste. The Waste Isolation Pilot Plant is the center of the National Transuranic Waste Program and is managed by the Carlsbad Field Office. This plant, near Carlsbad, New Mexico, is the Nation's only mined geologic repository for the permanent disposal of defense-generated transuranic waste. The waste disposal area is 2,150 feet (almost one-half mile) below the surface located in 200-million year old stable salt beds. The transuranic waste that is eligible for disposal at the Waste Isolation Pilot Plant must ultimately be transported from all the generator sites to this repository for receipt, handling, and disposal.

Site Description

The Waste Isolation Pilot Plant was the world's first permitted deep geologic repository for the permanent disposal of radioactive waste. It is located in Eddy County in southeastern New Mexico, 26 miles southeast of Carlsbad. The Plant's total land area consists of 10,240 acres (16 square miles) with the fenced surface portion of the active site being about 35 acres in size. It is located in an area of low population density, and the area surrounding the facility is used primarily for grazing, and development of potash, oil, salt, and natural gas resources.

Site Cleanup Strategy/Scope of Cleanup

The Waste Isolation Pilot Plant is an operating facility, supporting the cleanup of transuranic waste from waste generator and storage sites. It is not a cleanup site.

Site Completion (End State)

EM's end state for Waste Isolation Pilot Plant is the cessation of disposal activities for legacy and newly generated transuranic waste from the DOE complex by 2030. Decommissioning of the surface facilities and permanent closure of the underground will be completed in 2035, at which time passive institutional controls will be constructed.

Regulatory Framework

Authorized by Congress in 1979, the Waste Isolation Pilot Plant was constructed during the 1980's. In the Waste Isolation Pilot Plant Land Withdrawal Act of 1992, Congress established regulatory conditions and standards covering everything from limits on the kinds and quantities of waste DOE could place in the repository. The plant operates under a Resource Conservation and Recovery Act, Part B, Hazardous Waste Permit issued by the New Mexico Environment Department in October 1999. The Environmental Protection Agency issued regulatory standards for waste containment in 40 CFR 191. Then the Environmental Protection Agency formulated Waste Isolation Pilot Plant-specific criteria in 40 CFR 194 that required DOE to demonstrate that the Waste Isolation Pilot Plant would meet its containment standards. The Environmental Protection Agency initially certified the Waste Isolation Pilot Plant's compliance with these regulations on May 18, 1998, and recertified compliance on March 29, 2006.

The Waste Isolation Pilot Plant has four primary regulators, responsible for the following areas: 1) the Environmental Protection Agency regulates repository certification and radionuclide regulation in accordance with the Waste Isolation Pilot Plant Land Withdrawal Act of 1996, as amended and the regulation of polychlorinated biphenyls; 2) the New Mexico Environment Department regulates the Resource Conservation and Recovery Act hazardous constituents, water discharge, air emissions, and ground water; 3) the Nuclear Regulatory Commission certifies Type B transportation packaging; 4) and the Department of Transportation regulates highway transportation and Type A transportation packaging.

Agreements with States at the Waste Isolation Pilot Plant's generator sites may impact the Waste Isolation Pilot Plant. For instance, the *Idaho Settlement Agreement* contains transuranic waste shipment milestones for the Idaho National Laboratory and the *Letter of Intent for Meeting Environmental Responsibilities at New Mexico DOE Facilities* commits to accelerated cleanup of transuranic waste at Sandia National Laboratories and the Los Alamos National Laboratory in the State of New Mexico.

Critical Project Uncertainties and Assumptions

The Waste Isolation Pilot Plant's key uncertainty listed in the FY 2007 budget submission was obtaining permit approval for remote-handled transuranic waste disposal from the New Mexico Environment Department. The remote-handled permit modification is needed to allow the Waste Isolation Pilot Plant to manage, store, and dispose of this waste at the Waste Isolation Pilot Plant. At the New Mexico Environment Department's request, the remote-handled permit modification was combined with the Section 310/311 permit modification. Congress added Section 311 to the 2004 Energy and Water Development Appropriations Act and Section 310 to the 2005 Consolidated Appropriations Act and directed DOE to submit a request to the New Mexico Environment Department to make changes in waste analysis activities and the Waste Isolation Pilot Plant facility monitoring. Section 310/311 provisions will reduce the DOE life-cycle costs for transuranic waste characterization/confirmation overall. The combined permit modification will facilitate cost-effective, safe cleanup and disposal of the Nation's defense-generated transuranic waste. The New Mexico Environment Department approved the permit modification October 16, 2006, which became effective on November 16, 2006. The first receipt of remote-handled transuranic waste will occur early in calendar year 2007.

Interdependencies

The Waste Isolation Pilot Plant is dependent on the waste generator/storage sites to provide waste for certification and disposal. The Waste Isolation Pilot Plant is also dependent on its regulators and their decisions that impact operations, certification of the Waste Isolation Pilot Plant, permit modifications, licenses, shipping, and transportation. The Carlsbad Field Office also works with DOE sites that have remote-handled transuranic waste to coordinate shipping and disposal.

Contract Synopsis

The Carlsbad Field Office currently has four major contracts in place. The Management and Operating Contract for the Waste Isolation Pilot Plant was extended through September 2010. Specific performance incentives were included in the negotiated extension. A technical assistance contract for implementing the independent DOE quality assurance program for the National Transuranic Waste Program through August 2010 was awarded on August 11, 2005. In addition, two new contracts for continuation of transportation carrier services will be awarded in FY 2007.

Cleanup Benefits

The Waste Isolation Pilot Plant is crucial to DOE completing its cleanup/closure mission for transuranic waste. It is the only authorized disposal site for transuranic defense waste. Because the temporary storage facilities located across the United States were never intended to become permanent disposal sites, the Waste Isolation Pilot Plant has become the essential element in reducing the risks to public health, workers, and the environment.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Waste Isolation Pilot Plant			
CB-0080 / Operate Waste Disposal Facility-WIPP	116,773	132,026	133,018
CB-0081 / Central Characterization Project	38,118	23,190	32,898
CB-0090 / Transportation-WIPP	37,256	32,940	27,134
CB-0101 / Economic Assistance to the State of New Mexico	36,184	25,122	26,689
Subtotal, Waste Isolation Pilot Plant	228,331	213,278	219,739
Total, Carlsbad	228,331	213,278	219,739

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Carlsbad					
Geographic Sites Eliminated (number of sites)	0	0	0	1	0%

Detailed Justification

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
CB-0080 / Operate Waste Disposal Facility-WIPP (life-cycle estimate $4,477,304K)	**116,773**	**132,026**	**133,018**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Waste Isolation Pilot Plant, in Carlsbad, New Mexico, is the nation's only mined geologic repository for the permanent disposal of defense-generated transuranic waste. The Carlsbad Field Office was created to serve as the focal point for the DOE transuranic waste management efforts. Transuranic waste is currently stored at multiple sites across the country. All legacy transuranic waste has been removed from 12 sites: ARCO Medical Products Company, Battelle Columbus Laboratory-West Jefferson Site, Brookhaven National Laboratory, Energy Technology Engineering Center, Fernald, Inhalation Toxicology Laboratory, Knolls Power Atomic Laboratory-Nuclear Fuel Services, Missouri University Research Reactor, Mound, Rocky Flats Environmental Technology Site, Teledyne-Brown, and U.S. Army Materials Command. The defense generated transuranic waste from all of the generator sites eligible for Waste Isolation Pilot Plant disposal 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 in a regulatory compliant manner.

This PBS supports all activities related to the disposal of contact-handled and remote-handled transuranic waste at the Waste Isolation Pilot Plant. Key elements of this system are: 1) operation of the disposal facility—including mining, waste handling, and the infrastructure to safely maintain the 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 3) National Transuranic Waste Integration 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-State: 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. The statutory limit for transuranic waste is 175,600 cubic meters, which includes 7,080 cubic meters for remote-handled transuranic waste. Decommissioning of the surface facilities and permanent closure of the underground facility will be complete in 2035. The surface area will remain under institutional controls for 100 years after the disposal phase ends.

The Office of Engineering and Construction Management has performed an external independent review. EM is awaiting the final report.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- Operate the Waste Isolation Pilot Plant site in a safe quality manner to support a disposal capability of 21 shipments per week of contact-handled transuranic waste and ramp up to 6 shipments per week of remote-handled transuranic waste.
- Provide underground mining of waste panels and panel closure activities to support the planned shipping rate.
- Maintain Waste Isolation Pilot Plant site environmental compliance.
- Operate to the Carlsbad Field Office Quality Assurance Plan and conduct necessary quality assurance and transuranic waste program audits at DOE sites across the USA, as well as on the Waste Isolation Pilot Plant participants.
- Continue work on the second Environmental Protection Agency Compliance Recertification due to Environmental Protection Agency in 2009 and work on needed Environmental Protection Agency Plan change requests and needed New Mexico Environment Department Resource Conservation and Recovery Act permit modifications.
- Complete placement of contact-handled waste in Panel 4.
- Continue payments to the New Mexico Environment Department and the Environmental Protection Agency for enhanced actions on Waste Isolation Pilot Plant matters and to PECOS Management Services, the Waste Isolation Pilot Plant Independent Oversight contractor.
- Provide support for large box transuranic waste characterization at the Savannah River Site, which is necessary to ship large box waste to the Waste Isolation Pilot Plant.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Received Environmental Protection Agency recertification that the repository was in compliance with the radioactive waste disposal standards. (FY 2006)
- Received remote-handled transuranic waste permit. (October 2006)
- Prepare for receipt of remote-handled waste. (January 2007)
- Complete placement of contact-handled waste in Panel 3. (January 2007)
- Declaration of remote-handled readiness. (January 2007/January 2007)
- Begin placement of remote-handled waste. (January 2007)
- Complete placement of Contact-Handled Waste in Panel 4. (June 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
• Start Large Box Characterization. (September 2008)			
CB-0081 / Central Characterization Project (life-cycle estimate $433,085K)	**38,118**	**23,190**	**32,898**

This PBS can be found within the Defense Environmental Cleanup appropriation.

It provides labor, materials and supplies for operation of mobile waste characterization systems that are deployed to Department of Energy generator sites for characterization of transuranic waste to be disposed at the Waste Isolation Pilot Plant, as well as centralized transuranic waste analytical services at Idaho and Carlsbad Environmental Monitoring and Research Center. It also provides generator site services at selected sites to characterize transuranic waste for transportation to Waste Isolation Pilot Plant or to another site for final Waste Isolation Pilot Plant certification, where cost effective. These services can include acceptable knowledge compilation and reporting, data generation, project level validation and verification, records management, and document control; non-destructive examination, non-destructive assay, headspace gas sampling and analysis, mobile visual examination and repackaging, and mobile loading support. The use of mobile systems provides host sites with a highly regulated program that has already been certified for use. DOE reviews have concluded that the Central Characterization Project provides the most cost-effective and reliable characterization capability. Development and full deployment of these services represents sound management and implementation of value engineering. This PBS also provides a DOE-wide single certification program for remote-handled transuranic waste shipments to Waste Isolation Pilot Plant at the generator/shipping sites and a DOE-wide transuranic waste shipping confirmation process required by the Waste Isolation Pilot Plant hazardous waste permit from the New Mexico Environment Department.

End-State: All transuranic waste requiring use of the Central Characterization Project 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 facility will be complete in 2035. The surface area will remain under institutional controls for 100 years after the disposal phase ends.

The Office of Engineering and Construction Management has performed an external independent review. EM is awaiting the final report.

In FY 2008, the following activities are planned:

- Compile and review generator site's transuranic waste Acceptable Knowledge for approval prior to certifying the waste for disposal at Waste Isolation Pilot Plant.
- Generate and maintain program documents and procedures necessary for the Central Characterization Project to perform work on contact-handled and remote-handled waste characterization and shipping at generator/storage sites across the DOE complex.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Review generator site transuranic waste program documents and procedures necessary for generator site or Central Characterization Project transuranic waste certification for shipment and eventual disposal at Waste Isolation Pilot Plant.
- Provide mobile loading services at generator/storage sites necessary to ship contact-handled and remote-handled waste between sites or to the Waste Isolation Pilot Plant.
- Provide remote-handled transuranic waste certification services to the DOE complex to support planned remote-handled shipments.
- Provide headspace gas analysis and solids sampling and analysis in accordance with the Waste Isolation Pilot Plant Resource Conservation and Recovery Act Hazardous Waste Permit.
- Provide generator site contact-handled and remote-handled transuranic waste shipping confirmation activities to the DOE complex in accordance with the Waste Isolation Pilot Plant Resource Conservation and Recovery Act permit.
- Provide mobile characterization services to the Savannah River Site and Los Alamos National Laboratory with a one-shift operation at a nominal capacity of 90 contact-handled drums per week.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Provided characterization services to Los Alamos National Laboratory and the Savannah River Site at a nominal capacity of 150 contact-handled drums per week to facilitate cleanup. (FY 2006)
- Initiate a DOE-wide capability to certify transuranic waste at generator sites for shipment to another DOE site to increase efficiency. (October 2006)
- Initiate a DOE-wide single certification program for remote-handled transuranic waste shipments to Waste Isolation Pilot Plant at the generator/shipping sites. (January 2007)
- Start remote-handled waste characterization. (January 2007)
- Initiate a DOE-wide transuranic waste shipping confirmation process required by the revised New Mexico Environment Department Waste Isolation Pilot Plant Hazardous Waste Permit. (January 2007)
- Start standard waste box characterization at the Los Alamos National Laboratory. (September 2007)
- Provide characterization services to the Savannah River Site and the Los Alamos National Laboratory with a one-shift operation at a nominal capacity of 90 contact-handled drums per week. (September 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
CB-0090 / Transportation-WIPP (life-cycle estimate $757,015K)	**37,256**	**32,940**	**27,134**

This PBS can be found within the Defense Environmental Cleanup appropriation.

It includes all transportation activities required to support the disposal of both contact-handled and remote-handled transuranic waste to the Waste Isolation Pilot Plant, or other designated sites. This includes carrier services, transportation packaging, shipping coordination, and stakeholder interfaces related to transportation. As required in the Waste Isolation Pilot Plant Land Withdrawal Act, this PBS 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 DOE plans to transport transuranic waste to or from the Waste Isolation Pilot Plant.

End-State: All shipping activities are scheduled to end by 2030.

The Office of Engineering and Construction Management has performed an external independent review. EM is awaiting the final report.

In FY 2008, the following activities are planned:

- Administer grants to transportation route states, tribal nations, and related associations (e.g. Western Governors' Association) for emergency preparedness and related training to keep the approved routes for transuranic waste disposal shipments open.
- Obtain approval and maintain authorization from the Nuclear Regulatory Commission for transuranic waste transportation packages.
- Perform needed maintenance on existing transuranic waste transportation packages and trailers.
- Provide trucking services capability to transport transuranic waste from the DOE complex to Waste Isolation Pilot Plant for 21 contact-handled shipments per week and ramp up to 6 remote-handled shipments per week.
- Ship remote-handled waste from Idaho, Oak Ridge, Los Alamos National Laboratory, Argonne National Laboratory and other small sites to the Waste Isolation Pilot Plant.
- As needed, provide transportation services for the shipment of transuranic waste from a site not certified to ship to Waste Isolation Pilot Plant to a site with a Waste Isolation Pilot Plant certification program.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Started Oak Ridge National Laboratory contact-handled waste shipments. (FY 2006)
- Begin shipment of remote-handled waste. (January 2007)
- Start Oak Ridge National Laboratory contact-handled waste shipments. (August 2007)
- Projected Nuclear Regulatory Commission Approval of TRUPACT-III and Large Box shipping containers. (September 2007)
- Supports 21 contact-handled transuranic waste shipments per week and ramps up to six remote-handled transuranic waste shipments per week. (September 2008)

CB-0101 / Economic Assistance to the State of New Mexico (life-cycle estimate $251,829K)	**36,184**	**25,122**	**26,689**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS fulfills a portion of the Waste Isolation Pilot Plant Land Withdrawal Act (Public Law 102-579) which authorizes payments to the State 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 waste shipments to the Waste Isolation Pilot Plant. A portion of the payment will: 1) be made available to units of local government in Lea and Eddy counties in the state, and 2) provide for independent Environment Assessments and Economic Studies associated with the Waste Isolation Pilot Plant. The DOE has made annual payments to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act. The requirement under Public Law 102-579 will be completed in FY 2011.

In FY 2008, the following activity is planned:

- Meet Land Withdrawal Act requirements for funding the State of New Mexico for Impact Assistance.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Funding was provided to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act. This will allow for payments on previously issued highway bonds, and provide funds for maintenance of roads along the Waste Isolation Pilot. (FY 2006)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
• Provide funding to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act. (September 2007/September 2008)			
Total, Carlsbad	**228,331**	**213,278**	**219,739**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Waste Isolation Pilot Plant	
CB-0080 / Operate Waste Disposal Facility-WIPP	
▪ No significant change.	992
CB-0081 / Central Characterization Project	
▪ Increase due to increased activity at the generator sites for remote-handled transuranic waste certification including: providing characterization and mobile loading to support transportation of transuranic waste to another site for final characterization and disposal at the Waste Isolation Pilot Plant; providing added resources for Central Characterization Project's activities to clean up and dispose of the transuranic waste from Small Quantity Sites; providing Central Characterization Project services to Savannah River and Los Alamos National Laboratory including large box transuranic waste characterization; and providing remote-handled disposal certification and mobile loading for the DOE complex.	9,708
CB-0090 / Transportation-WIPP	
▪ Decrease due to completion of procurement of remote-handled trailers.	-5,806
CB-0101 / Economic Assistance to the State of New Mexico	
▪ Increase due to escalation based on the average Consumer Price Index for the prior fiscal year.	1,567
Total, Carlsbad	**6,461**

Idaho

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Argonne National Laboratory-West	120	0	0
Idaho National Laboratory	537,963	519,604	509,426
Total, Idaho	538,083	519,604	509,426

Site Overview

Since its establishment in 1949, the Idaho National Laboratory Site has fulfilled numerous Department of Energy (DOE) missions including designing and testing of 52 nuclear reactors and reprocessing spent nuclear fuel to recover fissile materials. 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 laboratory is also responsible for storing and dispositioning approximately 284 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 DOE owned fuel. In addition, the site is on the United States 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 Waste Area Group 8 and Argonne National Laboratory-West Waste Area Group 9.

The Idaho National Laboratory's Environmental Management (EM) Program is responsible for managing a variety of radioactive and hazardous wastes that originate from those missions and from other DOE facilities. The EM program is treating, storing and disposing of a variety of waste streams, cleaning up the environment, removing or deactivating unneeded facilities, and will remove DOE's inventory of spent nuclear fuel and high-level waste from Idaho. The EM end-state vision consists of achieving the following:

- By 2012, the Idaho National Laboratory Site will have achieved significant risk reduction and will have placed materials in safe storage ready for disposal.
- By 2025, the Idaho National Laboratory Site will have completed all active cleanup work. This date has been extended from the 2020 date in the Performance Management Plan. The State and DOE are still discussing the extent of the work included in the Record of Decision on the Radioactive Waste Management Complex, which will be issued in mid FY 2008.
- By 2035, all spent nuclear fuel will be shipped offsite and high-level waste (calcine) will be ready to ship.

Site Description

The Idaho National Laboratory Site is located in southeast Idaho, near the northeast end of Idaho's Snake River Plain, which extends in a broad arc from the Idaho-Oregon border on the west to the

Yellowstone Plateau on the east. In 1991, the Environmental Protection Agency designated the Snake River Plain Aquifer a sole-source aquifer.

Although the total land area is 890 square miles, most of the cleanup work at the Idaho National Laboratory Site is performed within the site's primary facility areas: Idaho Nuclear Technology and Engineering Center, Radioactive Waste Management Complex, Test Area North, and Reactor Technology Complex (formerly the Test Reactor Area).

Idaho Nuclear Technology and Engineering Center:

The Idaho Nuclear Technology and Engineering Center is situated on 210 acres within a perimeter fence and approximately 55 acres located outside the fence. The Center was built in the 1950s to reprocess spent nuclear fuel to recover uranium. It consists of 290 facilities (approximately 1.2 million square feet). High-level waste calcine in bin sets, sodium-bearing waste within tanks and spent nuclear fuel in wet and dry storage represent the major cleanup activities in addition to remediation of two active Comprehensive Environmental Response, Compensation, and Liability Act Operable Units.

Radioactive Waste Management Complex:

The Radioactive Waste Management Complex consists of 86 facilities and is a controlled area for management and disposal of solid radioactive wastes. It includes a 97-acre Subsurface Disposal Area within a security fence, buildings for Resource Conservation and Recovery Act compliant storage of hazardous transuranic waste, and administration and support buildings. The Subsurface Disposal Area is an unlined landfill that received radioactive waste from Idaho National Laboratory operations and other DOE sites, including large amounts of transuranic waste and alpha-contaminated mixed low-level waste from DOE's Rocky Flats facility in Colorado. The Subsurface Disposal Area will be remediated under a future Comprehensive Environmental Response, Compensation, and Liability Act action, although selected buried waste retrieval actions are underway, in agreement with the State of Idaho. The above-ground, stored transuranic waste is being treated at the Advanced Mixed Waste Treatment Facility and shipped to the Waste Isolation Pilot Plant for disposal. The Subsurface Disposal Area continues to receive low-level radioactive waste from Idaho National Laboratory Site operations.

Test Area North:

The Test Area North area covers about 220 acres at the north end of the Idaho National Laboratory Site. Test Area North was established in the 1950s by the United States Air Force and the Atomic Energy Commission Aircraft Nuclear Propulsion Program to support nuclear-powered aircraft research. Upon termination of this research, the facilities were converted to support a variety of other DOE research projects. Some Comprehensive Environmental Response, Compensation, and Liability Act remediation and high-risk facility deactivations and demolitions remain.

Reactor Technology Complex:

The Reactor Technology Complex covers about 102 acres in the southwest portion of the Idaho National Laboratory Site. The major mission of the Reactor Technology Complex is to conduct scientific and engineering experiments for both nuclear and non-nuclear programs. The Reactor Technology Complex was established in the early 1950s with the development of the Materials Test Reactor followed by two

other major reactors, the Engineering Test Reactor and the Advanced Test Reactor. The Advanced Test Reactor continues to operate today. Reactor disposition remains to be completed.

Site Cleanup Strategy/Scope of Cleanup

Over the past decade, the following considerable progress has been made toward addressing legacy waste and contamination at the Idaho National Laboratory Site:

- Of the 596 Comprehensive Environmental Response, Compensation, and Liability Act sites identified as being potentially contaminated, 75 percent have been cleaned up or determined not to pose any risk;
- Over eight million gallons of high-level liquid waste have been calcined (dried into a powdered form) into about 4,400 m^3 of calcine, reducing the volume of liquid waste remaining in the tank farm to approximately one million gallons of sodium-bearing waste, and emptying and cleaning seven of 11 tanks;
- Over 10,000 m^3 of stored transuranic waste has been shipped for permanent disposal at the Waste Isolation Pilot Plant in New Mexico;
- Over 44,000 m^3 of low-level and mixed low-level waste has been disposed.
- By weight, 92 percent of Idaho National Laboratory Site EM-owned spent nuclear fuel has been consolidated into dry storage;
- Substantial quantities of volatile organic compounds have been extracted and destroyed from the vadose zone beneath the Radioactive Waste Management Complex and Test Area North.

Site Completion (End-State)

The following EM cleanup activities must be completed to reach the anticipated end-state for the Idaho National Laboratory Site in 2035:

Idaho Nuclear Technology and Engineering Center

- Demolish or disposition all excess facilities;
- Treat and dispose liquid sodium-bearing waste stored in underground tanks;
- Empty and disposition all Tank Farm Facility tanks;
- Ship all EM spent nuclear fuel to out of state disposition;
- Deactivate EM spent nuclear fuel wet storage basins (Chemical Processing Plant 603);
- Disposition all excess nuclear material;
- Complete Waste Area Group 3 remediation; Idaho will issue the last Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for release site 14 for the soil under buildings;
- Place calcine (4,400 m^3) in a condition that is road ready for shipment to out of state disposition.

Radioactive Waste Management Complex

- Retrieve stored remote-handled transuranic waste and treat at the Idaho National Technology and Engineering Center and package for shipment to Waste Isolation Pilot Plant;
- Demolish and remove facilities no longer needed;
- Complete remediation of buried transuranic waste, including exhumation and disposal as necessary per the Comprehensive Environmental Response, Compensation, and Liability Act;
- Complete and implement Final Comprehensive Record of Decision for Waste Area Group 7 (Operable Unit 7-13/14);
- Complete shipments of stored transuranic waste to the Waste Isolation Pilot Plant.

Test Area North

- Demolish all EM facilities (only facilities required for groundwater remediation remain);
- Complete all remediation of contaminated soils and tanks at Test Area North (Operable Unit 1-10);
- Continue Comprehensive Environmental Response, Compensation, and Liability Act remedial pump and treat activities (Operable Unit 1-07B).
- Waste Area Group 1 Records of Decision have all been issued; if there are future Comprehensive Environmental Response, Compensation, and Liability Act actions they will be covered under the site-wide Record of Decision 10-08, scheduled for FY 2010.

Reactor Technology Complex

- Demolish all EM-owned facilities;
- Disposition the Engineering Test Reactor and Materials Test Reactor; under Comprehensive Environmental Response, Compensation, and Liability Act currently in the engineering evaluation/cost analysis phase.

Regulatory Framework

There are three primary regulators of the Idaho National Laboratory Site: the United States Environmental Protection Agency, the United States Nuclear Regulatory Commission and the State of Idaho Department of Environmental Quality. The International Atomic Energy Agency also regulates/monitors via treaty. Several compliance agreements, amendments and consent orders executed between 1991 and 2000 govern cleanup work at the Idaho National Laboratory Site. Those agreements encompass the majority of the cleanup requirements and commitments. The five primary agreements are:

Federal Facility Agreement and Consent Order – 1991

In November 1989, the United States Environmental Protection Agency listed the Idaho National Laboratory Site on the Comprehensive Environmental Response, Compensation, and Liability Act National Priorities List. The resulting *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory* between the DOE, the United States Environmental Protection Agency, and Idaho Department of Environmental Quality established a strategy and plan for cleanup at the Idaho National Laboratory Site. The agreement divides the Idaho National Laboratory Site into 10 waste area groups based on similar characteristics or geographic boundaries. Nine groups generally correspond to the Site's major facility areas. The tenth group assesses overall risk to the aquifer beneath the Site, addresses sites outside the boundaries of the Idaho National Laboratory Site's primary facility areas, and allows for inclusion of newly identified release sites. These Waste Area Groups are further divided into operable units. Under the agreement, the DOE conducts an environmental investigation at each site that may be contaminated. At the end of each investigation, if it is determined the area needs cleanup, DOE presents for public comment a proposed plan that documents the results of the investigation and proposes alternative cleanup actions. After reviewing and addressing any comments, the DOE, the United States Environmental Protection Agency, and State of Idaho reach a final decision, which is documented in a Record of Decision. Cleanup design and construction can then begin.

Notice of Non-Compliance Consent Order – 1992

This consent order (between DOE, the State of Idaho Department of Environmental Quality, and the United States Environmental Protection Agency) establishes actions and milestones to resolve Resource Conservation and Recovery Act inspection issues including configuration of stored transuranic waste and high-level waste in the Idaho Nuclear Technology and Engineering Center tank farm.

Idaho Settlement Agreement – 1995

This agreement (between DOE, State of Idaho, and United States Navy) resolved a lawsuit regarding the receipt of spent nuclear fuel at the Idaho National Laboratory Site. The agreement specifies milestones toward the removal of all spent nuclear fuel and certain radioactive waste from Idaho National Laboratory Site by 2035. Some of the upcoming key milestones include:

- DOE shall issue a Record of Decision for the treatment of calcined wastes no later than December 31, 2009.

- DOE shall complete calcination of sodium-bearing liquid high-level wastes by December 31, 2012. Necessary discussions with the State regarding the use of steam reform technology (in lieu of calcination) in terms of the sodium-bearing waste initiative have been held. The State agrees with this path forward.

- DOE shall ship all transuranic waste to the Waste Isolation Pilot Plant or other such facility designated by DOE no later than December 31, 2018.

- DOE shall complete the transfer of all spent fuel from wet storage facilities by December 31, 2023.

- DOE shall treat all high-level waste so that it is ready to be moved out of the State of Idaho by 2035.

- DOE shall remove all spent fuel from Idaho by January 1, 2035.

Voluntary Consent Order – 2000

The *Consent Order* (Idaho Department of Environmental Quality 2000) is an enforceable agreement with the Idaho Department of Environmental Quality that governs resolution of self-disclosed Resource Conservation and Recovery Act issues, most of which were related to the closure of 912 tanks and tank systems.

Site Treatment Plan

In fulfillment of the 1992 Federal Facilities Compliance Act, the Idaho National Engineering Laboratory prepared the *Idaho National Engineering Laboratory Site Treatment Plan* to address the treatment and long-term storage of mixed low-level waste (radioactive waste mixed with hazardous chemicals). This enforceable plan was approved by the State of Idaho and is updated annually.

Section 3116 of the Ronald W. Reagan National Defense Authorization Act - The Federal Facility Agreement defines the enforceable commitments for completion of closure of non-compliant tanks at Idaho National Laboratory. Originally all tanks were to be closed in accordance with the waste incidental to reprocessing methodology in DOE Order 435.1. In October 2004, Congress passed the Ronald W. Reagan National Defense Authorization Act of FY 2005 (Public Law 108-375, 2004). Section 3116 of the National Defense Authorization Act allows the Secretary of Energy, in consultation with the Nuclear Regulatory Commission, to determine when waste from reprocessing of spent nuclear fuel is appropriate for onsite disposition as other than high level waste when certain criteria are met. In order to meet criteria established in the statue, DOE must remove waste to the maximum extent practical and submit waste determinations to Nuclear Regulatory Commission for review.

Critical Project Uncertainties and Assumptions

DOE will identify disposal pathways and schedules for liquid sodium-bearing waste, tank farm closure, calcined waste, spent nuclear fuel repackaging, and wastes with no existing path for disposal in time to meet key Idaho National Laboratory commitments. In addition, the remediation of the Subsurface Disposal Area (including the buried waste) at the Radioactive Waste Management Complex is dependent on the outcome of the Comprehensive Environmental Response, Compensation, and Liability Act process, as well as ongoing litigation between DOE and the State of Idaho.

Current cost estimates and schedules for the calcined waste support direct disposal to a monitored geological repository, presumably at Yucca Mountain pending license application submission. It should be noted that this calcine exhibits hazardous characteristics and contains listed hazardous wastes and therefore would not be approved for direct disposal at Yucca Mountain without Environmental Protection Agency delisting the Resource Conservation and Recovery Act hazardous high-level waste.

Interdependencies

The Idaho site's current interdependencies are the availability of shipping containers and trailers for transuranic waste (TRUPACT IIs) for the shipment of transuranic waste to the Waste Isolation Pilot

Plant; the future availability of casks and transporters for the shipment of remote-handled transuranic waste; delivery of the remote-handled transuranic waste acceptance criteria; receiver sites for nuclear materials; availability of spent nuclear fuel data and inter-site coordination for foreign and domestic research reactor receipts; and, planned exchange of spent nuclear fuel with the Savannah River Site. The availability of a geologic repository is required for the off-site disposition of the high-level waste and spent nuclear fuel. This will require dependencies on exterior Federal and State regulators for review, approval, oversight and monitoring of the DOE repository shipping cask approval, construction/availability, shipping cask corridor approval, etc.

Contract Synopsis

In mid-2003, the Idaho National Laboratory Site was restructured into two distinct business units—one for cleanup activities and one for laboratory missions. This was done to allow each organization to focus on its distinct mission. The laboratory focuses on nuclear technology development, and the Idaho National Laboratory EM Program focuses on cleaning up historic contamination at the site. As of July 2006, the primary EM site contractors are Bechtel BWXT Idaho, LLC (operation of the Advanced Mixed Waste Treatment Project through April 30, 2008, which supports transuranic waste shipments to the Waste Isolation Pilot Plant), and the CH2M Hill Washington Group, which extends through September 30, 2012.

In March 2006, DOE terminated a contract with Foster Wheeler USA Corporation to build a facility that would repackage spent nuclear fuel into standard canisters to be shipped to a monitored geological repository. Alternate means for repackaging and shipping spent fuel to the geologic repository are under study.

The Idaho Operations Office conducted a competitive acquisition to select an Indefinite Delivery/Indefinite Quantity contractor to decontaminate and decommission equipment/facilities associated with an earlier buried waste retrieval project in Pit 9. The selection occurred in late November 2006.

Cleanup Benefits

Cleanup of the Idaho National Laboratory Site will reduce the risk of contamination of the Snake River Plain Aquifer from nuclear and hazardous waste. DOE will reduce the risk to workers, the environment, and the public by cleaning up, stabilizing, and disposing of waste. Cleanup will eliminate infrastructure costs by aggressively reducing footprint through consolidation of cleanup operations, primarily to the Idaho Nuclear Technology and Engineering Center, and inactivation and decommissioning of facilities at several other Idaho National Laboratory Site areas. Consolidating activities to the Idaho Nuclear Technology and Engineering Center significantly reduces infrastructure, surveillance and maintenance costs.

By 2009, the Idaho site will have packaged and shipped all nuclear material off-site. By 2012, the west side of the Tank Farm Facility will be closed, all remediation completed, and most facility demolition at two facility areas (Power Burst Facility and Test Area North). The remaining facilities will be in a cold, dark, and dry status, awaiting final disposition by 2012.

By 2009, all EM-owned spent nuclear fuel will be stabilized in interim dry storage. By 2012, the stored transuranic waste will have been packaged and shipped to the Waste Isolation Pilot Plant and the targeted transuranic waste from seven pits buried in the Subsurface Disposal Area will have been removed and shipped to the Waste Isolation Pilot Plant, the remote handled transuranic waste will be packaged and shipped to the Waste Isolation Pilot Plant, the liquid sodium bearing waste will have been stabilized and the remaining Tank Farm Facility tanks closed, and the EM footprint will have been consolidated to two facility areas.

Direct maintenance and repair at the Idaho National Laboratory is estimated to be $12,584,000.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Idaho National Laboratory			
Idaho National Laboratory			
HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	12,540	0	0
ID-0011 / NM Stabilization and Disposition	1,540	1,000	2,250
ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)	18,967	18,415	29,188
ID-0013 / Solid Waste Stabilization and Disposition	138,620	193,910	168,623
ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012	163,113	104,514	174,416
ID-0030B / Soil and Water Remediation-2012	159,880	120,510	112,389
ID-0040B / Nuclear Facility D&D-2012	4,976	67,562	13,373
ID-0050B / Non-Nuclear Facility D&D-2012	29,715	3,010	0
ID-0100 / Idaho Community and Regulatory Support	3,511	3,683	3,787
Subtotal, Idaho National Laboratory	532,862	512,604	504,026
Non-Defense Environmental Cleanup			
Small Sites			
Idaho National Laboratory			
CH-ANLW-0030 / Soil and Water Remediation-Argonne National Laboratory-West	120	0	0
ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense)	5,101	7,000	5,400
Subtotal, Idaho National Laboratory	5,221	7,000	5,400
Total, Idaho	538,083	519,604	509,426

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Idaho					
Geographic Sites Eliminated (number of sites)	4	4	4	5	80%
Enriched Uranium packaged for disposition (Number of Containers)	1,121	1,205	1,425	1,646	87%
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	900	0%
Liquid Waste Tanks closed (Number of Tanks)	0	3	7	11	64%
High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	4,200	0%
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	0	0	0	253	0%
Transuranic Waste shipped for disposal (Cubic meters)	14,105	18,736	26,645	60,821	44%
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	1	100%
Nuclear Facility Completions (Number of Facilities)	20	21	22	74	30%
Radioactive Facility Completions (Number of Facilities)	20	25	27	51	53%
Industrial Facility Completions (Number of Facilities)	111	114	118	257	46%
Remediation Complete (Number of Release Sites)	469	474	480	583	82%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	53,672	56,468	59,057	108,276	55%

Detailed Justification

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository (life-cycle estimate $0K)	**12,540**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS was created to manage the non-legacy spent nuclear fuel originating from non-DOE activities to facilitate potential transfer of these responsibilities to other non-EM programs. This transfer is no longer anticipated to occur. As a result, the work scope associated with this PBS at Idaho, Richland and Savannah River is transferred to PBS ID-0012B-D, RL-0012, and SR-0012, respectively.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- No activity planned.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

ID-0011 / NM Stabilization and Disposition (life-cycle estimate $18,119K) **1,540** **1,000** **2,250**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Idaho National Laboratory Site 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 dispositions approximately 2,771 kgs (total uranium) of special nuclear material stored at the Idaho National Laboratory Site either through disposal at an appropriate facility or recycle at an offsite location. Disposition not only provides better security of these materials, but also reduces the annual maintenance and security costs by eliminating unnecessary special nuclear material storage locations.

The disposition of special nuclear material requires: 1) the safe and secure surveillance, monitoring and storage of special nuclear material in its current storage configuration; 2) characterization and waste determination, as appropriate; 3) development of shipping and receiving agreements with the appropriate program office(s) and/or location(s); 4) appropriate repackaging of the special nuclear material for shipment; and 5) final shipment and/or dispositioning with the agreed upon program office(s) at appropriate location(s).

The end-state for this PBS is to complete transfer of all 600 discrete special nuclear material items to off-site locations and/or transfer 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.

As of September 30, 2006, 188 containers had been disposed.

In FY 2008, the following activities are planned:

- Start and complete up to one-third of the Light Water Breeder Reactor (Shipping Port) U-233 shipments to the Nevada Test Site.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Complete Experimental Test Reactor/General Electric Test Reactor shipments to Y-12 at the Oak Ridge Reservation.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Enriched Uranium packaged for disposition (Number of Containers)	1,121	1,205	1,425	1,646	87%
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	1	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed packaging of Highly Enriched Uranium. (FY 2006)
- Packaged 25 containers of special nuclear material containing uranium. (FY 2006)
- Complete scheduled shipments of ULWBR. (September 2008)
- Complete scheduled Experimental Test Reactor/General Electric Test Reactor shipments. (September 2008)
- Complete scheduled Experimental Test Reactor/General Electric Test Reactor shipments to Y-12. (September 2008)
- Start and complete up to one-third of the Light Water Reactor Breeder Reactor (Shipping Port) U-233 shipments to the Nevada Test Site. (September 2008)

ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense) (life-cycle estimate $590,126K)	**18,967**	**18,415**	**29,188**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The purpose of this PBS is to stabilize legacy spent nuclear fuel through 2012 and to provide appropriate management of the receipt of off-site shipments of spent nuclear fuel at the Idaho National Laboratory. This project will be complete when all EM-managed spent nuclear fuel is safely transferred from wet to secure dry storage at the Idaho Nuclear Technology and Engineering Center. EM currently manages and stores approximately 262 metric tons of heavy metal of spent nuclear fuel at the Idaho National Laboratory. The EM baseline plan anticipates receiving approximately 22 metric tons of heavy metal of spent nuclear fuel from off-site efforts, which includes the Foreign Research Reactor and Domestic Research Reactor spent nuclear fuel return programs during the period FY 2005 through FY 2027. The baseline plan also anticipates receiving approximately 0.5 metric tons of heavy metal of spent nuclear fuel during the period of FY 2006 through FY 2012 from the on-site operating Advanced Test Reactor.

In addition, this project supports the National Spent Nuclear Fuel Program, which is responsible for long-term planning for geologic disposal of all DOE-owned spent nuclear fuel. The National Spent Nuclear Fuel Program serves as the primary interface for EM high-level waste and spent nuclear fuel

(dollars in thousands)

FY 2006	FY 2007	FY 2008

programs with the DOE Office of Civilian Radioactive Waste Management responsible for building and operating the geologic repository.

This project also supports several non-EM programs. EM supports the Naval Nuclear Propulsion Program by management and storage of Naval spent nuclear fuel in Chemical Processing Plant-666. The Navy holds title and is responsible for the transfer of this fuel back to the Naval Reactor Facility. EM supports the Office of Nuclear Energy through continued receipt and storage of Advanced Test Reactor spent nuclear fuel in Chemical Processing Plant-666 for spent nuclear fuel received through FY 2005. EM will continue to receive and manage spent nuclear fuel received during the period FY 2006-2010, but the Office of Nuclear Energy will be the owner of this spent nuclear fuel and ultimately be responsible for its final disposal. Finally, this project supports the Office of Nuclear Energy sponsored foreign research reactor and domestic research reactor spent nuclear fuel receipts program by storing the subject spent nuclear fuel.

This project also accelerates the transfer of 3,178 fuel handling units of legacy spent nuclear fuel from wet to dry storage by the end of FY 2012, 11 years ahead of the Idaho Settlement Agreement date of FY 2023 (EM to dry by 2009, Navy to dry by 2012).

Preparations will be initiated in FY 2008 for the spent nuclear fuel exchange with the Savannah River Operations Office. Aluminum clad spent nuclear fuel will be shipped from Idaho National Laboratory to the Savannah River Operations Office and non-aluminum-clad spent nuclear fuel will be shipped from the Savannah River Operations Office to the Idaho National Laboratory.

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 the spent nuclear fuel, and the safe packaging and transfer of the spent nuclear fuel to the Federal geologic repository. By the end of 2012 all on-site spent nuclear fuel will be in safe, dry storage.

As of September 30, 2006, 1,102 fuel handling units of aluminum plate fuel have been placed in dry storage in Chemical Processing Plant-603 as well as 31 separate transfers of Advanced Test Reactor spent nuclear fuel from the Reactor Technology Complex to wet storage in Chemical Processing Plant-666. Idaho also received one and unloaded two casks of Domestic Research Reactor fuel.

In FY 2008, the following activities are planned:

- Continue National Spent Nuclear Fuel program long-term planning for geologic disposal of all DOE-owned spent nuclear fuel.
- Continue providing safe storage of Navy spent nuclear fuel in the Chemical Processing Plant-666.
- Continue maintenance of the Chemical Processing Plant building-666 and all wet stored fuel.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue maintenance of the Chemical Processing Plant building-603 and all dry stored fuel.
- Complete Fermi fuel transfers.
- Planning will be initiated in FY 2008 for the exchange of spent nuclear fuel with the Savannah River Operations Office that could begin as early as the FY 2009/FY 2010 timeframe. Aluminum clad spent nuclear fuel will be shipped from Idaho National Laboratory to the Savannah River Operations Office and non-aluminum-clad spent nuclear fuel will be shipped from the Savannah River Operations Office to the Idaho National Laboratory.
- Continue the spent nuclear fuel transfers from wet storage to dry storage and receipt of Advanced Test Reactor fuel.
- Resume Foreign and Domestic Research Reactor receipts.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Initiated repackaging into and storage of repository-ready standard canisters for shipment to the repository. (FY 2006)
- Continued spent nuclear fuel transfers from wet storage to dry storage. (FY 2006)
- Complete Readiness Assessment for 6 cask moves at Test Area North. (June 2007)
- Continue spent nuclear fuel transfers from wet storage to dry storage . (September 2 007)
- Receive 31 shipments of Advanced Test Reactor Spent Nuclear Fuel. (September 2008)
- Receive Foreign Research Reactor Spent Nuclear Fuel shipments. (September 2008)
- Receive Domestic Research Reactor Spent Nuclear Fuel shipments. (September 2008)
- Complete FERMI fuel transfers. (September 2008)

ID-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate $2,692,923K) **138,620** **193,910** **168,623**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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;

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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 Site. Approximately 65,000 m^3 of stored transuranic waste and alpha mixed low-level waste (comprised of both contact-handled and remote-handled waste) will be characterized, treated, and shipped to the Waste Isolation Pilot Plant or another suitable disposition site. The backlog of legacy mixed low-level waste (approximately 2,250 m^3) has been completed.

Contact-handled transuranic waste and suspect remote-handled transuranic waste (approximately 315 m^3) will be processed in the Advanced Mixed Waste Treatment Facility and shipped to the Waste Isolation Pilot Plant for disposal. Remote-handled transuranic waste (approximately 80 m^3) will be dispositioned separately from the Advanced Mixed Waste Treatment Project and will 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 for contact-handled low-level waste and remote-handled low-level waste. On-site disposal at the Radioactive Waste Management Complex will cease by September 30, 2008, 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. Additionally, this project includes environmental monitoring and compliance activities for air, water, waste, soils and biota surveillances; and supports the Environmental Oversight and Monitoring Agreement within the State of Idaho.

The future end-state for this project will be achieved when all stored transuranic waste is disposed at the Waste Isolation Pilot Plant and low-level waste is managed by the Office of Nuclear Energy Landlord Program. Several treatment units and storage facilities have been closed under the Resource Conservation and Recovery Act, including the Waste Experimental Reduction Facility incinerator.

As of September 30, 2006, the Idaho site had met the Idaho Settlement Agreement milestone to ship 6,000 m^3 of transuranic waste out of the State of Idaho. The Advanced Mixed Waste Treatment Facility continues to ship waste to the Waste Isolation Pilot Plant, the Radioactive Waste Management Complex continues the disposal of contact-handled low-level waste and remote-handled low-level waste. Mixed low-level waste continues to be disposed of off-site.

In FY 2008, the following activities are planned:

- Provide for site wide environmental compliance.

- Continue maintenance and operations of the Radioactive Waste Management Complex infrastructure. Key actions include utility systems, maintenance, project management, engineering, training, and Environmental Safety and Health and Quality Assurance. This project also covers the continued environmental monitoring of air, water, soils, and biota surveillance.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue disposition of low and mixed low-level waste at the Radioactive Waste Management Complex disposal pits.

- Continue with program activities that support waste characterization, packaging, and transportation of remote-handled transuranic waste to the Waste Isolation Pilot Plant. The lifecycle total of remote-handled transuranic waste that will be sent to the Waste Isolation Pilot Plant is 140 m^3, with approximately 30 m^3 shipped to the Waste Isolation Pilot Plant in FY 2008.

- Continue meeting the Idaho Settlement Agreement requirements by shipping contact-handled transuranic waste to the Waste Isolation Pilot Plant (approximately 6,400 m^3), using the Advanced Mixed Waste Treatment Facility waste characterization, inventory dispositioning, treating, and packaging capabilities.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	14,105	18,736	25,176	51,574	49%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	53,672	56,468	59,057	77,115	77%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed FY 2006 Site Treatment Plan treatment of High-Efficiency Particulate Air Filters. (FY 2006)
- Complete Venting Remote-Handled Transuranic Waste Drums. (February 2007)
- Complete the construction and startup of repackaging capability of stored remote-handled transuranic waste. (February 2007)
- Complete first remote-handled transuranic waste shipment to the Waste Isolation Pilot Plant. (February 2007)
- Completed FY 2007 Site Treatment Plan treatment of High-Efficiency Particulate Air Filters. (October 2007)
- Complete first off-site shipment of remote-handled low-level waste. (September 2008)

ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012 (life-cycle estimate $1,796,892K)	**163,113**	**104,514**	**174,416**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The overall objective of this project is to treat and dispose of the sodium-bearing tank wastes, close the tank farm tanks, and perform initial tank soils remediation work. The primary focus is the design,

(dollars in thousands)

FY 2006	FY 2007	FY 2008

construction and operation of a facility that will retrieve and treat the sodium bearing liquids and associated tank solids for disposal at a federal waste repository. The type of facility and technology to treat sodium-bearing waste was determined with award of the Idaho Cleanup Project contract in FY 2005, with design of the treatment facility starting in late FY 2005. Other activities include facility maintenance and operations of the Idaho Nuclear Technology and Engineering Center and accelerated cleaning and closure of the tank farm tanks and associated equipment by 2012.

This PBS also includes those activities to support preparing the stored high-level waste calcine for final disposition. These activities include: 1) demonstration of bin set retrieval technology; 2) Resource Conservation and Recovery Act regulatory initiatives to allow disposal of calcine; 3) issuance of a Record of Decision by 2009 and calcine treatment technology selection and development; 4) conceptual and preliminary design; 5) submission of a Resource Conservation and Recovery Act Part B Permit in 2012 for a calcine retrieval and packaging facility; and, 6) construction and operation of the facility.

The future end-state of this project is a tank farm facility that has been emptied, decontaminated and closed under Resource Conservation and Recovery Act requirements.

As of September 30, 2006, Idaho had submitted the Mission Need Statement for Calcine Disposition to the Assistant Secretary for Environmental Management. The Idaho site also continues with the sodium-bearing waste treatment facility design. The Critical Decision-1 for facility design was signed August 2005 and Critical Decision-2 was approved in December 2006. Also, a Critical Decision-3A was approved in July 2006 for limited long-lead procurement. Tank Farm Tank closure continues to work towards approval to commence in-place closure of the Idaho Nuclear Technology and Engineering Center Tank Farm Facility, which depends upon issuance of a Section 3116 Waste Determination, was issued in November 2006. To date, Idaho has closed three small capacity ancillary tanks. There are a total of 15 tanks, 11 (300,000 gallon) tanks and 4 (smaller capacity) ancillary tanks. The performance metric below pertains to only the 11 large capacity storage tanks.

This PBS includes design of the Sodium Bearing Waste Treatment Facility under line-item 04-D-414, Project Engineering and Design and construction under line item 06-D-401, Sodium Bearing Waste Treatment Project. In FY 2006, $41,108,000 was appropriated to complete design of the Sodium Bearing Waste Treatment Facility. Additionally, line item 06-D-401, Sodium Bearing Waste Treatment Project was appropriated $30,729,000 in FY 2006 and $31,000,000 in FY 2007. In FY 2008, $112,800,000 is requested for the Sodium Bearing Waste Treatment Project line item construction.

In FY 2008, the following activities are planned:

- Continue sodium-bearing waste treatment facility construction, including efforts to gain necessary regulatory approvals for sodium bearing waste treatment and disposal.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue providing the Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for the process waste system, support labs, and existing process facilities.

- Complete the Resource Conservation and Recovery Act closing of four large (300,000 gallon) tanks, which would complete the closure of the West Side of the Tank Farm Facility.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	900	0%
Liquid Waste Tanks closed (Number of Tanks)	0	3	7	11	64%
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	1,130	0%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Approved Critical Decision 2 for Sodium-Bearing Waste Treatment Project. (December 2006)
- Started Module Fabrication of sodium-bearing waste. (FY 2006)
- Approve Calcine Disposition Critical Decision 0 . (December 2006)
- Approve Critical Decision 3 for Sodium-Bearing Waste Treatment Project. (June 2007)
- Start Construction of the Sodium-Bearing Waste Treatment Facility. (June 2007)
- Approve Calcine Disposition Critical Decision 1. (December 2007)
- Complete cleaning and grouting of the west side of the Tank Farm Facility tanks. (September 2008)

ID-0030B / Soil and Water Remediation-2012 (life-cycle estimate $1,367,251K)	**159,880**	**120,510**	**112,389**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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 Site to reduce risk to the Snake River Plain Aquifer. The technical approach is based on achieving compliance with the cleanup requirements of the Federal Facility Agreement/Consent Order, which implements the Comprehensive Environmental Response, Compensation, and Liability Act. It also provides for remediating contaminated soils and debris from various waste sites across the Idaho Site, transports, and permanently disposes of these wastes. The project also addresses legacy Resource Conservation and Recovery Act issues through the Voluntary Consent Order.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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. 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 2008. Remediation activities have removed and disposed of 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 monitoring of the aquifer and ecosystem.

By the end of FY 2006, all active remediation of 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 Reactor/BORAX Reactor Area) was complete. Waste Area Group 1 (Test Area North) active soil remediation will be completed during FY 2007 and only remediation of groundwater will continue until 2012. Soil actions under an existing Waste Area Group 10 Record of Decision will also be complete by 2012. The remediation of Waste Area Group 3 (Idaho Nuclear Technology and Engineering Center) and Waste Area Group 7 (Radioactive Waste Management Complex) and Waste Area Group 10 will continue beyond 2012. Under the Voluntary Consent Order, hazardous waste/empty determinations will have been completed on all of the more than 700 tanks on the SITE-TANK-005 list. Only limited Voluntary Consent Order work may continue beyond 2012.

By 2012, remedial actions for all but three of the Waste Area Groups (Waste Area Group 3, Waste Area Group 7, and Waste Area Group 10) will be completed. As cleanup actions are completed for a Waste Area Group, institutional controls and stewardship management will be implemented.

As of September 30, 2006, for Waste Area Group 1, treatment of V-tank contents was completed with the exception of the V-9 tank. Disposition of the V-9 waste will be completed during 2007. Treatment of 1,342 tons of mercury-contaminated soils was completed at the Idaho Comprehensive Environmental Response, Compensation and Liability Act Disposal Facility. For Waste Area Group 3, the Remedial Investigation and Feasibility Study Report were finalized and the proposed plan issued for public comment. The Record of Decision will be completed during FY 2007 and remedial action started. For Waste Area Group 7, the Remedial Investigation and Baseline Risk Assessment document was finalized and the feasibility study was being prepared for submission to regulatory agencies. For Waste Area Group 10, site wide groundwater modeling development continued in preparation for submittal of the Remedial Investigation/Feasibility Study report during FY 2009.

In FY 2008, the following activities are planned:

- Waste Area Group 7 (Radioactive Waste Management Complex): Complete operable unit 7-13/14 Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision and

(dollars in thousands)

FY 2006	FY 2007	FY 2008

begin remedial action.

- Waste Area Group 1 (Test Area North): continue groundwater treatment and monitoring.
- 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): maintenance of remedies.
- Waste Area Group 7 (Radioactive Waste Management Complex): Continue risk reduction through non-time-critical removal operations at Pit 1 and Pit 4 of targeted buried contact-handled transuranic waste (approximately 1,450 m^3).
- Continue shipping approximately 1,450 m^3 contact-handled transuranic waste retrieved from Waste Area Group 7 to the Waste Isolation Pilot Plant for disposal.
- Waste Area Group 3 (Idaho Nuclear Technology and Engineering Center): Remedial Design/Remedial Action Work Plan to regulators in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act Draft Record of Decision completed during FY 2007.
- Waste Area Group 10 (Site wide): Continue work towards the Operable Unit 10-08 Draft Remedial Investigation /Feasibility Study, the Proposed Plan, and the Draft Record of Decision.
- Complete all Voluntary Consent Order Resource Conservation and Recovery Act closure milestones based on prior characterizations.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	0	0	1,469	8,117	18%
Remediation Complete (Number of Release Sites)	199	204	210	290	72%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility Cell 2 Construction. (FY 2006)
- Submitted for review the Operable Unit 10-08 Idaho National Laboratory Site Wide Groundwater DRAFT Remedial Investigation/Feasibility Study record of decision. (FY 2006)
- Submitted draft Waste Area Group Remedial Action Report. (FY 2006)
- Submitted draft Waste Area Group 5 Operations and Maintenance Report. (FY 2006)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
• Submitted Operable Unit 3-14 draft Proposed Plan to the Environmental Protection Agency and the Idaho Department of Environmental Quality. (FY 2006) • Commenced shipment of retrieved buried contact-handled transuranic waste to the Waste Isolation Pilot Plant. (FY 2006) • Submitted draft Waste Area Group 10-04 Unexploded Ordinance Remedial Design/Remedial Action Work Plan. (FY 2006) • Operable Unit 7-13/14 draft Remedial Investigation/Baseline Risk Assessment to Agencies. (FY 2006) • Submitted for review the Operable Unit 7-13/14 Draft Feasibility Study and the comprehensive draft feasibility study based on the approved remedial investigation and baseline risk assessment. (November 2006) • Operable Unit 3-14 draft record of decision sent to the Environmental Protection Agency and the Idaho Department of Environmental Quality. (December 2006) • Submit for review the Operable Unit 7-13/14 Draft Feasibility Study. (December 2006) • Submitted for review the Operable Unit 7-13/14 Draft Proposed Plan and comprehensive draft proposed plan. (March 2007) • Submit for review the Operable Unit 7-13/14 Draft Proposed Plan. (March 2007) • In agreement with the agreement with the State of Idaho and the Environmental Protection Agency, continue with buried waste retrievals within Pits 4 and 6 (approximately 1,700 cubic meters). (September 2007/September 2008) • Complete the V-Tanks Remedial Action Report. (October 2007) • Submit for review Draft Record of Decision for Operable Unit 7-13/14. (December 2007) • Develop the Operable Unit 7-13/14 Draft Record of Decision (ROD) that will select the remedial approach for the entire Subsurface Disposal Area (SDA). (December 2007)			
ID-0040B / Nuclear Facility D&D-2012 (life-cycle estimate $890,602K)	**4,976**	**67,562**	**13,373**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This project focuses on deactivation and final disposition of EM-owned, high-risk radiologically contaminated Idaho National Laboratory nuclear buildings. The scope includes deactivation of four spent fuel storage pools, disposition of four excess nuclear test reactors, and disposition of a nuclear fuel reprocessing complex. The spent nuclear fuel storage pools have had spent fuel removed, but are a risk because they contain contaminated water, which could leak into the Snake River Plain Aquifer, which is a critical concern of regional stakeholders and State agencies. The total contaminated water volume in the four pools is nearly 2.5 million gallons.

The future end-state of this project is the removal of radiologically contaminated water from four nuclear fuel storage pools, disposition of four nuclear reactors, and disposition of a fuel reprocessing complex,

(dollars in thousands)

FY 2006	FY 2007	FY 2008

specifically involving: 1) the spent nuclear fuel pools at Test Area North- 607, Materials Testing Reactor-603, Power Burst Facility-620, and Chemical Processing Plant-603; 2) the nuclear reactors at the Materials Testing Reactor, Engineering Test Reactor, Loss of Fluid Test Reactor, and the Power Burst Facility; 3) the Chemical Processing Plant-601/627/640 nuclear fuel reprocessing complex; and 4) final disposition of 18 other nuclear facilities.

As of September 30, 2006, the Idaho Cleanup Project has focused on the deactivation and disposition of the high-risk facilities. Significant accomplishments include issuance of the Comprehensive Environmental Response, Compensation, and Liability Act Engineering Evaluation/Cost Analysis for the Loss of Fluid Test Reactor Complex final disposition, issuance of the draft Comprehensive Environmental Response, Compensation, and Liability Act Engineering Evaluation/Cost Analysis for the Engineering Test Reactor final disposition and demolition, and final disposition of Chemical Processing Plant-627 (Remote Analytical Laboratory).

In FY 2008, the following activities are planned:

- Continue Engineering Test Reactor (Test Reactor Area 642) cubicle demolition, canal grouting and continue equipment removal.
- Issue Chemical Processing Plant-640 Engineering Evaluation/Cost Analysis for decontamination and dismantlement.
- Complete Chemical Processing Plant-603A basin disposition.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Nuclear Facility Completions (Number of Facilities)	20	21	22	41	54%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Chemical Processing Plant-603A Sludge Removal and Treatment. (FY 2006)
- DOE Issued Action Memorandum for Reactor Technology Complex-642 Engineering Evaluation/Cost Analysis. (FY 2006)
- Completed the Power Burst Facility-620 reactor deactivation. (FY 2006)
- Completed 10 of 19 cubicle demolitions within Reactor Technology Complex-642, Engineering Test Reactor. (FY 2006)
- Complete Reactor Technology Complex-784 D&D. (December 2006)
- Complete Test Area North-630 facility decontamination and dismantlement. (March 2007)
- Complete loss of fluid test on underground storage tank demolition. (May 2007)
- Complete demolition of the Loss of Fluid Test complex. (June 2007)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008

- Chemical Processing Plant-603 Basins Grouted and Water transferred to the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility. (July 2007)
- Complete Test Area North-650 Containment Facility Decontamination and Dismantlement. (September 2007)
- Complete Test Area North loss of fluid test facilities D&D. (September 2007)
- Complete numerous cubicle demolitions within Test Reactor Area-642, Engineering Test Reactor. (September 2007)
- Complete CCP-601 Characterization. (September 2007)
- Issue Chemical Processing Plant-640 Engineering Evaluation/cost Analysis. (October 2007)
- Complete Chemical Processing Plant-603A Basin disposition. (September 2008)

ID-0050B / Non-Nuclear Facility D&D-2012 (life-cycle estimate $145,437K)	**29,715**	**3,010**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

In FY 2003 the Idaho Site complex consisted of 526 buildings. Responsibility to maintain and eventually disposition 243 of these buildings was transferred to the Office of Nuclear Energy. The remaining 283 buildings are the responsibility of EM to maintain and eventually disposition. Of these 283 buildings, 228 are classified as non-nuclear. This project will disposition 88 of these buildings to their final end-state by 2012, the balance will be dispositioned after 2012.

The work associated with this project includes removal and disposal of hazardous materials and radioactive contamination and the dispositioning of the buildings to their final end-state.

The end-state is for the EM owned non-nuclear buildings to have been dispositioned and the footprint cleaned up to a level that meets the requirements for long-term stewardship.

As of September 30, 2006, a total of 13,434 square feet of the EM industrial buildings were demolished in FY 2006.

In FY 2008, the following activities are planned:

- There are no activities planned in for FY 2008. Idaho site deactivation and demolition will be concentrated on the high-risk nuclear facilities and reactors, which are included in PBS ID-0040B.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Radioactive Facility Completions (Number of Facilities)	20	25	27	41	66%
Industrial Facility Completions (Number of Facilities)	111	114	118	180	66%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Decommission 13 facilities at Idaho Nuclear Technology and Engineering Center, Test Area North, and Reactor Testing Complex. (September 2007)

ID-0100 / Idaho Community and Regulatory Support (life-cycle estimate $171,382K) **3,511** **3,683** **3,787**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This project encompasses work in three major areas for environmental regulatory oversight and stakeholder interactions and support:

1) State of Idaho Department of Environmental Quality Grant and Air Quality Permitting Fees. All industries subject to Clean Air Act Title V regulations are required to pay fees to support the state authorized program to 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 (site-wide) scale for the Idaho Site. The management and operating contractor monitors for compliance and immediate impacts only. The United States Geological Survey groundwater monitoring, conducted on the Idaho Site and off-site, supports the Idaho Site 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, and provides surveillance data and 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 Site Citizens Advisory Board is chartered by the DOE as an EM Site-Specific Advisory Board. The Citizens Advisory Board provides informed recommendations to the Office of Nuclear Energy, Science and Technology/Idaho Operations Office and Headquarters EM regarding the full scope of EM 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 Idaho Department of Environmental Quality task will be complete when the Idaho Site no longer has any

(dollars in thousands)

FY 2006	FY 2007	FY 2008

operating hazardous waste management facilities and no air emissions requiring a Clean Air Act Title V operating permit. Any other remaining scope will continue through the end of site operations.

There is no technical end-state associated with this PBS. However, this PBS will end at the end of the EM cleanup mission at the Idaho Site.

As of September 30, 2006, the Idaho Site performed the on-going support of these regulatory oversight and stakeholder involvement activities.

In FY 2008, the following activities are planned:

- Secure two grants to fund the Idaho Department of Environmental Quality technical assistance for obtaining hazardous waste management closure plans, permits/modifications under the Comprehensive Environmental Response, Compensation, and Liability Act and Resource Conservation and Recovery Act.
- Continue the United States Geological Survey groundwater monitoring and subsurface investigation with analysis of contaminants and transport mechanisms affecting Snake River Aquifer, both on-site and off-site.
- Provide payment of fees for the Title V Air Permit and technical assistance for air quality compliance.
- Continue support to the Citizen Advisory Board providing recommendations and advice.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- The United States Geological Survey provided expert analysis of contaminants and transport mechanisms affecting the Snake River Plain Aquifer to support decision-making and risk assessment. (FY 2006)
- The Citizens Advisory Board held six bi-monthly two-day meetings and continued to provide recommendations and advice on issues and accelerated cleanup plans. (FY 2006)
- Department of Environmental Quality grants enabled obtaining hazardous waste management closure plans, permits or permit modifications. (FY 2006)
- The United States Geological Survey will provide expert analysis of contaminants and transport mechanisms affecting the Snake River Plain Aquifer to support decision-making and risk assessment. (September 2007)
- 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. (September 2007)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Department of Environmental Quality grants will enable obtaining hazardous waste management closure plans, permits or permit modifications; Comprehensive Environmental Response, Compensation, and Liability Act. (September 2008)

CH-ANLW-0030 / Soil and Water Remediation-Argonne National Laboratory-West (life-cycle estimate $8,619K)	**120**	**0**	**0**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

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, with some minor post remedy excavations completed in FY 2004. The tasks of monitoring and maintaining restricted areas, and enforcing institutional controls transferred to the landlord (Office of Nuclear Energy) in FY 2005. EM retains responsibility for soil and water treatment systems.

In FY 2008, the following activities are planned:

- No activities. This project is complete.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	37	37	37	37	100%

ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense) (life-cycle estimate $0K)	**5,101**	**7,000**	**5,400**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

The purpose of this PBS is to maintain and operate the Nuclear Regulatory Commission licensed facilities.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

This includes the management of approximately 15 metric tons of spent nuclear fuel presently stored at Fort St. Vrain in Colorado and approximately 82 metric tons of spent nuclear fuel presently stored on-site in the Three Mile Island Independent Spent Nuclear Fuel Storage Installations.

As of September 30, 2006, the two facilities continue to operate within their license.

In FY 2008, the following activities are planned:

- Provide payments to the Nuclear Regulatory Commission for licensing-related activities related to both Fort St. Vrain and Three Mile Island-2 Spent Nuclear Fuel.
- Provide security for Fort St. Vrain Spent Nuclear Fuel.
- Monitor Three Mile Island-2 Spent Nuclear Fuel.
- Complete five-year aging study based on Nuclear Regulatory Commission licensing requirement.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Total, Idaho	**538,083**	**519,604**	**509,426**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Idaho National Laboratory	
ID-0011 / NM Stabilization and Disposition	
▪ Increase is due to the planned disposition of 160 containers of nuclear material versus about 100 containers planned in FY 2007.	1,250
ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)	
▪ Increase supports the acceleration of spent nuclear fuel transfers from wet to dry storage and Advanced Test Reactor fuel receipts; the resumption of Foreign and Domestic Research Reactor spent nuclear fuel receipts; and other support activities.	10,773
ID-0013 / Solid Waste Stabilization and Disposition	
▪ Funding decrease reflects the transfer of funds to Nevada Test Site for waste shipments that will be made from Idaho to Nevada, and a reduction of site waste disposition activities for legacy and newly generated low-level, mixed low-level, and hazardous wastes due to other higher priorities.	-25,287
ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012	
▪ Increase is due to ramp up of construction of the Sodium Bearing Waste Treatment Facility, which is offset by a reduction in utilities, maintenance and operations; and a reduction in capital projects.	69,902
ID-0030B / Soil and Water Remediation-2012	
▪ The overall decrease reflects a reduced amount of retrieval work within the Waste Area Group 7 Subsurface Disposal Area.	-8,121
ID-0040B / Nuclear Facility D&D-2012	
▪ Funding decrease is due to the early completion of much of the characterization, decontamination, and deactivation of Test Area North-607 and its support facilities and the completion of the Loss of Fluid Test deactivation and demolition. Decrease also due to this project being ahead of schedule because of accelerated decontamination and deactivation efforts concentrated at the Reactor Test Complex for the Material Test Reactor, at the Idaho Nuclear Technology and Engineering Center and associated project management.	-54,189
ID-0050B / Non-Nuclear Facility D&D-2012	
▪ Decrease reflects concentration on higher risk nuclear facilities.	-3,010

	FY 2008 vs. FY 2007 ($000)
ID-0100 / Idaho Community and Regulatory Support	
▪ No significant change.	104
Non-Defense Environmental Cleanup	
Small Sites	
ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense)	
▪ Funding decrease is due to the completion in FY 2007 of the five-year aging study.	-1,600
Total, Idaho	**-10,178**

1. Significant Changes

The new Idaho Cleanup Contract was awarded March 23, 2005, whose technical approach included the use of a commercially proven technology, steam reforming, for treating the sodium bearing waste for disposal. The design was started in the fourth quarter of FY 2005 and will be completed in the third quarter of FY 2007.

The scope and primary goal of this project is to design and construct a treatment process system that will treat the sodium-bearing waste (SBW) which includes solids that are currently stored in the Tank Farm Facility tanks, along with any newly generated liquid waste produced through 2012. The Office of Environmental Management (EM) assumes that the final waste form will be suitable for transport to and disposal at the Waste Isolation Pilot Plant (WIPP) in New Mexico. However, there is a possibility that the sodium bearing waste may not meet the WIPP waste acceptance criteria due to the presence of a small volume (approximately 1%) of reprocessing waste commingled with the SBW. Therefore, to address this risk, the treatment facility will be designed and constructed so it could be converted to treat the waste for alternate waste disposal at Yucca Mountain if needed. The design will also include features to allow further processing for calcine high-level waste (HLW) if direct disposal of the calcine HLW to Yucca Mountain cannot be accomplished. These design features include process cell vault shielding and seismic protection.

The Office of Engineering and Construction Management (OECM) completed the external independent review (EIR) of EM's Performance Baseline Total Project Cost (TPC) and schedule estimate, and issued its recommendations in October 2006. The OECM EIR Team recommended validation of the project at a TPC of $398.8M, reflecting revisions primarily to address project risk and associated cost contingency for addressing project risk. This TPC has been further revised to include fee ($25.3M) and pre-Critical Decision-0 costs ($37.5M) associated with the project, included in PBS ID-0014B as operating dollars, which was not included in previous TPC estimates. The performance baseline (Critical Decision-2) was approved by the Under Secretary on December 29, 2006.

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2006	2Q FY2005	4Q FY2006	1Q FY2008	3Q FY2009	N/A	N/A
FY 2007	4Q FY2005	1Q FY2007	1Q FY2007	3Q FY2008	N/A	N/A
FY 2006 Reprogramming	4Q FY2005	2Q FY2007	3Q FY2007	2Q FY2009	N/A	N/A
FY 2008	4Q FY2005	3Q FY2007	3Q FY2007	4Q FY2010	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2006	304,510	74,700	0	379,210	N/A	379,210
FY 2007 Budget Request	304,180	74,700	0	378,880	N/A	378,880
FY 2006 Reprogramming	304,180	74,700	0	378,880	N/A	378,880
FY 2008 Budget Request	343,708	80,400	0	424,108	N/A	461,608

The $461,608,000 amount in the FY 2008 Budget Request includes $37,500,000 of pre CD-0 costs for this project.
The TEC includes design funds requested under Project Engineering and Design 04-D-414.
Note: OPC Other than D&D total includes contractor fee.

4. Project Description, Justification, and Scope

This project supports the equipment procurement, construction, construction management, quality assurance, and project management for the Sodium Bearing Waste Treatment Project. The design effort will develop the final detailed design of the treatment facility and establish the scope, schedule, and cost baselines for the project. Design funding has been appropriated on a separate Project Engineering and Design line item project (04-D-414). The Sodium Bearing Waste Treatment Project is one of several projects that are managed under Idaho National Laboratory's Idaho Cleanup Project and are part of the process to close the Idaho Nuclear Technology and Engineering Center's Tank Farm Facility. In order for these projects to meet the cleanup schedule, they will be managed together and their activities coordinated under the Idaho Cleanup Project.

The Sodium Bearing Waste Treatment Project supports the Department of Energy's EM mission of safely storing/treating liquid radioactive wastes. The Sodium Bearing Waste Treatment Project, as planned, supports the EM cleanup initiative and reduces risk to the environment. In addition, it supports several Federal Facilities Compliance Act commitments made with the State of Idaho.

The current DOE mission at the Idaho Nuclear Technology and Engineering Center includes cleaning up and managing radioactive and hazardous waste previously generated from nuclear fuel reprocessing activities. One of the major remaining waste forms is liquid mixed transuranic waste, which is stored in three of the eleven tanks. This waste is locally defined as sodium bearing waste due to its high content of sodium and potassium. Sodium Bearing Waste and Newly Generated Liquid Waste were primarily generated from past and on-going waste management and decontamination activities at Idaho Nuclear Technology and Engineering Center. The present inventory of approximately 900,000 gallons of sodium bearing waste is stored in three 300,000 gallon, underground tanks in the Tank Farm Facility. These tanks are between 35 and 45 years old and were constructed prior to the establishment of the Resource Conservation and Recovery Act regulations.

Five of the eleven storage tanks are located in concrete vaults of a design that do not meet present structural safety requirements (the "pillar and panel vaults"), and none of the tanks have secondary containment capabilities that meet current Resource Conservation and Recovery Act regulations. The waste management/storage systems at Idaho Nuclear Technology and Engineering Center currently operate under Resource Conservation and Recovery Act Part A interim status and a notice of non-compliance consent order.

A series of disputes over waste management and treatment, new waste, and spent nuclear fuel shipments into the State of Idaho resulted in a court-ordered Settlement Agreement between Idaho, the DOE and the U.S. Navy in October 1995. Among other things, the Settlement Agreement requires DOE to "cease-use" of the Tank Farm Facility tanks by December 31, 2012, because of their age, Resource Conservation and Recovery Act non-compliant configuration, and the seismic risk of potential release of their contents to the underlying Snake River Plain Aquifer. The evacuation of the tank contents by "calcination" (or other treatment) is also required. The 1998 Notice of Noncompliance-Consent Order Modification also requires cease-use of the Tank Farm Facility by December 31, 2012.

The scope and primary goal of the project is to design and construct a treatment process system using the steam reforming process to treat the sodium bearing waste (including solids) currently stored in the Tank Farm Facility tanks, along with any newly generated liquid waste produced through 2012. The steam reforming treatment process will convert the waste to a final waste form suitable for transport to and disposal at the WIPP in New Mexico or to a Federal repository. Sending the sodium bearing waste to the WIPP depends on a future decision/determination under the Resource Conservation and Recovery Act permitting process of the State of New Mexico.

The SBW Treatment Project has unique political, technical, cost, and schedule risks. The facility will mitigate two major technical risks by being designed and constructed so that it could be converted to treat SBW waste for alternate waste disposal at Yucca Mountain if needed, and to allow processing of the calcine high level waste, if direct disposal to Yucca Mountain cannot be accomplished. These design features include process cell vault shielding and seismic protection. Further facility and equipment upgrades would be needed to develop these additional capabilities if they become necessary.

The FY 2008 budget request of $112,800,000 will accomplish the following activities:

- Continue civil construction of facilities (i.e., walls, superstructure)
- Mechanical/electrical construction, placement of process modules and system skids
- Continue fabrication of process equipment
- Initiate construction testing

<u>Compliance with Project Management Order</u>

- CD-0, Approve Mission Need - January 5, 2005
- CD-1, Approve Preliminary Baseline Range - August 10, 2005
- CD-2, Approve Performance Baseline - December 29, 2006
- CD-3A, Approve Long Lead Procurement #1, July 5, 2006
- CD-3B, Approve Long Lead Procurement #2, 2Q 2007
- CD-3C, Approve Early Site Preparation - 2Q 2007

- CD-3D, Initiate Skid Fabrication - February 2007
- CD-3, Approve Start of Construction - June 2007
- CD-4, Approve Start of Operations - July 2010

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design			
FY 2004	20,379	0	0
FY 2005	24,701	45,080	4,000
FY 2006	41,108	41,108	50,088
FY 2007	0	0	32,100
Total, Design	86,188	86,188	86,188
Construction			
FY 2006	30,729	30,729	1,000
FY 2007	31,000	31,000	48,800
FY 2008	112,800	112,800	124,800
FY 2009	74,600	74,600	74,600
FY 2010	8,391	8,391	8,320
Total, Construction	257,520	257,520	257,520
Total, TEC	343,708	343,708	343,708

Design funding was appropriated under 04-D-414, Project Engineering and Design (PED).
FY 2006 Design funding appropriations and obligations includes a FY 2006 Reprogramming of $32,000,000 for PED funding.
FY 2006 Construction funding appropriations and obligations includes a reduction of $23,000,000 for the FY 2006 Reprogramming.

6. Total Estimated Costs

	(dollars in thousands) Current Estimate	Previous Estimate
Construction		
Construction / All Other Construction	115,383	81,500
Construction / Contingency	22,400	94,392
Construction / Equipment	94,887	22,100
Construction / Site Preparation	24,850	20,000
Total, Construction	257,520	217,992
Preliminary and Final Design	86,188	86,188
Total, TEC	343,708	304,180

Other Project Costs

	(dollars in thousands) Current Estimate	Previous Estimate
Other Project Costs	117,900	74,700

Note: OPC Other than D&D total includes contractor fee and $37,500,000 of pre CD-0 costs.

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC (Design)	86,188	0	0	0	0	0	0	86,188
TEC (Construction)	49,800	124,800	74,600	8,320	0	0	0	257,520
OPC other than D&D	66,100	17,300	21,400	13,100	0	0	0	117,900
Total, Project Cost	202,088	142,100	96,000	21,420	0	0	0	461,608

Note: OPC Other than D&D includes contractor fee and $37,500,000 of pre CD-0 costs.

8. Related Operations and Maintenance Funding Requirements

Start of Operations or Beneficial Occupancy (fiscal quarter)	4Q FY 2010
Expected Useful Life (number of years)	N/A
Expected Future Start of D&D for new construction (fiscal quarter)	N/A

The current baseline requires all facility D&D to start in time to meet the Idaho site completion date of 2035. The operational life of this facility will be determined after 2010.

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
Operations	TBD	N/A	40,500	74,700

9. Required D&D Information

N/A

10. Acquisition Approach (formerly Method of Performance)

Design and construction services will be obtained through the new Idaho Cleanup Project Contractor and that contractor will manage the overall design and construction effort and interfaces with the existing operating plant.

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

Oak Ridge

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
East Tennessee Technology Park	251,488	321,567	233,759
Oak Ridge National Laboratory	60,789	40,500	71,446
Oak Ridge Reservation	168,082	69,268	84,630
Y-12 Plant	21,887	40,000	19,855
Total, Oak Ridge	502,246	471,335	409,690

Site Overview

The cleanup program mission in Oak Ridge will be complete when cleanup has safely reduced risks to the public, workers, and the environment at the East Tennessee Technology Park, Oak Ridge National Laboratory (Bethel Valley and Melton Valley), Y-12 National Security Complex, Bear Creek Valley, and Off-site Areas. These risks include potential exposure to contamination and industrial hazards resulting from decades of uranium enrichment, research, and nuclear weapons-related operations.

Site Description

The Oak Ridge Reservation is 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 the Oak Ridge program.

Oak Ridge - East Tennessee Technology Park

The East Tennessee Technology Park site occupies approximately 2,000 administrative acres adjacent to the Clinch River, approximately 13 miles west of Oak Ridge, Tennessee. It was originally built as a uranium enrichment facility for defense programs. The majority of the 125 major buildings on the site have been inactive since uranium enrichment production ceased in 1985.

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. Cleanup addresses contamination from a variety of research and development activities, which were supported by multiple DOE programs over a long period of time. Significant waste management activities took place within the Melton Valley area of the Laboratory. The Oak Ridge National Laboratory currently conducts applied and basic research in energy technologies and the physical and life sciences. Cleanup includes environmental remediation, decontamination and decommissioning of hazardous and radioactively contaminated facilities, and disposition of legacy low, mixed low-level, and transuranic waste.

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 storehouses for special nuclear materials. The Y-12 site has numerous 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 sanitary landfills for all of the Oak Ridge Reservation are located at Y-12. The Environmental Management Waste Management Facility (a Comprehensive Environmental Response, Compensation and Liability Act disposal facility supporting the cleanup) is located in Bear Creek Valley of the Y-12 area.

Site Cleanup Strategy/Scope of Cleanup

The Oak Ridge cleanup strategy is a risk-based approach that focuses first on those contaminant sources that are the greatest contributors to risk. The overall strategy is based on surface and groundwater considerations, encompassing watersheds that feed the Clinch River and are impacted by the DOE sites. Key Records of Decision have been signed for these watersheds. Final Records of Decision will be necessary for all watersheds to deal with the remaining ecological and groundwater concerns.

While risk reduction is the major cleanup driver, other factors that must be considered to achieve risk reduction are execution logic and mortgage reduction. The reduction of mortgage costs provides a dramatic benefit when allowed to reinvest the saved funds into accelerating follow-on risk reduction activities. This ultimately will reduce the amount and duration of funding needed.

Having established the risk-based prioritization for the work, a number of substantive changes to work practices have also been implemented that will facilitate work execution. These changes can be categorized as either improved work flow or alternative technical approaches, and these are considered to be enabling innovations for the plans to complete cleanup.

Site Completion (End State)

At the end of cleanup, planned by 2015, the Oak Ridge National Laboratory will continue to operate as a world-class research facility. In addition, Y-12 will continue to operate, fulfilling its national security mission. The East Tennessee Technology Park will be available for use as a private-sector industrial park.

Short-Term Projects:

Melton Valley: Melton Valley remedial action project under the Comprehensive Environmental Response, Compensation, and Liability Act was completed in FY 2006. Melton Valley remediation involved both containment and treatment of contaminants. Specific activities included: (1) hydrologic isolation of burial grounds and seepage pits, (2) in situ stabilization of liquid waste trenches, (3) demolition of surface structures, (4) removal of impoundments, (5) removal or isolation of contaminated soil, (6) retrieval of transuranic waste, (7) plugging and abandonment of hydrofracture wells, (8) removal or grouting of inactive waste pipelines, (9) shipment of spent nuclear fuel to the Idaho National Laboratory, and (10) stabilization of inactive waste tanks. Because a majority of the waste will

remain in Melton Valley, the area will have access restrictions. A future Record of Decision will be generated to address the remaining groundwater, sediment and ecological concerns within the area after the remediation efforts completed have a chance to show the expected positive cleanup results.

East Tennessee Technology Park: This project addresses decommissioning of facilities and remedial actions for contaminated sites at the East Tennessee Technology Park. Site closure was scheduled for FY 2008 but will now be accomplished by FY 2010. There are approximately 2,200 acres with potential contamination, including known groundwater contaminant plumes from former burial grounds and contaminated soils, resulting in approximately 167 known release sites to be remediated. In addition, there are approximately 500 facilities, including 125 major buildings that require decommissioning. The 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 includes the Three-Building Decontamination and Decommissioning Recycle subproject which was completed in FY 2005. This subproject decontaminated and decommissioned over 110 acres in three former gaseous diffusion process buildings. An additional site-wide Record of Decision is also being prepared to address any groundwater, surface water, and ecological concerns at the site. This document will also address the long-term stewardship concerns and requirements for the site. Site closure assumes the demolition of K-25, K-27, and K-29 gaseous diffusion process buildings. The K-31 and K-33 buildings are assumed to remain for transfer under the site industrial closure plan.

Y-12: Specific high-risk reduction actions are planned for completion by FY 2008. These include mitigation of off-site mercury surface water releases and the excavation of uranium hot spots and hydraulic isolation of other contaminant sources in the Boneyard/Burnyard burial grounds.

The short-term scope of this work reduces worker risk at the Y-12 National Security Complex; designs, builds, and operates the on-site Environmental Management Waste Management Facility; and performs surveillance and maintenance of surplus facilities at the Y-12 National Security Complex. Additional source Records of Decision will be necessary for this area as well as a final Record of Decision addressing the groundwater concerns of the site.

Bethel Valley at Oak Ridge National Laboratory: Specific high-risk reduction actions include completing an engineering evaluation to identify further sources of groundwater contamination; completing the Corehole 8 (Tank W-1A) removal action; disposition of the excavated highly contaminated sediment from surface impoundments in the center of the Oak Ridge National Laboratory; and remediation of the Hot Storage Garden to ensure worker safety.

Offsite Areas: This project reduces risk and cleans up three privately owned properties that were contaminated due to the sale of contaminated materials from the DOE to private companies. DOE 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 Atomic City Auto Parts Site was completed in FY 2005. Oak Ridge plans to complete both the Witherspoon sites by FY 2009. The cleanup actions at these sites consist of removing, treating, and disposing of contaminated materials, equipment, soil, and sediment; demolishing facilities; and remediating groundwater actions.

Longer Term Projects:

All of the remaining actions to complete the EM mission are summarized below.

Y-12: The remaining source cleanup activities, including facility deactivation and decommissioning and soil/sediment removal and groundwater concerns, will be completed after FY 2008. Surveillance and maintenance activities for the Y-12 National Security Complex, and the coordination of environmental monitoring throughout the Oak Ridge Reservation to assess the effectiveness of cleanup actions, are included in the scope. By 2015, all cleanup actions at the Y-12 National Security Complex, Chestnut Ridge and Bear Creek Valley (including the White Wing Scrap Yard) are planned to be completed, allowing for the continued use of the site as DOE industrial/waste management facilities.

Oak Ridge National Laboratory: Cleanup of all remaining contaminated areas at the Oak Ridge National Laboratory will be completed by FY 2015, including the decontamination and decommissioning of remaining inactive facilities, capping of buried waste areas, bioremediation of groundwater contamination, contaminated soil/sediment removal and disposition of U-233 stored in Building 3019.

Molten Salt Reactor Experiment: The removal of the Molten Salt Reactor Experiment fuel salts is nearing completion, which will also be followed by a Record of Decision addressing the demolition of this reactor facility.

Long-Term Stewardship: The Comprehensive Environmental Response, Compensation, and Liability Act process will determine any necessary final actions for groundwater in the five watersheds subsequent to completion of the actions described above. Most of the major remedial actions on the Reservation will require the need for extensive monitoring and long-term stewardship actions, including surveillance and maintenance of installed structures and systems.

Most of the contaminated sites, media, and facilities left standing never will be remediated sufficiently to permit unrestricted use of soil, groundwater, and surface water due to factors such as technical impracticability, public and worker risk and environmental damage, and costs. Since residual contamination will remain in most cases, DOE is committed to conduct activities to assure that remedies remain protective.

Regulatory Framework

Cleanup of the Oak Ridge Reservation is primarily governed by three regulatory agreements/compliance orders. The first, the *Federal Facility Agreement for the Oak Ridge Reservation*, was signed by DOE, the United States Environmental Protection Agency, and the Tennessee Department of Environment and Conservation and implemented on January 1, 1992, to establish a procedure framework and schedule for developing, implementing, and monitoring appropriate site response actions under the Comprehensive Environmental Response, Compensation, and Liability Act. This agreement establishes major milestones to complete cleanup of offsite locations by 2010 and all active remediation activities on the Oak Ridge Reservation by 2015. It is expected that there will be a few Comprehensive Environmental Response, Compensation, and Liability Act decision documents following 2015 to finalize the need for no further action and reduction of established monitoring and land use controls for the reservation.

In conjunction with the Federal Facility Agreement, DOE, the Environmental Protection Agency and the Tennessee Department of Environment and Conservation signed the *Oak Ridge Accelerated Cleanup Plan Agreement* on June 18, 2002. The purpose of this Agreement was to describe a streamlined decision-making process to facilitate the accelerated implementation of cleanup activities, to resolve the current Oak Ridge Reservation Federal Facility Agreement milestone dispute, and to establish future actions needed to complete the plan for accelerated cleanup.

The second, the *Oak Ridge Reservation Compliance Order*, was signed on September 26, 1995 by DOE and the Tennessee Department of Environment and Conservation, to enforce treatment of mixed low-level wastes under the Resource Conservation and Recovery Act. This order establishes milestones to complete treatment of all Oak Ridge mixed low-level wastes by 2012.

The third, the *Oak Ridge Reservation Polychlorinated Biphenyl Federal Facilities Compliance Agreement*, was signed by DOE and the Environmental Protection Agency on October 28, 1996, to establish a framework for treatment of polychlorinated biphenyl-contaminated wastes under the Toxic Substances Control Act. This agreement establishes milestones to complete treatment of all Oak Ridge polychlorinated biphenyl-contaminated wastes by 2010.

Critical Site Uncertainties and Assumptions

One project uncertainty for Oak Ridge is whether the Waste Isolation Pilot Plant will accept remote-handled transuranic waste from Oak Ridge on the planned schedule in the baseline. Another uncertainty is the disposition strategy for the U-233 stored in Building 3019, a new mission for EM established by Congressional direction in FY 2006. Other uncertainties include: final agreement with the regulators on the extent of remediation to be accomplished under future Records of Decision and cleanup plans, and the extent of reindustrialization of the decontaminated K-31 and K-33 gaseous diffusion plant buildings (which will determine the amount of decontamination and decommissioning, and the cost schedule, to be ultimately carried out at the East Tennessee Technology Park). Finally, a significant uncertainty exists with regard to program responsibility and cost for the ultimate cleanup of the remaining decontamination and decommissioning work scope at Y-12 and Oak Ridge National Laboratory that is not currently in the EM scope.

Interdependencies

The success of the Oak Ridge Environmental Management Program requires effective project interfaces, including:

Other DOE Sites: The Oak Ridge Toxic Substances Control Act Incinerator accepts waste from a number of other DOE sites throughout the DOE complex. In addition, interfaces exist with several waste disposal sites including the Hanford Site, the Nevada Test Site, Energy Solutions (formerly known as Envirocare), and the Waste Isolation Pilot Plant.

National Nuclear Security Administration (NNSA): NNSA owns some material at East Tennessee Technology Park that needs to be removed prior to the demolition of the K-25 Building. During the equipment removal in the K-25 and K-27 Buildings, visible highly enriched uranium material will be removed and packaged to meet Nuclear Criticality Safety requirements. In addition, the NNSA performs landlord functions at Y-12.

United States Enrichment Corporation: United States Enrichment Corporation has a lease with DOE to access the K-l600 building and its centrifuge technology. The United States Enrichment Corporation is further developing the technology in order to construct a demonstration facility at Portsmouth. The oversight of this activity is through DOE-Oak Ridge Operations' Office of Nuclear Fuel Security and Uranium Technology.

Office of Science and Office of Nuclear Energy: Coordination with these offices is critical to transition material disposition activities for safe storage of the U-233 in Building 3019 at Oak Ridge to the Office of Environmental Management.

Contract Synopsis

Oak Ridge Reservation currently utilizes two different prime contracts to implement its cleanup strategy: (1) Oak Ridge Environmental Management Cleanup Contract; and (2) the Transuranic Waste Treatment Contract.

Oak Ridge Environmental Management Cleanup Contract: The Oak Ridge Closure Contract between DOE and Bechtel Jacobs Company, LLC was signed September 2003 with the singular focus of achieving well defined end states in the safest, most cost effective manner by September 2008. This contract is a cost-plus-incentive-fee contract with cost and milestone incentives.

Transuranic Waste Treatment Contract: A privatization contract was signed with Foster Wheeler Environmental Corporation in August 1998 for the treatment of remote-handled alpha low-level waste, and contact- and remote-handled transuranic waste. Foster Wheeler Environmental Corporation has constructed the Transuranic Waste Processing Facility and has completed the processing of remote-handled supernate waste. Processing of contact-handled transuranic waste began in December 2005 with all work scheduled to be completed in 2012. The original fixed-price contract was converted on September 12, 2006 to a cost-plus-fixed-fee contract, which is more suitable for this project.

Cleanup Benefits

Near Term:

Cleanup of Melton Valley Area was completed in FY 2006. The Melton Valley Area will be designated as a waste management area with access restrictions. The cleanup actions will ensure that the waste is contained; on-site surface water quality is improved to meet required standards; and off-site users of the Clinch River remain protected.

Longer Term:

Closure of the East Tennessee Technology Park site is the next complex-wide opportunity for the EM Program to divest itself of a major liability. While risk reduction is the major driver of the plan, the rapid reduction of the East Tennessee Technology Park site mortgage costs to free the money for reinvestment in other near-term risk reduction projects is a benefit as well. In addition, there will be benefits for the Oak Ridge community derived from completion of the cleanup of the site, which may be reused as a commercial industrial park.

The off-site work at the both the David Witherspoon, Inc. sites will be completed by FY 2009. Remedial action work will be initiated at the Y-12 National Security Complex, the Bear Creek Valley waste management area and Oak Ridge National Laboratory facility for Records of Decision approved and signed by the DOE and regulatory parties.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Oak Ridge			
Oak Ridge			
HQ-SW-0013X / Solid Waste Stabilization and Disposition-Science Current Generation	19,025	0	0
HQ-SW-0013X-OR / Solid Waste Stabilization and Disposition-Science Current Generation	0	18,544	0
OR-0011Z / Downblend of U-233 in Building 3019	17,821	0	20,000
OR-0013A / Solid Waste Stabilization and Disposition-2006	60	0	0
OR-0013B / Solid Waste Stabilization and Disposition-2012	93,247	48,888	72,285
OR-0030 / Soil and Water Remediation-Melton Valley	62,438	0	0
OR-0031 / Soil and Water Remediation-Offsites	6,724	15,381	6,379
OR-0041 / Nuclear Facility D&D-Y-12	21,887	40,000	19,855
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory	23,943	21,956	51,446
OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)	4,032	10,094	3,353
OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense)	5,613	4,999	5,966
Subtotal, Oak Ridge	254,790	159,862	179,284
Non-Defense Environmental Cleanup			
Gaseous Diffusion Plants			
Oak Ridge			
OR-0011Y / NM Stabilization and Disposition-ETTP Uranium Facilities Management	4,836	0	0
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities			
Oak Ridge			
OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)	221,871	275,764	201,556
OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration	20,749	35,709	28,850
Subtotal, Oak Ridge	242,620	311,473	230,406
Total, Oak Ridge	502,246	471,335	409,690

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Oak Ridge					
Geographic Sites Eliminated (number of sites)	28	28	28	29	97%
Transuranic Waste shipped for disposal (Cubic meters)	0	289	981	2,666	37%
Nuclear Facility Completions (Number of Facilities)	7	8	8	25	32%
Radioactive Facility Completions (Number of Facilities)	17	24	27	71	38%
Industrial Facility Completions (Number of Facilities)	255	329	427	630	68%
Remediation Complete (Number of Release Sites)	384	402	405	689	59%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	104,386	106,501	108,536	112,693	96%

Detailed Justification

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
HQ-SW-0013X / Solid Waste Stabilization and Disposition-Science Current Generation (life-cycle estimate $0K)	**19,025**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS scope includes collection, storage, treatment, and disposition 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) 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 2008, the following activities are planned:

- The scope for this PBS was transferred to new PBS HQ-SW-0013X-OR in FY 2007.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	6,852	7,752	7,752	7,752	100%

(dollars in thousands)

FY 2006	FY 2007	FY 2008

HQ-SW-0013X-OR / Solid Waste Stabilization and Disposition-Science Current Generation (life-cycle estimate $136,084K) **0** **18,544** **0**

This PBS is within the Defense Environmental Cleanup appropriation.

This work scope was formerly in PBS HQ-SW-0013X and in FY 2008 is being transferred to OR-0042. The majority of the activities being transferred are operations of various waste processing systems. The consolidation of these activities at this multi-disciplinary site will benefit the cleanup mission and reduce health and safety risks to employees.

The scope of this project is to collect, store, treat, and dispose of newly generated low-level, mixed low-level, hazardous, and sanitary wastes 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) 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 2008, the following activities are planned:

- The scope for this PBS is being transferred to OR-0042 beginning in FY 2008.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Oak Ridge National Laboratory Process Waste Operations - Provided regulatory compliant operation of the Process Waste Collection/Transfer System with an annual operational goal of 180,000,000 gallons discharged and operational goal of continuous ventilation. (FY 2006)
- Oak Ridge National Laboratory Process Waste Operations - Provide regulatory compliant operation of the Process Waste Collection/Transfer System with an annual operational goal of 180,000,000 gallons discharged and operational goal of continuous ventilation. (September 2007)

OR-0011Z / Downblend of U-233 in Building 3019 (life-cycle estimate $0K) **17,821** **0** **20,000**

This PBS is within the Defense Environmental Cleanup appropriation. There is currently zero show as the lifecycle estimate above because this project is at pre-Critical Decision-2 (baseline validation) and,

(dollars in thousands)

FY 2006	FY 2007	FY 2008

therefore, the cost and schedule estimates are not yet approved by the Department for configuration control purposes.

In FY 2006, this project transferred from the Office of Nuclear Energy to the Office of Environmental Management. In the Conference Report (109-275) accompanying the Energy and Water Development Appropriations Act for 2006, the conferees directed, "the Department to provide a report within 60 days of enactment of this Act that details the Department's path forward in managing this material." The Department delivered a report to Congress in February 2006 that discusses alternatives for safe disposition of the Building 3019 inventory.

Blending down this material will support National non-proliferation goals by making the material unsuitable for use in weapons and reducing security costs at the Oak Ridge National Laboratory. Accordingly, this project will:

- Downblend the Building 3019 inventory for disposition at an approved disposal site;
- Shutdown the Building 3019 Complex in preparation for final decontamination and decommissioning (D&D); and
- Meet the requirements of Defense Nuclear Facilities Safety Board Recommendation 97-1, which addresses the storage, inspection, and repackaging of the U-233 maintained at Oak Ridge National Laboratory.

Phase I - Planning and Design consists of detailed project planning, process and facility modification designs, development of safety documentation, and development of detailed Phase II cost estimates. Phase I is being conducted on a cost-plus-fixed-fee basis.

Phase II - Project Implementation will begin the necessary construction, including facility modifications and processing equipment installation. Following the completion of the construction, the program activities of down-blending the enriched U-233 with depleted uranium, and placement of down-blended material into containers for shipment to an approved disposal site will begin. Execution of the program activities during Phase II will satisfy all of the requirements of the inspection and repackaging program that DOE agreed is necessary to resolve Defense Nuclear Facilities Safety Board Recommendation 97-1. Phase II also includes the characterization, packaging, transportation and disposal of secondary wastes (e.g., personal protection equipment, construction debris, liquid residues, etc.) for the Building 3019 Complex. Upon completion of Phase II, all processing systems and equipment are cleaned up, including the removal and disposal of unattached solid waste materials and residual process materials in accordance with criteria specified by DOE.

Phase III - Building 3019 Complex Shutdown will consist of performance of facility stabilization to ready the facility for decommissioning.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

As of September 2006, the U-233 Program was transitioned from the Office of Nuclear Energy to EM and the External Independent Review was completed. Planning had begun for Critical Decisions 2/3A, approval of the baseline and project authorization. In addition, the Integrated Project Team responded to Congressional direction to terminate the medical isotope program and provide for the disposition of the material by adjusting the process, adding shielding to account for increased doses, and establishing packaging requirements for disposition. There is no FY 2007 funding, however, due to the project being on hold being evaluated through much of FY 2006, there are carryover funds available to continue with this project.

In FY 2008, the following activities are planned:

- Continue design of U-233 down-blending equipment and Building 3019 modifications.
- Initiate long-lead procurement activities.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Finalized material disposition options. (FY 2006)
- Assured inspection program complies with the Defense Nuclear Facilities Safety Board Recommendation 97-1. (FY 2006)
- Complete transition of ownership and operational responsibility to EM. (February 2007)
- Begin hot cell and laboratory cleanout. (May 2008)
- Begin long lead procurement. (June 2008)
- Continue design of U-233 down-blending equipment and Building 3019 modifications. (September 2008)
- Begin equipment disassembly and continue hot cell and laboratory cleanout. (September 2008)

OR-0013A / Solid Waste Stabilization and Disposition-2006 (life-cycle estimate $464,481K)	**60**	**0**	**0**

This PBS is within the Defense Environmental Cleanup appropriation.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

This project reduces risk and storage costs by treating and disposing of legacy low-level and mixed low-level 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. This project is a key element to the cleanup of the Oak Ridge Reservation.

Timely disposal of legacy waste stored in Melton Valley and at the East Tennessee Technology Park is critical for cleanup. Legacy wastes in Y-12 are being dispositioned. 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 legacy low-level waste began in 2001 when the Nevada Test Site disposal facility

became available. Disposal of the legacy waste results in a significant mortgage reduction due to the elimination of storage costs.

The end-state for this PBS is the disposition, on-site and off-site, of all of the legacy mixed and low-level waste by FY 2006.

In FY 2008, the following activities are planned:

- Activities were completed in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	48,584	48,584	48,584	48,584	100%
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Completed Project. (FY 2006)					

OR-0013B / Solid Waste Stabilization and Disposition-2012 (life-cycle estimate $1,024,379K)	**93,247**	**48,888**	**72,285**

This PBS is within the Defense Environmental Cleanup appropriation.

This project funds storage, treatment and disposal of low-level, mixed low-level, hazardous, industrial, 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 through FY 2009, followed by Resource Conservation and Recovery Act closure in FY 2010 and decontamination and decommissioning by the end of FY 2012; operation of the Central Neutralization Facility through mid-FY 2007, followed by closure and transfer of decontamination and decommissioning (under PBS OR-0043); management of the Reservation's transuranic waste and the design, construction, and operation of the Transuranic Waste Processing Facility.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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 stored at the East Tennessee Technology Park through 2009, while the companion project (PBS OR-0013A, Solid Waste Stabilization and Disposition-2006) addressed all low-level and mixed low-level waste disposed of prior to 2006.

The end-state for this PBS assumes the operation of the Toxic Substances Control Act Incinerator until FY 2009; the shut down and transfer for the decontamination and decommissioning of the Central Neutralization Facility and the disposition of all legacy radioactive and Polychlorinated Biphenyl Federal Facility Compliance Agreement waste. Transuranic waste treatment will continue at the Transuranic Waste Processing Facility until transuranic waste stored and newly generated transuranic waste in Oak Ridge is dispositioned.

As of September 2006, all legacy hazardous waste and 10,700 m^3 of low-level/mixed low-level Polychlorinated Biphenyl Federal Facility Compliance Agreement waste have been dispositioned. Contact-handled transuranic debris processing was initiated. The project has treated over 1,700,000 kgs of liquid waste and 540,000 kgs of solid waste from Tennessee and out-of-state DOE sites from FY 2001 through FY 2006 at the Toxic Substance Control Incinerator. In addition, Oak Ridge has shipped for treatment and disposal approximately 8,500 kgs of “lab pack type” Polychlorinated Biphenyl Federal Facility Compliance Agreement waste and completed operations at the Transuranic Waste Processing Facility for low-level waste supernate.

In FY 2008, the following activities are planned:

- Process 250m^3 of contact-handled transuranic debris and 170m^3 of remote-handled transuranic debris with shipments to WIPP; and continue to dispose of low-level/mixed low-level waste at the Nevada Test Site.
- Continue equipment check-out for remote-handled transuranic sludge processing.
- Operation and maintenance of Toxic Substance Control Act Incinerator and supporting facilities and systems, including waste storage, repackaging and disposal and wastewater treatment, to provide treatment of two million pounds of liquid and solid waste from DOE sites.
- Complete legacy industrial waste disposition.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	0	289	905	2,568	35%

			(dollars in thousands)		
			FY 2006	FY 2007	FY 2008
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	10,700	11,915	13,049	16,375	80%
Radioactive Facility Completions (Number of Facilities)	0	0	0	14	0%
Industrial Facility Completions (Number of Facilities)	0	0	0	23	0%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Initiated contact-handled transuranic waste processing at the Transuranic Waste Processing Facility. (FY 2006)
- Completed contact-handled-debris construction/operational testing at the Transuranic Waste Processing Facility. (FY 2006)
- Complete operations at Central Neutralization Facility. (June 2007)
- Complete preparation for remote-handled transuranic debris processing. (September 2007)
- Continue processing contact-handled transuranic debris. (September 2007/ September 2008)
- Initiate processing of remote-handled transuranic debris. (October 2007)
- Complete preparation for remote-handled transuranic waste sludge processing. (September 2008)
- Continue disposition of the East Tennessee Technology Park legacy Polychlorinated Biphenyl Federal Facility Compliance Agreement waste. (September 2008)
- Complete legacy industrial waste disposition. (September 2008)

OR-0030 / Soil and Water Remediation-Melton Valley (life-cycle estimate $360,918K)	**62,438**	**0**	**0**

This PBS is within the Defense Environmental Cleanup appropriation.

Melton Valley is located just south of the Oak Ridge National Laboratory and covers more than 1,000 acres. It was used between 1951 and 1986 for disposal of approximately two 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 mechanism to transport contaminants into White Oak Creek, which flows to the Clinch River, a drinking water source and recreational area. Cleanup of Melton Valley is the top priority risk reduction action on the Oak Ridge Reservation. 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

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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.

The FY 2006 end-state for this project will result in the Melton Valley Area being designated a waste management area with access restrictions. The cleanup actions will ensure that the waste is contained; on-site surface water quality is improved to meet required standards; and off-site users of the Clinch River remain protected.

As of September 2006, all of the physical work in the Melton Valley scope was completed by the project milestone date. A Critical Decision-4 conditional report was submitted in December 2006. This Critical Decision-4 is "conditional" due to a small quantity of unexpected pyrophoric material with no current disposition pathway. The transuranic waste, including 204 casks and associated debris, was removed from the 22-Trench Area with the exception of 8 drums containing glass jars of pyrophoric material encountered in Trench 13. The baseline assumed that no pyrophoric material would be encountered in the 22-Trench Area. With written concurrence from the regulators, DOE has stabilized the pyrophoric material in place, pending the identification and execution of a disposition pathway by September 30, 2009. Storage and/or disposition of the original wastes from Melton Valley will be supported in OR-0013B or OR-0042, depending on the waste; the pyrophoric wastes will be supported in PBS OR-0030.

In FY 2008, the following activities are planned:

- Project was completed in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Nuclear Facility Completions (Number of Facilities)	2	2	2	2	100%
Radioactive Facility Completions (Number of Facilities)	10	15	15	15	100%
Industrial Facility Completions (Number of Facilities)	2	2	2	2	100%
Remediation Complete (Number of Release Sites)	106	106	106	106	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed demolition of the New Hydrofracture Facility. (FY 2006)
- Completed the removal of transuranic waste from 22 Trench Area. (FY 2006)
- Completed the balance of Melton Valley Caps Solid Waste Storage Area 6 Remedial Action construction. (FY 2006)
- Completed final documentation on Solid Waste Storage Area 4. (FY 2006)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Completed contact-handled transuranic processing. (FY 2006)
- Completed the Melton Valley Closure Soils and Sediments Remedial Action construction. (FY 2006)
- Completed the balance of Melton Valley Caps Solid Waste Storage Area 5 Remedial Action construction. (FY 2006)
- Submitted Transuranic Waste Trenches Construction/Remediation Completion letter to Regulators for approval. (FY 2006)
- Completed project. (FY 2006)

OR-0031 / Soil and Water Remediation-Offsites (life-cycle estimate $63,921K)	**6,724**	**15,381**	**6,379**

This PBS is within the Defense Environmental Cleanup appropriation.

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. DOE 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 Atomic City Auto Parts site was completed in FY 2005. Oak Ridge plans to complete the Witherspoon sites by FY 2009. 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. At completion, all three sites are expected to be suitable for future industrial use. The scope also includes Offsite Program Site Evaluations, which are dependent on the results of a study to be released by the Agency for Toxic Substances and Disease Registry.

As of September 2006, remediation was completed at the David Witherspoon, Inc. 901 site. Site preparation was completed and soil removal began at the David Witherspoon, Inc. 1630 site.

In FY 2008, the following activities are planned:

- Off-site program site evaluations.
- Continue ongoing field work at David Witherspoon 1630 site which will allow completion in FY 2009 reducing the risk of potential public exposure to radiologically and chemically contaminated debris and soil.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	5	6	7	8	88%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed debris and soil removal at the David Witherspoon Inc. Site 901. (FY 2006)
- Initiate field work for the remediation of the David Witherspoon 1630 Site. (October 2006)
- Conduct off-site program site evaluations. (September 2008)

OR-0041 / Nuclear Facility D&D-Y-12 (life-cycle estimate $994,416K)	**21,887**	**40,000**	**19,855**

This PBS is within the Defense Environmental Cleanup appropriation.

The scope of this project includes the cleanup at the Y-12 National Security Complex; design/construction, operation, and closing of 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 is located in a water-rich environment. Y-12 contributes polychlorinated biphenyls**,** mercury, radionuclides, and volatile organic compound contamination to the Upper East Fork of Poplar Creek, which flows through the City of Oak Ridge, as well as to groundwater. 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 FY 2008. These include construction and operation of a water treatment system to remediate mercury contamination in surface water and excavation of the Boneyard/Burnyard burial ground to reduce the source of uranium contamination migration into surface water. After FY 2008, the remaining cleanup activities at Y-12, including facility deactivation and decommissioning and soil/sediment removal, and remediation of the East End Volatile Organic Compound Plume to prevent further migration offsite will be completed. Surveillance and maintenance activities for the Y-12 National Security Complex and the coordination of environmental monitoring throughout the Oak Ridge Reservation to assess the effectiveness of cleanup actions, is included in the scope.

The scope also includes the operation and maintenance of the Oak Ridge Reservation landfills consisting of sanitary/industrial and construction/demolition, which accepts and disposes of waste from all on-site DOE program offices.

Finally, this PBS includes operation of the Environmental Management Waste Management Facility and

(dollars in thousands)

FY 2006	FY 2007	FY 2008

modular design and construction for expansions beyond 1,200,000 yd^3. The Environmental Management Waste Management Facility will receive approximately 1,700,000 yd^3 of waste for disposal from Oak Ridge Reservation cleanup projects. Payments to the State of Tennessee will fund the perpetual care of the Environmental Management Waste Management Facility.

By FY 2015, all cleanup actions at Y-12 will be completed, allowing for the continued use of the site as an industrial facility.

As of September 2006, one facility and 28 release sites have been completed including the S-3 Ponds (Western Plume Pathways 1 and 2) and the Boneyard/Burnyard burial ground. The 9201-2 Water Treatment System construction has been completed. The expansion of the Environmental Management Waste Management Facility to 1,200,000 yd^3 has also been completed.

In FY 2008, the following activities are planned:

- Waste acceptance and placement operations at the Environmental Management Waste Management Facility and the Oak Ridge Reservation Landfills will continue to support the EM cleanup activities.
- Continue payments of $1,000,000 per year to the Environmental Management Waste Management Facility Perpetual Care Fund.
- Conduct routine surveillance and maintenance of surplus facilities and remedial action sites at Y-12.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Industrial Facility Completions (Number of Facilities)	1	1	1	2	50%
Remediation Complete (Number of Release Sites)	28	28	28	138	20%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Received regulatory approval of the Upper East Fork Poplar Creek Soils Record of Decision. (FY 2006)
- Completed the expansion of Oak Ridge Reservation Landfill VII, Area IV. (FY 2006)
- Continue operation of the Environmental Management Waste Management Facility and Oak Ridge Reservation landfills to support Environmental Management cleanup and National Nuclear Security Administration operations. (September 2007/September 2008)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory (life-cycle estimate $662,648K)	**23,943**	**21,956**	**51,446**

This PBS is within the Defense Environmental Cleanup appropriation.

Due to the many multi-disciplinary research activities conducted over the 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. The strategy is to complete high-risk reduction activities by FY 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. The fuel salt removal remedial action will be complete in FY 2008 and decontamination and decommissioning will be complete in FY 2014. Cleanup of all remaining contaminated areas at the Oak Ridge National Laboratory will be completed by FY 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 effectiveness of 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.

Work scope associated with treatment and disposal of newly generated waste, formerly in PBSs HQ-SW-0013X and HQ-SW-0013X-OR is being transferred to this PBS beginning in FY 2008 and will be included in the OR-0042 baseline beginning in FY 2008. The additional work scope is to collecting, storing, treating, and disposing of newly generated low-level, mixed low-level, hazardous, and sanitary wastes for the Office of Science in Oak Ridge. The consolidation of these activities at this multi-disciplinary site will benefit the cleanup mission and reduce health and safety risks to employees. 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 the operation of the

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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.

As of September 2006, 10 facilities and 80 release sites have been completed. These include the Main Plant Surface Impoundments, including clean-out and stabilization of the eight large Gunite Tanks and the Metal Recovery Facility.

In FY 2008, the following activities are planned:

- Continue routine surveillance and maintenance of surplus facilities and remedial action sites at the Oak Ridge National Laboratory
- Continue providing regulatory compliant operation of the Process Waste Collection/Transfer System; gaseous waste collection and treatment; and liquid low-level waste treatment to meet DOE Order 435.1 and Resource Conservation and Recovery Act requirements for disposal.
- Initiate design and acquisition planning for decontamination and decommissioning of the Bethel Valley isotopes facilities, chemical development laboratory facilities, reactor area facilities and tank area facilities (W-1A) to reduce the risk of radiological and chemical exposure to nearby employees.
- Prepare Comprehensive Environmental Response, Compensation, and Liability Act documentation (including Footprint Reduction/Boundary Site Records of Decision) that enables soil and sediment cleanup activities to proceed.
- Complete Molten Salt Reactor Experiment fuel salt removal remediation project and provide surveillance and maintenance of the facility until decontamination and decommissioning.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	0	0	76	98	78%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	0	901	1,732	52%
Nuclear Facility Completions (Number of Facilities)	0	0	0	15	0%
Radioactive Facility Completions (Number of Facilities)	3	3	3	26	12%
Industrial Facility Completions (Number of Facilities)	7	7	7	25	28%
Remediation Complete (Number of Release Sites)	80	80	82	178	46%

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Issued Remediation Effectiveness Report. (FY 2006)
- Completed soil characterization at Oak Ridge National Laboratory Tank W-1A area. (FY 2006)
- Continued removal of U-233 from Molten Salt Reactor Experiment drain tanks and shipment to 3019A. (FY 2006)
- Complete the Molten Salt Reactor Experiment stabilization de-fueling. (January 2007)
- Complete Molten Salt Reactor Experiment fuel salt removal. (September 2007)
- Initiate design and acquisition planning for decontamination and decommissioning of the Bethel Valley isotopes facilities, chemical development laboratory facilities, reactor area facilities and tank area facilities (W-1A). (September 2008)
- Complete Molten Salt Reactor Experiment fuel salt removal remediation project. (September 2008)
- Provide regulatory compliant operation of the Oak Ridge National Laboratory Process Waste Collection/Transfer System. (September 2008)

OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense) (life-cycle estimate $111,915K)	**4,032**	**10,094**	**3,353**

This PBS is within the Defense Environmental Cleanup appropriation.

This project 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 accomplish the closure of this major DOE site. The main activities will include decommissioning of the centrifuge development facilities at the site and the Central Neutralization Facility after operations cease. The centrifuge facilities subproject includes 32 facilities covering 234,000 square feet.

The project also includes surveillance and maintenance at the centrifuge facilities and the Central Neutralization Facility while they await decontamination and decommissioning. The operation of the Central Neutralization Facility is funded under PBS OR-0013B, Solid Waste Stabilization and Disposition-2012.

As of September 2006, no release sites and six facilities have been completed. Hazardous materials and equipment have been removed from the Centrifuge Facilities.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- Maintain necessary surveillance and maintenance on East Tennessee Technology Park defense facilities to ensure safety.
- Continue processing and disposal of centrifuge machines and decontamination and decommissioning of facilities.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	32,979	32,979	32,979	32,979	100%
Radioactive Facility Completions (Number of Facilities)	0	0	0	3	0%
Industrial Facility Completions (Number of Facilities)	6	10	14	61	23%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Began shipment of centrifuge equipment for disposal. (FY 2006)
- Complete K-1220 centrifuge equipment removal. (January 2007)
- Continue decontamination and decommissioning of the centrifuge facilities. (September 2007)
- Initiate Central Neutralization Facility D&D. (December 2007)
- Begin centrifuge facilities demolition. (February 2008)
- Complete centrifuge equipment removal. (June 2008)
- Complete decontamination and decommissioning of four industrial facilities. (September 2007/September 2008)
- Continue minimal necessary surveillance and maintenance on East Tennessee Technology Park defense facilities to ensure safety. (September 2008)
- Continue Central Neutralization Facility D&D. (September 2008)

OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense) (life-cycle estimate $134,498K)	**5,613**	**4,999**	**5,966**

This PBS is within the Defense Environmental Cleanup appropriation.

This project supports the two Tennessee non-regulatory Agreement-In-Principle grants, one Tennessee regulatory Federal Facility Agreement grant, and the activities of the Oak Ridge Site Specific Advisory Board. The first non-regulatory grant supports the Tennessee Department of Environment and

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Conservation's independent environmental oversight and monitoring of DOE activities taking place both on-site and off-site associated with 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. The Federal Facility Agreement regulatory grant with the Tennessee Department of Environment and Conservation, 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 the Agreements-in-Principle until the planned Oak Ridge/EM mission completion in FY 2015. In addition to the above scope, this PBS also funds the support for the Site Specific Advisory Board chartered under the Federal Advisory Committee Act.

In FY 2008, the following activities are planned:

- Continue support to the State of Tennessee for conducting annual oversight, monitoring, and reporting. This supports: (1) annual reports to the public; (2) independent monitoring program of all environmental media; (3) off reservation monitoring program of wells owned by private citizens adjacent to DOE land; (4) establishment of background levels; (5) DOE facility surveillance walkthroughs: (7) Federal Facility Agreement activities; and (8) emergency management exercises.
- Continue activities by the Site Specific Advisory Board sponsored by DOE-EM to assist in public participation activities.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Provided financial support to the State of Tennessee for conducting annual oversight, monitoring, and reporting. (FY 2006)
- Continued annual monitoring, reporting, and emergency planning activities. (FY 2006)
- Continued activities by the Site-Specific Advisory Board sponsored by DOE-EM to assist in public participation activities. (FY 2006)
- Provide financial support to the State of Tennessee for conducting annual oversight, monitoring, and reporting. (September 2007/September 2008)
- Continue annual monitoring, reporting, and emergency planning activities. (September 2007/September 2008)
- Continue activities by the Site-Specific Advisory Board sponsored by DOE-EM to assist in public participation activities. (September 2007/September 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
OR-0011Y / NM Stabilization and Disposition-ETTP Uranium Facilities Management (life-cycle estimate $46,466K)	**4,836**	**0**	**0**

This PBS is within the Non-Defense Environmental Cleanup appropriation.

This project scope reduces the environmental and safety concern associated with approximately 7,000 uranium hexafluoride cylinders and provides a portion of site infrastructure services at the East Tennessee Technology Park. The surveillance and maintenance activities to manage the uranium hexafluoride cylinders include: cylinder inspections, cylinder yard environmental and radiological monitoring, routine re-stacking and relocation of cylinders to place them in an improved storage condition, preventive and corrective maintenance, inspection and maintenance of six cylinder storage yards and cylinder handling equipment, disposition of legacy cylinder debris/waste until its final disposition, and disposal of empty cylinders. All of the uranium hexafluoride cylinders pose a security risk, and the continued deterioration of the cylinders is a threat for release of radioactive and toxic contaminants to the environment. Thus, there is a risk to on-site workers as well as the off-site public. Constant surveillance and maintenance required to mitigate these risks is a significant part of East Tennessee Technology Park's landlord cost.

As of September 2006, 844 (cumulative) empty cylinders were disposed at the Nevada Test Site and/or Envirocare and 5,549 (cumulative) full, partial and heel cylinders have been shipped to Portsmouth. The end-state is defined as removal of East Tennessee Technology Park cylinders to the Portsmouth Gaseous Diffusion Plant by September 2006. Any remaining cylinders after September 2006 will be considered part of the East Tennessee Technology Park closure and therefore funded from PBS OR-0040.

In FY 2008, the following activities are planned:

- No planned activities, as the project is complete.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	93	93	93	93	100%
Nuclear Facility Completions (Number of Facilities)	3	4	4	4	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Shipped remaining uranium hexafluoride cylinders to Portsmouth. (December 2006)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund) (life-cycle estimate $2,205,910K)	**221,871**	**275,764**	**201,556**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

This project scope covers decommissioning of facilities and remedial actions for contaminated sites at the East Tennessee Technology Park. It also funds a portion of site infrastructure services. There are approximately 2,200 acres with potential contamination, including known groundwater contaminant plumes from former burial grounds and contaminated soils, resulting in 167 release sites to be remediated. In addition, there are approximately 500 facilities, including 125 major buildings that require decommissioning. The 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 funded the Three-Building Decontamination and Decommissioning Recycle subproject, one of the largest decommissioning efforts in DOE history. It included over 110 acres of floor space which underwent decontamination and decommissioning and was completed in FY 2005. Also included in this PBS are 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 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. 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. 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.

The East Tennessee Technology Park closure milestone assumes buildings K-31 and K-33 are reindustrialized. The end state of the site will be appropriate for uncontrolled industrial use for all areas of land down to a grade of ten feet below the surface. Land use controls will be required; therefore restrictions on the areas will be required to ensure land use is industrial.
As of September 2006, 242 facilities were decommissioned and 68 release sites have been completed. An earlier Record of Decision led to excavation of the K-1070-A Burial Ground. The Zone 1 Record of Decision has been approved and remedial action has begun (scrap metal removal and Blair Quarry excavation). The Blair Quarry Excavation field work has been completed (more than 15,000 tons of contaminated soil and debris) and over 40,700 tons of scrap metal was shipped to the Environmental Management Waste Management Facility. The K-25/K-27 buildings subproject has removed the following: 144 converters, 23,000 yd^3 of hazardous material, and 12,590 yd^3 of excess material. The K-25/K-27 subproject has started venting, purging, and draining and characterization of piping and equipment; process system stabilization (foaming); and removal and segmentation of process equipment in

(dollars in thousands)

FY 2006	FY 2007	FY 2008

the K-25 building. The subproject has also completed intrusive sampling in the K-27 building.

In FY 2008, the following activities are planned:

- Continue Building K-25 and Building K-27 decontamination and decommissioning activities, including completing demolition of the K-25 west wing.
- Start demolition of the K-25 east wing and K-27.
- Continue foaming, removal and segmentation of process equipment in the K-25 east wing and begin these activities in the K-27 Building.
- Complete excess material removal (nickel and classified chemicals).
- Maintain base operations activities at ETTP to provide infrastructure and support to the cleanup project.
- Conduct required surveillance and maintenance on the facilities (including K-25 and K-27 Buildings) to maintain safe conditions.
- Complete the Poplar Creek Facilities decontamination and decommissioning project and K-1401 Building demolition.
- Complete the Zone 1 Remedial Actions Project (1,200 acres).

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,178	5,178	5,178	5,178	100%
Nuclear Facility Completions (Number of Facilities)	2	2	2	4	50%
Radioactive Facility Completions (Number of Facilities)	4	6	9	13	69%
Industrial Facility Completions (Number of Facilities)	236	306	400	514	78%
Remediation Complete (Number of Release Sites)	68	85	85	162	52%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed East Tennessee Technology Park scrap removal construction. (FY 2006)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008

- Completed hazardous material abatement in K-25 Building. (FY 2006)
- Completed deactivation/demolition of K-29. (FY 2006)
- Submit K-1085 Drum Burial Site Completion Letter to Regulators for Approval. (December 2006)
- Complete scrap removal. (December 2006)
- Start East Tennessee Technology Park groundwater remediation. (February 2007)
- Submit Site-Wide Record of Decision to Regulators for Approval. (September 2007)
- Complete segmentation of high-risk equipment in K-25 west wing and start demolition of the K-25 west wing. (September 2007)
- Start vent, purge and drain, and foaming of K-25 east wing and K-27. (September 2007)
- Complete demolition of K-25 West Wing. (September 2008)
- Complete Excess Material Removal Milestone. (September 2008)

OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration (life-cycle estimate $377,937K)	**20,749**	**35,709**	**28,850**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

This PBS work scope includes activities and expenses associated with post retirement life and medical benefits, long-term disability benefits, and severance to transitioned Bechtel Jacobs Company employees who supported enrichment facilities programs while working as first or second tier subcontractors; pre-April 1, 1998, retiree costs and employees on long-term disabilities associated with enrichment facilities programs; Sample Management Office audits of commercial laboratories which the EM program uses to coordinate sampling in support of closure activities; funding for the cost effective recycling of clean and decontaminated metals and equipment at DOE sites across the country; 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.

In FY 2008, the following activities are planned:

- Continue funding contractor post retirement life and medical benefits, severance, legacy documents and litigations to support workers' compensation claims.
- Continue support for the DOE Information Center, which maintains the public documents related to the EM Program in Oak Ridge.
- Continue support for the recycling of clean and decontaminated metals and equipment.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Continued support for contractor post retirement life and medical benefits, severance, legacy documents and litigations. (FY 2006)
- Continued support for the National Center for Excellence for Metal Recycle. (FY 2006)
- Continued support for the DOE Information Center, which maintains the public documents related to the EM Program in Oak Ridge. (FY 2006)
- Continue Support for the National Center for Excellence for Metal Recycle. (September 2007/September 2008)
- Continue Support for the DOE Information Center, which maintains the public documents related to the EM Program in Oak Ridge. (September 2007/ September 2008)
- Continue support for contractor post retirement life and medical benefits, severance, legacy documents and litigations. (September 2007/September 2008)

	FY 2006	FY 2007	FY 2008
Total, Oak Ridge	**502,246**	**471,335**	**409,690**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Oak Ridge	
HQ-SW-0013X-OR / Solid Waste Stabilization and Disposition-Science Current Generation	
▪ Work scope for this PBS is being transferred to OR-0042 in FY 2008. There is no significant change in funding for these activities from FY 2007 to FY 2008.	-18,544
OR-0011Z / Downblend of U-233 in Building 3019	
▪ Increase allows continuation of design activities for U-233 down-blending equipment and building modifications, and initiating long-lead procurements.	20,000
OR-0013B / Solid Waste Stabilization and Disposition-2012	
▪ Increase supports processing for contact-handled and remote-handled transuranic waste and to complete legacy industrial waste disposition.	23,397
OR-0031 / Soil and Water Remediation-Offsites	
▪ Decrease reflects project work scope only for the David Witherspoon 1630 site for off-site program site evaluations and ongoing field work.	-9,002
OR-0041 / Nuclear Facility D&D-Y-12	
▪ Decrease reflects redirection of funds to complete higher risk work in the Oak Ridge baseline.	-20,145
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory	
▪ Increase reflects transfer of newly generated waste activities previously funded from PBS HQ-SW-0013X-OR, initiation of planning decontamination and decommissioning of Bethel Valley facilities, and the completion of Molten Salt Reactor Experiment remediation work.	29,490
OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)	
▪ Decrease reflects completion of K-1220 centrifuge equipment removal in FY 2007 and a reduction of equipment to be removed from defense facilities in FY 2008.	-6,741
OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense)	
▪ Increase reflects escalation and a significant reduction in the uncosted balance in this PBS during FY 2007.	967

	FY 2008 vs. FY 2007 ($000)
Uranium Enrichment Decontamination and Decommissioning Fund	
D&D Activities	
OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)	
▪ Decrease reflects a reduction due to higher risk work scope in the program.	-74,208
OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration	
▪ Decrease reflects lower projection of payments associated with legacy workers compensation claims.	-6,859
Total, Oak Ridge	**-61,645**

Paducah Project Office

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Paducah Gaseous Diffusion Plant	154,262	131,776	134,042
Total, Paducah	154,262	131,776	134,042

Site Overview

For approximately 50 years, the Paducah Gaseous Diffusion Plant in Paducah, Kentucky supported the Federal Government and commercial nuclear power missions. Decades of nuclear energy and national security missions left radioactive and chemical contamination. The mission of the site is transitioning from primarily enrichment operations to shared missions with environmental cleanup, waste management, depleted uranium conversion, deactivation and decommissioning, and long-term stewardship.

The original mission at the Paducah Gaseous Diffusion Plant was to produce low-assay enriched uranium for use as commercial nuclear reactor fuel. In 1993, uranium enrichment operations were turned over to the United States Enrichment Corporation in accordance with the Energy Policy Act of 1992. Under the United States Enrichment Corporation, production of enriched uranium for use in the United States and abroad continues today. While the United States Enrichment Corporation operates the enrichment program, the Department owns the physical plant and is responsible for the environmental cleanup. The United States Enrichment Corporation is responsible for the operation and maintenance of all primary process facilities and auxiliary facilities at Paducah.

Initial production of enriched uranium began in 1952. In 1953, recycled uranium from nuclear reactors was introduced into the Paducah enrichment process, which continued through 1964. In 1964, feed material was switched to virgin-mined uranium. Use of recycled uranium resumed in 1969 and continued through 1976, when it permanently ceased. In 2001, the United States Enrichment Corporation selected Paducah as the site to continue gaseous diffusion operations pending successful pilot plant demonstration (lead cascade) and deployment of the next generation of enrichment technology.

The Paducah site will maintain gaseous diffusion operations through this budget period. DOE continues to be responsible for management of the site, administration of the lease with the United States Enrichment Corporation, environmental remediation, and legacy waste/materials management.

Depleted Uranium Hexafluoride Conversion Facilities

Since the 1950s, the depleted uranium hexafluoride produced during enrichment operations at the Portsmouth and Paducah Gaseous Diffusion Plants (and the East Tennessee Technology Park in Tennessee) has been stored in large steel cylinders at the sites. DOE is currently responsible for the management of approximately 700,000 metric tons of depleted uranium hexafluoride stored in about 60,000 cylinders. DOE awarded a contract and started construction in July 2004 on a depleted uranium hexafluoride conversion facility at Paducah, to convert the depleted uranium hexafluoride to a more

stable form for reuse or disposal. This facility will operate over the next two decades. DOE is ultimately responsible for the deactivation and decommissioning of the facilities.

The Department is committed to the clean up of the Paducah Gaseous Diffusion Plant to industrial standards. Limited land areas will require institutional controls following remediation. Excess buildings at Paducah that are not being leased are being assessed for reuse by the Department and will be scheduled for demolition if they are not suitable for reuse. Equipment and material removed from buildings will be decontaminated, reused, or recycled to the extent practicable.

Site Description

The Paducah site, comprising approximately 3,400 acres, is located in rural western Kentucky, 15 miles west of Paducah, Kentucky, near the confluence of the Ohio and Mississippi rivers.

Site Cleanup Strategy/Scope of Cleanup

Historic operations at Paducah produced contaminated areas onsite and beyond site boundaries. Principal contaminants of concern include uranium (from enrichment processing), technetium, trichloroethylene, and polychlorinated biphenyls. Through spills and disposal operations, these contaminants have entered groundwater aquifers, formed plumes, and in some cases, have migrated offsite and contaminated private drinking water wells. Since its inception, the Paducah site has generated, stored, and disposed of hazardous, nonhazardous, radioactive, polychlorinated biphenyls, small quantities of transuranic waste, and mixed waste as well as large quantities of scrap metal.

Paducah is focusing on cleanup of high-risk areas first. The site has completed a wide variety of characterization projects, installed groundwater treatment facilities, put in place institutional controls for offsite drinking water, removed two major sources of surface water contamination, removed one subsurface trichloroethylene groundwater contamination source, removed five inactive facilities, and dispositioned scrap materials, and disposed of legacy waste streams. Additional remediation activities include completing legacy waste disposal, removing additional subsurface trichloroethylene groundwater contamination sources, remediation of groundwater plumes, and decontamination and decommissioning of multiple facilities.

Congress directed DOE in the FY 2006 Energy and Water Development Appropriation Act (Senate Report 109-084) to study the purchase of the property above the contaminated groundwater plume and "consider whether such purchase, when taking into account the cost of remediation, long-term surveillance and maintenance, is in the best interest of the taxpayers." The result of this study may be considered in any final cleanup strategy.

Site Completion (End State)

The overall environmental cleanup strategy at Paducah is based on taking near term actions to control or eliminate ongoing sources of contamination along with continued investigation of other potential sources. In FY 2003, DOE signed a Letter of Intent with the Commonwealth of Kentucky that includes completion milestones for groundwater source term in 2010, soils in 2015, surface water in 2017, and burial grounds in 2019. FY 2008 through FY 2010 represents a critical period for continued preparation and progress. In addition, Paducah will complete construction and begin operating a depleted uranium hexafluoride conversion facility. The end date for cleanup is 2030, and includes the completion of remedial activities and the completion of the depleted uranium hexafluoride conversion operations.

Regulatory Framework

Regulatory requirements to address contaminated groundwater at the Paducah site were initially included in an Administrative Consent Order issued by the Environmental Protection Agency in 1988. The Commonwealth of Kentucky and the Environmental Protection Agency issued a Resource Conservation and Recovery Act permit in 1991 for storage and treatment of hazardous wastes at Paducah and a permit for the remediation of solid waste management units under Resource Conservation and Recovery Act. In May 1994, the Paducah site was placed on the Environmental Protection Agency's National Priorities List under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The 1997 Federal Facility Agreement among the Department, the Commonwealth of Kentucky, and the Environmental Protection Agency Region IV established the framework for cleanup at Paducah, instituted enforceable milestones, and coordinates site-specific cleanup requirements under the Comprehensive Environmental Response, Compensation, and Liability Act and Resource Conservation and Recovery Act. The Department also achieved resolution of long-standing regulatory disputes through the Agreed Order with the Commonwealth of Kentucky.

The Environmental Protection Agency and the Kentucky Division of Waste Management are the regulatory agencies for DOE waste management operations. Applicable requirements and the DOE Order governing waste management include: Resource Conservation and Recovery Act, Part B, Hazardous Waste Management Permit; Toxic Substances Control Act regulations for polychlorinated biphenyl wastes; DOE Order 435.1 Radioactive Waste Management; and Kentucky solid waste regulations for other wastes.

Agreements related to the implementation of these regulations and the DOE Order follow the Site Treatment Plan and associated Agreed Order under the Federal Facility Compliance Agreement for characterization, treatment, and disposal of mixed hazardous/radioactive wastes; Toxicity Characteristic Leaching Procedure Federal Facility Compliance Agreement for characterization under Resource Conservation and Recovery Act for waste generated prior to September 25, 1990; and Toxic Substance Control Act, Federal Facility Compliance Agreement for use, cleanup, storage, treatment, and disposal of polychlorinated biphenyls.

Future use will support ongoing and anticipated DOE missions, the United States Enrichment Corporation enrichment operations, and other current users of the sites. Power distribution functions and facility utilization by the private sector at sites is not expected to substantially change. Support has been expressed for various forms of passive recreational and public use that are compatible with anticipated industrial, and conservation uses of the reservation.

Critical Site Uncertainties and Assumptions

The only operational facility for removing technetium-99 contamination in the United States is leased and operated by the United States Enrichment Corporation under their Nuclear Regulatory Commission license at the Portsmouth facility, with the resultant product being further processed at the Paducah facility.

It is uncertain if the capacity and availability of the Toxic Substance Control Act Incinerator located in Oak Ridge, Tennessee, is sufficient to meet the baseline assumptions for waste treatment.

It is uncertain whether the Environmental Protection Agency or the Commonwealth of Kentucky will accept the probabilistic groundwater and trichloroethylene degradation modeling for the southwest plume in support of the conclusion of "no further action."

The Department does not have a clear regulatory agreement on polychlorinated biphenyls cleanup levels; therefore, this remains a long-term, end-state issue.

The final Comprehensive Environmental Response, Compensation and Liability Act action for the Paducah environmental remedial activities is subject to the ongoing Comprehensive Environmental Response, Compensation and Liability Act process. Until the Record of Decision is agreed upon, a high degree of project uncertainty exists in the project risk management plan.

The assumption that no more than three burial ground operable units will require remediation, and that the operable units will be capped and managed in situ, is a large uncertainty associated with the lifecycle project cost estimate. In addition, the current baseline does not assume long-term plume remediation to drinking water standards. Congress has directed DOE to study the purchase of property above the contaminated plumes for consideration in any final groundwater actions.

Future decontamination and decommissioning costs will be subject to several large uncertainties, including the following: extent of final contamination into the environment, cleanup levels, disposal options, availability of funds, and stakeholder/regulator acceptance.

Interdependencies

Paducah is dependent upon the Toxic Substance Control Act Incinerator at the East Tennessee Technology Park site in Oak Ridge, Tennessee, for Toxic Substance Control Act waste treatment and the Nevada Test Site waste facility in Nevada for low level waste disposal.

Some or all of the Oak Ridge natural and enriched uranium cylinders may be shipped to Paducah for inventory consolidation and subsequent use or disposal.

Contract Synopsis

The Portsmouth/Paducah Project Office awarded remediation and infrastructure contracts for each site. This strategy allows the optimum potential for both incentivizing and achieving accelerated performance for the remediation and infrastructure effort. The infrastructure contracts provide information technology, human resources, mail, site security planning, road and ground maintenance, janitorial, and real and personal property inventory and disposition. The infrastructure contract at the Paducah site is Swift & Staley Mechanical Contractors, Inc., and is award-fee contract which expires in March 2010. The remediation contracts provide cleanup and closure of all inactive facilities not leased to the United States Enrichment Corporation and cleanup of soils, groundwater, landfills, storage yards, as well as disposal of legacy waste (excluding the United States Enrichment Corporation leased units). The remediation contract at Paducah is the Paducah Remediation Services, LLC., which is a cost-plus-incentive-fee contract, which expires September 2009. Deactivation and decommissioning of the diffusion plant process facilities is not part of the remediation contract.

Cleanup Benefits

The intent of the Federal Government is to manage the sites and the missions in an integrated manner. DOE retains overall responsibility for the sites. Significant portions of the site footprints are managed by the United States Enrichment Corporation under the provisions of a lease with DOE. Achievement of DOE responsibilities in environmental cleanup and legacy material disposition will allow for future site missions, as well as the reduced environmental health and safety risks.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Non-Defense Environmental Cleanup			
Gaseous Diffusion Plants			
Paducah Gaseous Diffusion Plant			
PA-0011 / NM Stabilization and Disposition-Paducah Uranium Facilities Management	2,396	2,501	1,966
PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	47,916	32,700	15,400
Subtotal, Paducah Gaseous Diffusion Plant	50,312	35,201	17,366
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities			
Paducah Gaseous Diffusion Plant			
PA-0013 / Solid Waste Stabilization and Disposition	10,597	23,831	40,367
PA-0040 / Nuclear Facility D&D-Paducah	91,036	69,022	72,620
PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund)	977	1,299	1,206
PA-0103 / Paducah Community and Regulatory Support (D&D Fund)	1,340	2,423	2,483
Subtotal, Paducah Gaseous Diffusion Plant	103,950	96,575	116,676
Total, Paducah	154,262	131,776	134,042

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Paducah					
Geographic Sites Eliminated (number of sites)	0	0	0	1	0%
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	3,000	421,960	1%
Radioactive Facility Completions (Number of Facilities)	0	0	0	2	0%
Remediation Complete (Number of Release Sites)	86	91	93	205	45%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	9,769	12,278	15,433	25,091	62%

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
PA-0011 / NM Stabilization and Disposition-Paducah Uranium Facilities Management (life-cycle estimate $50,762K)	**2,396**	**2,501**	**1,966**

This PBS is within the Non-Defense Environmental Cleanup appropriation.

This project scope performs surveillance and maintenance of fifteen inactive facilities, manages uranium hexafluoride cylinders, provides support to the Nuclear Regulatory Commission for the five-year report to Congress on environmental, safety, and health, and manages legacy polychlorinated biphenyl contamination. Of the fifteen inactive facilities that were originally part of this PBS, only five are currently receiving surveillance and maintenance support, the remaining facilities are being supported in PBS PA-0040.

Surveillance and maintenance of inactive facilities prevents significant deterioration of the buildings and/or support systems until the decommissioning, decontamination, and demolition is complete. It also avoids exposure to unsafe conditions for personnel requiring access for compliance inspections, housekeeping assessments, corrective maintenance, fire protection, security, and/or emergency response.

This PBS scope also 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 maintaining compliance with the Toxic Substances Control Act (40 CFR 761) and the 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.

As of September 2006, approximately 2,600 polychlorinated biphenyl spills were cleaned up.

In FY 2008, the following activities are planned:

- Conduct safe and compliant surveillance and maintenance of inactive facilities.
- Inspect and maintain the polychlorinated biphenyl collection and containment system.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Managed polychlorinated biphenyl collection and containment system. (FY 2006)
- Surveillance and maintenance of inactive facilities. (September 2007/September 2008)
- Management of polychlorinated biphenyl collection and containment system. (September 2007)
- Inspect and maintain the polychlorinated biphenyl collection and containment system. (September 2008)

PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (life-cycle estimate $1,257,182K)	**47,916**	**32,700**	**15,400**

This PBS is within the Non-Defense Environmental Cleanup appropriation.

Approximately 700,000 metric tons of depleted uranium hexafluoride are stored in about 60,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites. This PBS scope will design, permit, build, and operate a 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, suitable for reuse or disposition. The depleted uranium oxide will be sent to a disposal facility, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will be sent to disposal or be reused.

This project also includes surveillance and maintenance of all cylinders during conversion of the existing stockpile, which should take about 25 years. The conversion facility contractor assumed responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders in FY 2005.

This PBS includes the following amounts for the line-item construction project 02-U-101, Depleted Uranium Hexafluoride Conversion Project: FY 2006 - $42,472,000; FY 2007 - $16,278,000; FY 2008 - $0. Groundbreaking for the Paducah Depleted Uranium Hexafluoride Conversion Facility occurred in July 2004 and approval to construct facilities was received (Critical Decision-3) in September 2005.

As of September 2006, construction of the warehouse was essentially complete. The administration building has been erected, and the interior work was in progress. The Paducah conversion building structure erection was essentially complete. Most of the conversion process equipment has been ordered, and delivery of major components has begun.

In FY 2008, the following activities are planned:

- Complete construction of the Paducah Depleted Uranium Hexafluoride Conversion Facility by December 2007.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Conduct contractor and DOE operational readiness reviews.
- Commence with full operations (Critical Decision-4) by September 2008.
- Reach full operational capacity of the conversion of depleted uranium hexafluoride material by year end.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	3,000	421,960	1%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed construction of the administration and warehouse buildings. (FY 2006)
- Complete major equipment installation. (September 2007)
- Complete construction of the conversion facility. (December 2007)
- Initiate operations of conversion facility. (September 2008)

PA-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate $309,005K)	**10,597**	**23,831**	**40,367**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

This project scope stores, treats, 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, DOE remains 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 waste streams include low-level, mixed low-level, hazardous, transuranic, polychlorinated biphenyl, and sanitary/industrial/construction wastes. DOE plans to disposition all the remaining legacy waste by FY 2010. 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 September 2006, approximately 9,769m^3 (cumulative) of low-level/mixed low-level legacy waste was disposed either on-site or off-site. Most of the remaining legacy waste was sorted, repackaged and characterized prior to off-site treatment/disposal or on-site disposal at the C 746 U Landfill.

In FY 2008, the following activities are planned.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Complete expansion of five new sections of on-site landfill for non-hazardous waste disposal.
- Complete ongoing characterization, treatment, and disposal of all legacy mixed waste (excluding mixed transuranic waste) to meet the enforceable completion milestones in the 1997 Agreed Order/Site Treatment Plan with the Commonwealth of Kentucky.
- Perform ongoing characterization, packaging, treatment, and disposal of $50m^3$ of newly generated waste (mixed and low-level).
- Complete Toxic Substance Control Act waste characterization, packaging, and disposal.
- Complete low-level waste characterization, packaging, and disposal.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	9,769	12,278	15,433	25,091	62%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Disposed of 50 cubic meters of newly generated waste and 66 cubic meters of legacy waste. (FY 2006)
- Dispose 2,509 cubic meters of newly generated waste and legacy waste. (September 2007)
- Dispose of 3,155 cubic meters of newly-generated waste and legacy mixed waste. (September 2008)
- Complete expansion of five new sections of on-site landfill for non-hazardous waste disposal. (September 2008)
- Complete ongoing characterization, treatment, and disposal of all legacy mixed waste. (September 2008)

PA-0040 / Nuclear Facility D&D-Paducah (life-cycle estimate $5,492,241K)	**91,036**	**69,022**	**72,620**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

This project scope is currently for environmental cleanup and risk reduction through focused response actions and surveillance and maintenance activities including decontamination and decommissioning of inactive or excess facilities at the Paducah Gaseous Diffusion Plant. Decontamination and decommissioning of the Paducah Gaseous Diffusion Plant itself is not yet included in the ongoing scope.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

This plant is an active uranium enrichment facility surrounded by a wildlife management area. Past environmental operations created on- and off-site groundwater contamination which had contaminated off-site residential water wells and contaminated surface water. Past operations also contaminated sediments and soil, with both radioactive and chemical contaminants. The current and future land uses at Paducah Gaseous Diffusion 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 plant. The parties will work to complete active remediation activities at the plant by FY 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 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. The basic strategy includes implementation of a phased and sequenced approach.

There are 10 scrap yards (originally estimated at 54,000 tons but have been re-estimated to contain approximately 30,000 tons of scrap); 12 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.

As of September 2006, Sections 1 and 2 of the North/South Diversion Ditch remediation were completed; 17 of 17 outside DOE Material Storage Areas were emptied and over 300,000 cubic feet of the material was disposed; 75 percent of the characterization of all materials currently in DOE Material Storage Areas was completed. The balance of remaining scrap metal is expected to be completed in early FY 2007. Removal of the C-603 Nitrogen Facility was completed five years early; the C-746 S&T landfill investigation was completed, 63 fluorine generators were transferred to private industry off-site for reuse (7 remain for later transfer).

Fifteen inactive facilities were originally part of this PBS for decontamination and decommissioning. Seven facilities have been decontaminated and decommissioned. One has been leased to the United States Enrichment Corporation. The C-746-a West End Smelter and C-405 incinerator will start decontamination and decommissioning by the end of FY 2008.

In FY 2008, the following activities are planned:

- Complete the Remedial Investigation field work for the burial grounds operable unit in accordance with the Federal Facility Agreement.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Perform ongoing decontamination and decommissioning of the C-410 complex in accordance with the Federal Facility Agreement and to reduce risk of potential exposure and spread of hazardous and radiological contamination to site workers and the public from uranium and hydrogen fluoride hold-up in the deteriorating facility.

- Perform ongoing remedial action activities for the Southwest Plume/Sources and removal action activities for the Surface Water (on-site) project in accordance with the Federal Facility Agreement and essential to preparing ongoing decision documents ultimately determining the extent of soil excavation and source term removal.
- Perform ongoing characterization and material disposition of DOE Material Storage areas in accordance with the 2003 Agreed Order with the Commonwealth of Kentucky and to reduce risk to the workforce due to continued deterioration of containers, to avoid additional worker risk, and to avoid increased cost from processing inefficiencies and additional future overpack requirements.

- Perform ongoing remedial action for full-scale deployment of the dense non-aqueous phase liquids source treatment associated with groundwater contamination at C-400, in accordance with the Federal Facility Agreement and to reduce risk of exposure and off-site spread of contamination.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Radioactive Facility Completions (Number of Facilities)	0	0	0	2	0%
Remediation Complete (Number of Release Sites)	86	91	93	205	45%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Start decontamination and decommissioning of two facilities the C-746-A West End Smelter and C-405 Incinerator. (September 2008)
- Disposed of 23,900 tons of scrap metal. (FY 2006)
- Began remedial action field work for groundwater contamination at C-400. (FY2006)
- Complete scrap metal disposition. (October 2006)
- Complete disposition of all outside DOE Material Storage Areas and continue characterization and disposition of inside DOE Material Storage Areas. (September 2007)
- Complete disposition of 26 inside DOE Material Storage Areas. (September 2007)
- Submit closure plans to state for 28 inside DOE Material Storage Areas. (September 2007)
- Complete Remedial Investigation Field Work including waste disposal for Burial Ground Operable Unit. (December 2007)
- Continue decontamination and decommissioning of the C-410 complex. (September 2008)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue remedial action activities for the southwest plume/sources and removal action activities for the surface waste (on-site) project. (September 2008)
- Continue remedial action for full-scale deployment of dense non-aqueous phase liquids source treatment associated with groundwater contamination at C-400. (September 2008)

PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund) (life-cycle estimate $116,946K)	**977**	**1,299**	**1,206**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

This project 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 2008, the following activities are planned.

- Provide support to DOE and Department of Justice for all investigations and litigations.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

PA-0103 / Paducah Community and Regulatory Support (D&D Fund) (life-cycle estimate $34,211K)	**1,340**	**2,423**	**2,483**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

This project 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 Citizens 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 Cleanup appropriation. Support for these activities from the Uranium Enrichment Decontamination and Decommissioning Fund will continue until final

(dollars in thousands)

FY 2006	FY 2007	FY 2008

decontamination and decommissioning and remediation of the plant is complete.

In FY 2008 the following activities are planned:

- Complete media monitoring activities, including sampling of all media and pathway indicators, monitoring discharges, emissions and biological parameters as necessary to verify the effectiveness of DOE's monitoring and surveillance programs and complete FY 2008 media monitoring report.
- Complete annual reporting to the public on management and operations activities.
- Complete FY 2009 media monitoring plan
- Complete review and approval of the Comprehensive Environmental Response, Compensation, and Liability Act, Federal Facility Agreement documents produced by DOE.
- Continue activities by the Citizens Advisory Board sponsored by DOE EM to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Provided financial support to the State for all Federal Facility Agreement administrative activities, including review/approval of Comprehensive Environmental Response, Compensation, and Liability Act documents. (FY 2006)
- Provided financial support to the Commonwealth of Kentucky as required by the Agreement-in-Principle. (FY 2006)
- 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 2007/September 2008)
- Provide financial support to the Commonwealth of Kentucky as required by the Agreement-in-Principle. (September 2007/September 2008)

Total, Paducah	**154,262**	**131,776**	**134,042**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Non-Defense Environmental Cleanup	
Gaseous Diffusion Plants	
Paducah Gaseous Diffusion Plant	
PA-0011 / NM Stabilization and Disposition-Paducah Uranium Facilities Management	
▪ No significant change.	-535
PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	
▪ Decrease in funding reflects the FY 2007 completion of major equipment installation and construction of the conversion facility and the start of conversion facility operations in FY 2008.	-17,300
Uranium Enrichment Decontamination and Decommissioning Fund	
D&D Activities	
PA-0013 / Solid Waste Stabilization and Disposition	
▪ Increase reflects continued waste management activities; completion of the landfill expansion (cells 6 through 11); early completion of low-level legacy waste disposal from FY 2010 to by the end of FY 2009; early completion of Toxic Substance Control Act waste disposition (with the exception of mixed low-level waste and polychlorinated biphenyl transformers) from FY 2010 to the end of FY 2009; and disposal of newly identified classified materials.	16,536
PA-0040 / Nuclear Facility D&D-Paducah	
▪ Increase funding supports the completion of the remedial investigation field work for the burial grounds; ongoing decontamination and decommissioning of the C-410 Complex; remediation associated with groundwater contamination at C-400; and well as other remedial actions in order to reduce risk of exposure and off-site spread of contamination.	3,598
PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund)	
▪ No significant change.	-93

	FY 2008 vs. FY 2007 ($000)
PA-0103 / Paducah Community and Regulatory Support (D&D Fund)	
▪ No significant change.	60
Total, Paducah	**2,266**

Portsmouth Project Office

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Portsmouth Gaseous Diffusion Plant	268,358	223,535	227,181
Total, Portsmouth	268,358	223,535	227,181

Site Overview

For approximately 50 years, the Portsmouth Gaseous Diffusion Plant in Portsmouth, Ohio, supported Federal Government and commercial nuclear power missions. Decades of nuclear energy and national security missions left a legacy of radioactive and chemical contamination. The mission of the site is transitioning from primarily enrichment operations to environmental cleanup, waste management, depleted uranium conversion, deactivation and decommissioning, re-industrialization, and long-term stewardship.

Construction of the Portsmouth Gaseous Diffusion Plant began in late 1952 with a mission to increase the national production of enriched uranium and maintain the nation's superiority in the development and use of nuclear energy. The first enrichment diffusion cells went on line in September 1954, and the facility was fully operational in March 1956. The enriched uranium was required for both government and commercial uses.

In the mid-1980s, the facilities and equipment required for the next generation of enrichment facilities technology, the Gas Centrifuge Enrichment Plant (GCEP), were constructed and installed at Portsmouth. However, the project was terminated in 1985, before going into full production, due to a significant reduction in the worldwide market for enriched material. The newly constructed facilities were placed in shutdown mode until, ultimately, much of the process-unique equipment was removed and a substantial number of the remaining buildings were renovated in support of the DOE cleanup mission into office space, warehouses, or storage facilities, including permitted storage for hazardous and mixed-waste.

From 1991 until production ceased in 2001, the Portsmouth plant produced only low-enriched uranium for commercial power plants. In 1993, uranium enrichment operations were turned over to the United States Enrichment Corporation in accordance with the Energy Policy Act of 1992. The United States Enrichment Corporation was privatized in 1998, and a corporate business decision was made in January 2000 to terminate uranium enrichment at Portsmouth, while maintaining the Paducah facility in operation. Some of the facilities were no longer required by the United States Enrichment Corporation and subsequently returned to DOE.

The United States Enrichment Corporation selected the Portsmouth site in 2004 as the location for deployment of a commercial centrifuge plant by the end of the decade. As a result, the United States Enrichment Corporation has identified a number of buildings and areas that are or will be transitioning to DOE under the terms of the lease agreement.

The Department maintained the Portsmouth Gaseous Diffusion Plant facilities in Cold Standby from 2001 to 2005. The Cold Standby program was completed in September 2005 and the facilities were moved into Cold Shutdown in October 2005. The Department approved (Critical Decision 0) in October

2005 for the initiation of activities to plan for the decontamination and decommissioning of the Portsmouth Gaseous Diffusion Plant. In FY 2007, the Department is scheduled to conduct Critical Decision 1 for the decontamination and decommissioning of the Portsmouth Gaseous Diffusion Plant, establishing the approach to be taken to implement decontamination and decommissioning and clean up of the site.

The Department is committed to clean up the Portsmouth site to industrial reuse standards. Limited land areas will require institutional controls following remediation. Equipment and material removed from buildings will be decontaminated, reused, or recycled to the extent practicable.

Depleted Uranium Hexafluoride Conversion Facilities

Since the 1950s, the depleted uranium hexafluoride produced during enrichment operations at the Portsmouth and Paducah Gaseous Diffusion Plants (and the East Tennessee Technology Park in Tennessee) has been stored in large steel cylinders at the sites. DOE is responsible for the management of approximately 700,000 metric tons of depleted uranium hexafluoride stored in about 60,000 cylinders. DOE awarded a contract and started construction in July 2004 on a depleted uranium conversion facility at Portsmouth to convert the depleted uranium hexafluoride to a more stable form for reuse or disposal. This facility will operate over the next two decades. DOE is ultimately responsible for the deactivation and decommissioning of the facility.

Technetium-99 Cleanup

A significant portion of the Department's surplus (excess to defense requirements) uranium inventory is contaminated with technetium-99, eliminating the value of this asset in the commercial market. The only operational facility for removing technetium-99 contamination from uranium feed in the United States is leased and operated by the United States Enrichment Corporation under their Nuclear Regulatory Commission operating certificate at Portsmouth, with the resultant product being further processed at the Paducah Gaseous Diffusion Plant. The United States Enrichment Corporation processes the contaminated uranium for the Department. The Department has funded this work through a barter transfer of uranium to United States Enrichment Corporation, appropriated funding, and from the proceeds of DOE uranium sales.

As of September 2006, there are 52 metric tons of United States Enrichment Corporation's uranium inventory to be processed (from the original material transferred to United States Enrichment Corporation from DOE) and 4,727 metric tons of DOE's uranium inventory that must finish processing to meet American Society for Testing and Materials standards. The estimated cost for completing the uranium decontamination program from FY 2007 to first quarter FY 2009 is approximately $150,000,000. The source of funds necessary to complete this program is projected to be from sales of DOE's cleaned excess uranium inventory. Beginning in FY 2008 the source for operating funds will be DOE sales of uranium which is contingent upon the reauthorization of Section 314 of the FY 2006 Appropriations Act or alternative Congressional authorization. The General Accounting Office reviewed the technetium-99 cleanup project in FY 2006 and raised concerns regarding the United States Enrichment Corporation's submittal of financial information in a timely manner. As of September 2006, the United States Enrichment Corporation is providing the Defense Contracts Audit Agency and DOE with detailed financial data on the schedule prepared in response to the General Accounting Office report.

Site Description

The Portsmouth site is located approximately 75 miles south of Columbus, Ohio in the foothills of the Appalachian Mountains.

Site Cleanup Strategy/Scope of Cleanup

The Portsmouth site's use of recycled reactor fuel (or reactor returns) as feed material in the 1950s introduced such fission products as technetium, cesium, and strontium into the system, as well as small quantities of transuranics, primarily plutonium and neptunium. Spills and waste disposal during past operations also resulted in contamination from various industrial solvents (e.g. trichloroethylene) and uranium, technetium, and metals. Groundwater contamination is limited to a shallow aquifer that is not used as a drinking water source. A layer of bedrock only 30 feet beneath the surface has helped to contain the groundwater plumes. Although all direct discharges from DOE operations are monitored through a National Pollutant Discharge Elimination System permit, from the early years of plant operations, minor levels of contaminants have been detected in nearby stream sediments.

DOE has focused environmental cleanup on high-risk areas first at Portsmouth. DOE has completed all initial assessments required under the Resource Conservation and Recovery Act and has remediated several hazardous and solid waste sites. In addition, DOE will process and disposition the depleted uranium hexafluoride cylinders to a more stable form, for reuse or disposal.

The United States Enrichment Corporation-leased facilities are presently being deactivated toward a shutdown condition intended to minimize future surveillance and maintenance costs. The deactivation is conducted to address the highest risk conditions in the facilities, including the removal of large uranium deposits, and stabilize the facilities for future decontamination and decommissioning.

Site Completion (End State)

FY 2008 through FY 2010 represents critical years for the environmental cleanup program at Portsmouth. The current end state completion for the ongoing environmental restoration is 2012; this does not include decontamination and decommissioning of the main gaseous diffusion plant facilities. The primary objectives of the cleanup program during this period will be to implement the last remaining approved remediation at the X-701B Area (land sites and groundwater), to continue operations of groundwater treatment facilities in support of installed remedies, and to remove all currently stored legacy low-level waste streams, and mixed waste streams contaminated with hazardous or toxic chemicals. Portsmouth will also decontaminate and decommission identified inactive ancillary facilities and complete disposition of currently stored highly enriched uranium. In addition, Portsmouth will complete construction and begin operating a depleted uranium hexafluoride conversion facility. The end date for cleanup is 2025, and includes the completion of remedial activities and the completion of the depleted uranium hexafluoride conversion operations.

Future decontamination and decommissioning plans include the transfer of leased gaseous diffusion plant facilities to DOE for disposition, surveillance and maintenance and deactivation of facilities in preparation of decontamination and decommissioning, and actions required to perform scheduled decontamination and decommissioning activities.

Regulatory Framework

Oversight of cleanup activities at the Portsmouth site is the responsibility of the Environmental Protection Agency Region V and the Ohio Environmental Protection Agency. The program is being conducted in accordance with a State of Ohio Consent Decree and an Environmental Protection Agency

Administrative Consent Order. The 1989 Administrative Consent Order was amended in 1997 to streamline environmental oversight by identifying Ohio Environmental Protection Agency as the lead agency responsible for day-to-day oversight.

The primary role of the Environmental Protection Agency is to concur in the remedy decisions for final actions. The Portsmouth site is not on the Comprehensive Environmental Response, Compensation and Liability Act's National Priorities List but undertakes cleanup in compliance with both Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation and Liability Act requirements. To facilitate site investigations and final cleanup actions, the Portsmouth site was divided into four quadrants based on groundwater flow and surface water runoff. Each quadrant contains multiple solid waste management units. The regulatory framework for the final decontamination and decommissioning is being discussed with the regulators.

Critical Site Uncertainties and Assumptions

It is the assumption that DOE will support the needs for future centrifuge plant construction, operation, and use of site facilities for uranium enrichment activities.

It is uncertain whether DOE will be able to continue the technetium-99 cleanup agreement for removing technetium-99 contamination from uranium feed in the FY 2007 through FY 2009 time period by selling excess clean uranium and using the proceeds. The only operational facility for removing technetium-99 contamination in the United States is leased and operated by the United States Enrichment Corporation under their Nuclear Regulatory Commission license at the Portsmouth facility.

Future regulatory decisions regarding the extent of cleanup at Portsmouth is an uncertainty.

The current baseline will be adjusted to include the updated projected costs associated with the future decontamination and decommissioning of the Portsmouth gaseous diffusion plant.

Future decontamination and decommissioning costs will be subject to several large uncertainties, including the following: extent of final contamination into the environment, cleanup levels, disposal options, availability of funds, and stakeholder/regulator acceptance.

Interdependencies

Portsmouth has received all the depleted uranium hexafluoride cylinders stored at Oak Ridge's East Tennessee Technology Park in Tennessee by September 2006.

Portsmouth is dependent upon the Toxic Substance Control Act Incinerator at the East Tennessee Technology Park in Oak Ridge, Tennessee, for waste treatment and the Nevada Test Site waste facility for low-level waste disposal.

The Portsmouth decontamination and decommissioning planning is incorporating the lessons learned from the ongoing East Tennessee Technology Park decontamination and decommissioning project.

Contract Synopsis

The Portsmouth/Paducah Project Office awarded remediation and infrastructure contracts in 2005 at the Portsmouth site. This strategy provides incentives to improve performance for the remediation and infrastructure effort. The infrastructure contracts provide information technology, human resources, mail, site security planning, road and ground maintenance, janitorial, and real and personal property

inventory and disposition. The infrastructure contract was awarded to Theta Pro2Serve Management Company, LLC at the Portsmouth site. The infrastructure contract is a cost-plus-award-fee contract and expires in March 2010. The remediation contract provides cleanup and closure of all inactive facilities not leased to the United States Enrichment Corporation and cleanup of soils, groundwater, landfills, storage yards, as well as disposal of legacy waste (excluding the leased units). The remediation contract was awarded to LATA/Parallax Portsmouth, LLC at the Portsmouth. The remediation contract is a cost-plus-incentive-fee contract and expires September 2009.

Decontamination and decommissioning of the diffusion plant process facilities is not part of the remediation contract. The decontamination and decommissioning of the gaseous diffusion plant leased facilities contract will be awarded subject to the DOE Critical Decision (CD-1) decision anticipated in FY 2007. The United States Enrichment Corporation activities supporting DOE are scheduled to be completed in FY 2008 or first quarter of FY 2009.

Cleanup Benefits

The intent of the federal government is to manage the site and the missions in an integrated manner. DOE retains overall responsibility for the site. Significant portions of the site footprints are managed by the United States Enrichment Corporation under the provisions of a lease with DOE. Achievement of DOE responsibilities in environmental cleanup and legacy material disposition will allow for future site missions, as well as the reduced environmental health and safety risks.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Non-Defense Environmental Cleanup			
Gaseous Diffusion Plants			
Portsmouth Gaseous Diffusion Plant			
PO-0011 / NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management	10,431	19,515	7,754
PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	47,916	32,700	13,000
PO-0041 / Nuclear Facility D&D-Portsmouth GCEP	19,775	20,000	0
Subtotal, Portsmouth Gaseous Diffusion Plant	78,122	72,215	20,754
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities			
Portsmouth Gaseous Diffusion Plant			
PO-0013 / Solid Waste Stabilization and Disposition	51,985	19,410	34,313
PO-0040 / Nuclear Facility D&D-Portsmouth	137,363	131,202	170,838
PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund)	600	410	720
PO-0104 / Portsmouth Community and Regulatory Support (D&D Fund)	288	298	556
Subtotal, Portsmouth Gaseous Diffusion Plant	190,236	151,320	206,427
Total, Portsmouth	268,358	223,535	227,181

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Portsmouth					
Geographic Sites Eliminated (number of sites)	0	0	0	1	0%
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	2,261	250,001	1%
Remediation Complete (Number of Release Sites)	149	149	149	150	99%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	22,423	27,751	29,654	29,654	100%

Detailed Justification

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
PO-0011 / NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management (life-cycle estimate $205,452K)	**10,431**	**19,515**	**7,754**

This PBS is within the Non-Defense Environmental Cleanup appropriation.

This project scope manages the Highly Enriched Uranium Program, performs surveillance and maintenance of the former Uranium Program facilities and manages legacy polychlorinated biphenyl contamination. The Highly Enriched Uranium Program activities will continue until the final disposition of the highly enriched uranium. The Highly Enriched Uranium Program stores, ships, treats, and disposes of filter ashes and oil-leak gunk; disposes of the remaining highly enriched uranium materials (i.e., oils, acids, incinerator ashes and alumina) stored in X-326 L-Cage; performs interim storage and eventual processing of highly enriched uranium materials; 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 non-leased facilities, two cylinder yards, inventories of special nuclear materials, and technical support activities are performed. Management of depleted uranium hexafluoride cylinders continued until FY 2005, when turnover to the depleted uranium hexafluoride conversion facility operator occurred. Polychlorinated biphenyl activities include inspections of transformers, checks of spill sites, inspections, repair, and maintenance of troughs and collection systems to maintain compliance with the Toxic Substances Control Act (40 CFR 761), the Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992, as well as DOE Orders and other applicable requirements. Gaskets impregnated with polychlorinated biphenyl were used in the ventilation duct systems of the Portsmouth Gaseous Diffusion Plant, and operations have resulted in leaks of polychlorinated biphenyl contaminated lubrication oils used in motor and compressor bearings.

With Congressional approval, DOE will be able to continue the technetium-99 cleanup agreement for removing technetium-99 from uranium feed in the FY 2007-FY 2009 time period by selling excess clean uranium and using the proceeds.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

As of September 2006, Portsmouth has received and stacked a cumulative total of 5,549 cylinders from the East Tennessee Technology Park. All highly enriched uranium filter ash and oil-leak gunk sampling was completed; the laboratory analyses for the highly enriched uranium oil-leak gunk were completed, the bench testing was completed, and the final report submitted. Also, the batching of highly enriched uranium solutions in X-326L was completed.

In FY 2008, the following activities are planned:

- Perform polychlorinated biphenyl activities in the former process buildings to maintain compliance.
- Complete conversion and final processing of highly enriched uranium.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Continued off-site conversion to low enriched uranium and disposition of highly enriched uranium inventories. (FY 2006)
- Receive balance of East Tennessee Technology Park cylinders. (FY 2006)
- Continue to process highly enriched uranium. (September 2007)
- Complete conversion and final processing of highly enriched uranium. (September2008)

PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (life-cycle estimate $892,368K)	**47,916**	**32,700**	**13,000**

This PBS is within the Non-Defense Environmental Cleanup appropriation.

Approximately 700,000 metric tons of depleted uranium hexafluoride are stored in 60,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites. This PBS scope will design, permit, build, and operate 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 sent to a disposal facility, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will be sent to disposal or reused.

This project also includes surveillance and maintenance of all cylinders during conversion of the existing stockpile, which should take about 18 years. The conversion facility operator assumed responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders in FY 2005.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

The Department is examining the alternatives to increase production capacity at the Portsmouth facility to accelerate conversion of the current inventory.
This PBS includes the following amounts for line item construction project 02-U-101, Depleted Uranium Hexafluoride Conversion Project: FY 2006 - $42,473,000; FY 2007 - $16,278,000; and, FY 2008 - $0. Groundbreaking for the Portsmouth Depleted Uranium Hexafluoride Conversion Facility occurred in July 2004 and approval to construct the facilities was received in September 2005 (Critical Decision-3).

As of September 2006, construction of the warehouse was essentially complete. The administration building and the Portsmouth conversion building structures are nearly complete. Most of the conversion process equipment has been ordered and delivery of major components has begun.

In FY 2008, the following activities are planned:

- Complete construction of the Portsmouth Depleted Uranium Hexafluoride Conversion Facility by December 2007.
- Conduct contractor and DOE operational readiness reviews.
- Complete hot functional testing of the conversion process systems.
- Commence full operations (Critical Decision-4) by September 2008.
- Reach full production capacity of the conversion of depleted uranium hexafluoride material by year end.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	2,261	250,001	1%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed construction of the administration and warehouse buildings. (FY 2006)
- Complete major equipment installation. (September 2007)
- Complete construction activities. (December 2007)
- Initiate conversion operations. (September 2008)

PO-0041 / Nuclear Facility D&D-Portsmouth GCEP (life-cycle estimate $80,415K) **19,775** **20,000** **0**

This PBS is within the Non-Defense Environmental Cleanup appropriation.

This project scope is to cleanup of the Gas Centrifuge Enrichment Plant facilities for use by the United

(dollars in thousands)

FY 2006	FY 2007	FY 2008

States Enrichment Corporation in the development of an advanced uranium enrichment process. On December 4, 2002, the United States Enrichment Corporation announced that it would 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. The Gas Centrifuge Enrichment Plant cleanup program covers a period from FY 2004 through FY 2007, and includes cleanout of designated waste and centrifuge equipment in process buildings X-3001 and X-3002; facility repairs and modifications to existing facilities for relocated office space for waste management operations; for maintenance, storage and training; relocation of DOE operations, and project management. Building X-7725 is scheduled to be leased to the United States Enrichment Corporation in FY 2007.

As of September 2006, the Gas Centrifuge Enrichment Plant project completed its shipping campaign to the Nevada Test Site. The project also completed a majority of the office moves from the Gas Centrifuge Enrichment Plant footprint. In addition, the renovation work on X-1000 was completed. Activities were being conducted in concert with activities funded in PBS PO-0013 to remove legacy waste from X-7725 Resource Conservation and Recovery Act facilities, including “troublesome wastes,” to support the United States Enrichment Corporation commercial gas centrifuge enrichment development. The remaining scope of work in FY 2007 includes two truck shipments (one for oils and one for recyclable material) and subcontractor personnel moves from X-7725 to X-720.

In FY 2008, the following activities are planned:

- No activities planned.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed disposition of centrifuges and centrifuge components. (FY 2006)
- Completed GCEP disassembly and cleanout activities. (FY 2006)
- Completed disposition of GCEP waste oils and recyclable material. (September 2007)
- Plan two truck shipments (one for oils and one for recyclable material) and subcontractor personnel moves from X-7725 to X-720. (September 2007)

PO-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate $350,416K)	**51,985**	**19,410**	**34,313**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

This project scope stores, characterizes, treats, and disposes of legacy waste generated by activities at the Portsmouth Gaseous Diffusion Plant. This activity will reduce risks and storage costs. The primary waste steams are low-level, mixed low-level, Toxic Substances Control Act low-level, hazardous, and sanitary wastes.

As of September 2006, approximately 22,423m^3 (cumulative) of low-level and mixed low-level waste were dispositioned. All legacy waste will be dispositioned by the end of FY 2007. "Troublesome wastes" repackaging efforts were initiated in X-7725 for waste requiring repackaging prior to being shipped for treatment. For "troublesome wastes" not requiring repackaging, shipments were initiated and sent to a facility at Oak Ridge for treatment prior to be sent to the Nevada Test Site for disposal. 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 waste is critical to completing cleanup of the site.

In FY 2008, the following activities are planned:

- Plan and develop the management and disposal of low-level waste associated with 438 converter shells in storage with potentially classified waste.
- Disposition classified material in DOE Material Storage Areas 11 and 12, which include equipment containing deposits of highly enriched uranium material.
- Disposition of excess site equipment (vehicles, scrap, etc.) and disposition of poly bottle solutions which contain liquids with high fissile material and are required to be treated prior to disposal.
- Maintain waste minimization and pollution prevention and programs to reduce waste costs.
- Continue to characterize, treat, and dispose of any newly generated waste.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	22,423	27,751	29,654	29,654	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Disposed of 1,607 cubic meters of legacy waste. (FY 2006)
- Complete Site Treatment Plan milestone to ship mercury for processing. (December 2006)
- Submit annual Site Treatment Plan to the Ohio Environmental Protection Agency. (December 2006)
- Dispose of all legacy waste. (September 2007)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
• Dispose of low-level waste associated with 438 converter shells in storage. (September 2008) • Disposition of classified material in DOE Material Storage Areas 11 and 12. (September 2008)			
PO-0040 / Nuclear Facility D&D-Portsmouth (life-cycle estimate $5,434,391K)	**137,363**	**131,202**	**170,838**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

This project scope consists of remedial action, inactive facility decontamination and decommissioning, and surveillance and maintenance activities at the Portsmouth Gaseous Diffusion Plant are necessary due to contamination resulting from the plant's historical uranium enrichment operations. Groundwater, sediment, and soil contamination exist at the site, and contaminants of concern include radioactive technetium-99, polychlorinated biphenyls, trichloroethylene, and Resource Conservation and Recovery Act heavy metals. DOE will continue to operate active and passive groundwater treatment systems until regulatory cleanup levels are achieved. Approximately 14 excess non-leased facilities will be decontaminated and decommissioned by the end of FY 2007, which will reduce surveillance and maintenance costs.

Portsmouth began the transition from cold standby to final shutdown and initiated preliminary decontamination and decommissioning activities in FY 2006. These activities include initiating plans for an integrated final decommissioning strategy for the diffusion facilities. DOE is developing procurement strategies and evaluating the regulatory transition from the Nuclear Regulatory Commission to the DOE. This will require additional regulatory coordination with the state and the Environmental Protection Agency and public involvement on the planning efforts.

As of September 2006, over 8,500 tons of scrap metal were disposed from the X-747H scrap yard. The Quadrant I, II, and IV corrective actions were completed. All initial remedial investigations and corrective measures studies required under the applicable regulations and agreements were completed, and all groundwater plumes were contained onsite. Groundwater treatment facilities operations cumulatively treated over 34.5 million gallons of groundwater and removed over 241 gallons of trichloroethylene.

In FY 2008, the following activities are planned.

- Conduct X-701B oxidation treatment field activities.
- Conduct post-remediation surveillance and maintenance activities for X-622, X-623, X-701E, and X-624, and conduct operations and maintenance for the X-625 groundwater treatment facility.
- Conduct environmental monitoring and reporting for groundwater, surface water, sediment, biological, vegetation, and associated sample collection.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Perform enhanced uranium deposit mitigation measures for criticality concerns in the process buildings to eliminate near-term criticality safety issues.

- Continue planning procurement activities necessary to award a new contract for the final decontamination and decommissioning (subject to Critical Decision 1).

- Initiate soil and groundwater investigation and/or remediation under approximately 140 buildings for which the Resource Conservation and Recovery Act facility investigation has been deferred. This is driven by the completion of the Cold Shutdown effort.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	19	19	19	20	95%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Initiated Phase I of X-701B Oxidation treatment field activities. (FY 2006)
- Begin activities to remove 14 excess, inactive facilities and complete decontamination and decommissioning of the excess facilities. (September 2007)
- Continue X-701B Oxidation Treatment Field activities, including completion of Phase II (fourth and fifth oxidant injection events), completion of Phase III (monitoring, analysis, and reporting), and initiation of Phase IV (with extensive sampling, monitoring, analysis, and reporting). (September 2008)
- Award decontamination and decommissioning and surveillance and maintenance contract. (September 2008)

PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund) (life-cycle estimate $13,204K)	**600**	**410**	**720**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

The scope of this project 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 requests for information.

In FY 2008, the following activities are planned.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue to provide defense against legal claims filed against the Government's contractors.
- Continue 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	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Defended against legal claims filed against the Government's contractors. (FY2006)
- Continued 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 2006)
- Defend against legal claims filed against the Government's contractors. (September 2007/September 2008)
- Continue 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. (September 2007/September 2008)

PO-0104 / Portsmouth Community and Regulatory Support (D&D Fund) (life-cycle estimate $8,097K)	**288**	**298**	**556**

This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund.

This project 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.

In FY 2008, the following activities are planned.

- Continue to support the Ohio Environmental Protection Agency.
- Continue to interact with stakeholders and communities in anticipation of decommissioning and dismantlement transition.
- Provide input to and support for the Community Relations Plan.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Supported the Ohio Environmental Protection Agency associated with the Portsmouth Consent Decree oversight activities. (FY 2006)
- Support to the Ohio Environmental Protection Agency associated with the Portsmouth Consent Decree oversight activities. (September 2007/September 2008)

Total, Portsmouth	**268,358**	**223,535**	**227,181**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Non-Defense Environmental Cleanup	
Gaseous Diffusion Plants	
Portsmouth Gaseous Diffusion Plant	
PO-0011 / NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management	
▪ Decrease in funding reflects that the majority of the work (preparing for the processing of highly enriched uranium) is completed by FY 2007.	-11,761
PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	
▪ Decrease in funding reflects the FY 2007 completion of major equipment installation and construction of the conversion facility and the start of conversion facility operations in FY 2008.	-19,700
PO-0041 / Nuclear Facility D&D-Portsmouth GCEP	
▪ Decrease reflects completion of the project in FY 2007.	-20,000

	FY 2008 vs. FY 2007 ($000)
Uranium Enrichment Decontamination and Decommissioning Fund	
D&D Activities	
PO-0013 / Solid Waste Stabilization and Disposition	
▪ Increase supports disposition of classified material in DOE Material Storage Areas 11 and 12, which include equipment containing deposits of highly enriched uranium material; disposition of excess site equipment (vehicles, scrap, etc.); and disposition of poly bottle solutions containing liquids with high fissile material.	14,903
PO-0040 / Nuclear Facility D&D-Portsmouth	
▪ Increase in funding supports the transition of the Gaseous Diffusion Plant from a Cold Shutdown mode to decontamination and decommissioning; performance of enhanced uranium deposit mitigation measures; and initiation of soil and groundwater investigation for approximately 140 buildings.	39,636
PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund)	
▪ Increase reflects the anticipated need for additional litigation services and document searches.	310
PO-0104 / Portsmouth Community and Regulatory Support (D&D Fund)	
▪ Increase reflects additional support for interactions with stakeholders and communities in anticipation of decommissioning and dismantlement transition.	258
Total, Portsmouth	**3,646**

Richland

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Hanford Site	803,268	821,227	867,802
Richland Operations Office	15,257	18,332	19,620
Total, Richland	818,525	839,559	887,422

Site Overview

The Richland Operations Office manages cleanup of the Hanford Site, with the exception of the tank farms (managed by the Office of River Protection), and the Pacific Northwest National Laboratory (managed by the Office of Science, Pacific Northwest Site Office).

The site was established during World War II to produce plutonium for the nation's nuclear weapons. Peak production was reached in the 1960s when nine production reactors were in operation along the Columbia River. The last reactor to be shutdown was the N-Reactor, and its spent nuclear fuel that was originally stored in the K-Basins has since been relocated to dry storage in the Central Plateau (also known as the 200 Area). Soil and groundwater contamination from past operations resulted in placement of the Hanford Site on the National Priorities (Superfund) List. The Hanford mission is now primarily site cleanup/environmental restoration to protect the Columbia River. The cleanup is addressed in commitments in a 1989 consent agreement, known as the Tri-Party Agreement. Parties to the agreement include the DOE, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology.

Site Description

Hanford Site - Richland Operations Office: As noted above, the Richland Operations Office manages the majority of the Hanford Site in southeastern Washington State. The 1,533 square kilometer (586 square mile) site contains the Central Plateau, the River Corridor, and the Fast Flux Test Facility.

Central Plateau:

The central part of the site is known as the 200 Area or the Central Plateau. It is called the "plateau" because it is elevated about 61 – 67 meters (200 -250 feet) above the water table at the Columbia River shore (100 and 300 areas). The 200 Area is where fuel irradiated in the production reactors was chemically processed to separate and recover plutonium for use in nuclear weapons. Several other valuable isotopes were also recovered. During World War II, the two 200 Areas (East and West) were constructed about five miles apart and in such a manner that it would be difficult for an enemy aerial attack to destroy all of the chemical separations buildings. Three separation plants were initially built in the 200 Areas: T Plant, B Plant and U Plant. The S Plant (Reduction-Oxide) and the Plutonium Uranium Extraction Plant followed with second and third generation improvements in product outputs. The U Plant was initially used to train operators for the other two plants. During the 1950s, U Plant had

a special mission in recovering uranium that had been placed in waste tanks during the rush of World War II.

A part of the 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 cubic meters of solid waste 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. The 200 Area's current mission involves cleanup of radioactivity and chemical contamination in about 800 waste sites, and approximately 1,000 facilities.

The Central Plateau also has ongoing waste management activities which include storage of spent nuclear fuel at the Canister Storage Building, cesium and strontium capsules in the Waste Encapsulation and Storage Facility, and transuranic waste, mixed low-level waste and low-level waste generated at the Hanford Site and other offsite locations and stored at Central Waste Complex. Transuranic waste is to be processed in the Waste Receiving and Processing facility for shipment to the Waste Isolation Pilot Plant. The non-transuranic waste is permanently disposed at the Environmental Restoration and Disposal Facility. Other Central Plateau activities include operations of mixed low-level waste trenches, treatment of mixed low-level waste to meet regulatory requirements, disposition of over 200 defueled naval reactor compartments in a dedicated trench, and treatment of generated liquid wastes at the Effluent Treatment Facility, Liquid Effluent Retention Facility, and Treated Effluent Disposal Facility.

Much of the Hanford Site's existing infrastructure has it roots in the Manhattan project. Railroads, utilities, roads and buildings were constructed during the 1940's as part of the wartime effort. The infrastructure supports the various projects at Hanford with a majority of the centralized system existing in the 200 Area. Sufficient infrastructure will be maintained as the cleanup mission progresses. As the need for the infrastructure diminishes, these systems and components will be demolished, removed or placed in long term stewardship. The Central Plateau contains the following areas:

- 200 East Area: The 200 East Area covers approximately 9.1 square kilometers (3.5 square miles). The area has two processing plants: B Plant and the Plutonium Uranium Extraction Plant. B Plant was deactivated in 1998 and the Plutonium Uranium Extraction Plant was shutdown in 1997. The Effluent Treatment Facility, the Treated Effluent Disposal Facility, the Waste Encapsulation and Storage Facility, and the Canister Storage Facility used in waste management activities are located in this area. Offices and infrastructure support facilities are also located in the 200 East Area.

- 200 West Area: The 200 West Area covers just under 13 square kilometers (5 square miles) and is located about 13 kilometers (8 miles) from the Columbia River and 40 kilometers (25 miles) from Richland. The 200 West Area includes Central Waste Complex, Waste Receiving and Processing Facility, the Environmental Restoration and Disposal Facility (ERDF) and three processing plants: T Plant, U Plant and S Plant. T Plant and U Plant were nearly identical in function at the time they were constructed in 1943 and 1944. S Plant was a second-generation processing plant that began operation in 1952. The duplication of facilities was done for safety as well as security. U Plant and S Plant have been shut down, and T Plant is now used as the site's decontamination facility. The T Plant has not conducted plutonium processing since 1956. Connected to S Plant was the 233-S Plutonium Concentration Facility, a building originally built for concentrating plutonium before it was sent to the Plutonium Finishing Plant. The Plutonium Finishing Plant complex consists of

multiple buildings that were used for defense production of plutonium nitrates, oxides and metal from 1950 through early 1989.

River Corridor

The River Corridor contains the following areas:

- 100 B & C Areas: B Reactor, the first full-size nuclear reactor in the world, was the first reactor built on the Hanford Site. It has received several national awards as a nuclear and engineering landmark, and has the distinction of being listed on the National Register of Historic Places. Near B Reactor, in an area between the Columbia River and the reactor, is a site where contaminated soil is being remediated. When the reactors operated, water pumped from the Columbia River circulated around the radioactive fuel to cool it while it was in the reactor. This water was then sent through underground pipes to pond sites. The water was temporarily kept there to allow it to both cool off in temperature and to let some of the short-lived radioactivity decay. The water was then discharged to the river. The dirt under and around the ponds became contaminated and it is this soil that is being excavated and taken to the on-site Environmental Restoration and Disposal Facility (located in the 200 Area) for placement in a safe, long-term disposal configuration.

  C Reactor has been placed in a safe storage condition for up to 75 years. This has involved removing the fuel storage basin, the fuel examination facility, the surrounding support buildings, and portions of the C Reactor building structure. This reduced the size of the original footprint by 81 percent. A new weatherproof roof and a remote monitoring system were then put in place. Putting the reactor into a safe condition not only will shield the reactor core for up to 75 years, but it will also reduce the time and money needed for regular surveillance and maintenance. Site personnel will only be required to enter the reactor once every five years to check conditions. In the interim, the reactor is checked via a remote system.

- 100 KW & KE Areas: K-West and K-East reactors were built in 1955 and were shut down in 1970 and 1971. Even though the reactors were shut down, their fuel storage basins remained in operation, providing storage for up to 2,300 tons of spent reactor fuel. The fuel came from N Reactor operations during the 1970s and 1980s. The highly radioactive spent nuclear fuel from the K Basins has now been retrieved, cleaned, packaged and safely stored away from the Columbia River in the 200 Area Central Plateau. In addition, approximately 300 tons of highly radioactive debris has been removed from the K Basins and disposed of. However, 44 cubic meters of highly radioactive sludge remain in K-East and K-West Basins that must be removed and treated. In addition, the basins still contain 70 tons of highly radioactive debris that must be removed and disposed of.

- 100 N Area: N Reactor operated from 1963 to 1987 when it was shut down for maintenance, refueling, and safety upgrades. In April 1986 the accident at the Chernobyl nuclear plant in the Soviet Union drew public attention to N Reactor. After the Energy Department ordered safety enhancements, restart was planned. However, in early 1988 DOE decided to place N Reactor on standby. With the end of the Cold War, there was no longer a need for plutonium production and thus, N Reactor was never restarted. The N Reactor Area has been deactivated. This area contains slightly more than 100 buildings of which 23 have been demolished.

- 100 D & DR Areas: D Reactor was one of the three original reactors built in World War II. The reactor next to it is known as DR, or the D Replacement. The two reactors operated side-by-side until the mid-1960s. The D and DR Reactors have been placed into safe storage, or a "cocooned" state. Cleanup of soil in the 100-D Area began in 1996.

- 100 H Area: Construction of H Reactor began in March 1948 and began operation in 1949. It was shut down in 1965. It was built as part of Hanford's first Cold War expansion, in response to some of the earliest events of the Cold War. H Reactor was placed into safe storage in October 2005.

- 100 F Area: F Reactor went into production in February 1945 during World War II and was shut down in 1965. Upon completion, 100-F Area contained 29 permanent buildings and 24 facilities. F Reactor was placed into safe storage in January 2004.

- 300 Area: The 300 Area's two main functions were production (or fabrication) of fuel for the reactors (performed in the north end of the area) and chemical research to improve the entire production process. Some of the buildings in the 300 Area were constructed during World War II. During the Cold War, many of the 300 Area laboratories performed research to expand and improve the efficiency of weapons production. Now, many of them are undergoing cleanout and deactivation. The 300 Area buildings that remain active include laboratories, technical shops, engineering offices, their support facilities and 310 Treated Effluent Disposal Facility and the 340 Facility.

Fast Flux Test Facility

The Fast Flux Test Facility planning began in 1965, during the heyday of commercial nuclear power building and experimentation. Four years later, the conceptual design was completed. Construction was completed in 1980, and full critical operations got underway in early 1982. The reactor, built to be the prototype for America’s breeder reactor program, was to be a bridge to a newer, non-defense role for the Hanford Site. The Fast Flux Test Facility was the world's largest test reactor of its kind. It was designed primarily to test fuels and materials for the nation's advanced reactor program. The facility is currently undergoing a major deactivation leading to a low-cost surveillance and maintenance mode (until cleaning sodium residuals, processing and dispositioning bulk sodium and decommissioning and demolition of the facility are conducted in the future).

Transfer to Non-Federal Entity

Hanford’s 1100 Area served for half a century as the hub of the site’s support services, including vehicle maintenance and motor pool; warehousing and property receiving and distribution; mail services; and other infrastructure services. The area also was the hub for the site’s approximately 201 kilometers (125 miles) of rail track. The largest building here, the 1171 Building, has rail tracks running through it, and housed a rail overhaul and repair shop.

However, on September 30, 1998, the 1100 Area, the 26 facilities within it, and the 16 southern-most miles of the Hanford Railroad were transferred by DOE to Richland’s Port of Benton for use in regional economic development. Transfer of the 768-acre 1100 Area (about 3.6 square kilometers [1.4 square miles]) pushed the Hanford Site border north by about a mile.

Site Cleanup Strategy/Scope of Cleanup

The primary focus for the Hanford Site is the safe storage, treatment and disposal of Hanford's legacy wastes and environmental restoration. The cleanup strategy is a risk-based approach that focuses first on those contaminant sources that are the greatest contributors to risk. Risk to the public, workers, and environment will be reduced by removing contamination before it migrates to the Columbia River or the groundwater. This includes cleanup of facilities/waste sites in the 100, 200, and 300 Areas, as well as retrieval of suspect transuranic waste for final disposition off-site. The final focus is the cleanup of the Central Plateau with priority on the decontamination and decommissioning of the Plutonium Finishing Plant and completion of groundwater remediation. Safe and secure interim storage of special nuclear material and spent nuclear fuel will continue to be maintained.

Site Completion (End State)

The Federal government is expected to maintain ownership of most of the site once cleanup is complete, planned for FY 2035. However, this completion schedule may be impacted by the extension to the completion of the Waste Treatment and Immobilization Plant operations, since the Hanford site can not complete the cleanup mission until the completion of the Plant operations. To date, about 50 percent of Hanford Site lands have been cleaned up or transferred for alternate uses. The North Slope has been put under the management of other federal and Washington state agencies but remains under DOE ownership to maintain a safety buffer zone and pristine habitat. In 1999, DOE completed an environmental impact statement for the Final Comprehensive Land Use Plan. Final decisions on the level of cleanup to be performed on individual waste sites continue to be made through the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) decision processes.

- **K Basin Closure:** The K Basins are the highest risk reducing project because of its proximity to the Columbia River. Significant risk reduction is continuing with the removal of highly radioactive sludge and debris from wet storage in the K Basins. Sludge will be treated and placed in a form suited for disposal, currently planned to be completed by FY 2010. This project's completion will mean the removal of more than 55 million curies of radioactivity from near the Columbia River to the 200 Area Central Plateau – a reduction of more than 95 percent of the radioactivity in Hanford's River Corridor.

- **River Corridor Closure Project:** The River Corridor Closure Project will remediate 761 contaminated waste sites (including 50 burial grounds); deactivate, decontaminate, decommission and demolish 379 facilities adjacent to the Columbia River; and place eight reactors into interim safe storage condition. Completion of the project is expected by the contract end date of 2015 or earlier. The work includes excavating and disposing of contaminated soil, backfilling with clean soil, constructing interim safe storage for the reactors, and demolishing the old reactor complexes and facilities in the 300 Area. The project has the goal of ensuring that the land is sufficiently clean to support land management by 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.

- **Transuranic Retrieval:** All contact-handled suspect transuranic waste in the low-level burial grounds will be retrieved by December 2010, with an expectation that about half will be disposed as transuranic waste and half as low-level and mixed low-level wastes. Retrieval of the remote handled waste will be performed by 2018. Processing of transuranic waste for shipment to the Waste Isolation Pilot Plant will occur in the Waste Receiving and Processing Facility and T Plant. Upon completion of this cleanup work, all waste will have been retrieved and transferred to a treatment, storage, and/or disposal facility.

- **Groundwater Remediation:** This project includes remediation and monitoring of groundwater/vadose zone to address contamination by carbon tetrachloride, chromium, technetium, strontium, and uranium. Response actions for the 100 Area groundwater plumes are to be completed by December 2012. The end-state and cleanup decisions for existing groundwater plumes completed by 2012. Groundwater completion activities will follow waste tank and waste site closure activities through the 2024 time frame.

- **Solid Waste Disposal:** About 70,000 cubic meters of mixed low-level waste will be treated to meet regulatory requirements and then disposed of on-site in the mixed waste trenches or the Environmental Restoration Disposal Facility. About 130,000 cubic meters of low-level waste will be disposed of through site closure. In addition, liquid waste will be treated through the Effluent Treatment Facility, the Liquid Effluent Retention Facility, and the Treated Effluent Disposal Facility. Hanford will continue to operate facilities for the disposal of low-level and mixed low-level waste from Hanford and offsite generators.

- **Plutonium Finishing Plant Closure Project:** The Plutonium Finishing Plant consisted of over 60 facilities that were used for production of plutonium from 1950 to 1989. The project provides storage of special nuclear materials and maintains the facilities in a safe and secure manner until the completion of demolition. Upon removal of all Special Nuclear Material and fuels, the security area will be eliminated and the Plutonium Finishing Plant complex will be demolished to slab-on-grade by 2016.

- **Central Plateau Cleanup:** 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 cubic meters of solid waste 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. DOE will clean up radioactivity and chemical contamination in about 800 waste sites that have the potential to impact ground water; and demolish approximately 900 facilities on the Central Plateau and South Hanford Industrial Area.

- **Fast Flux Test Facility:** By FY 2007, DOE plans to complete major elements of deactivation, including reactor defueling; fuel washing, dry packaging, storage (in storage casks), and disposition of 367 reactor fuel assemblies; and the draining of 260,000 gallons of bulk sodium in plant systems, reactor vessel and fuel storage vessels. DOE will then begin transition the facility into long-term surveillance and maintenance.

Regulatory Framework

As noted earlier, the U. S. Department of Energy, the U. S. Environmental Protection Agency, and the State of Washington Department of Ecology signed a comprehensive cleanup and compliance agreement on May 15, 1989. The Hanford Federal Facility Agreement and Consent Order, or Tri-Party Agreement, is an agreement for achieving compliance with the CERCLA remedial action provisions and with the RCRA treatment, storage, and disposal unit regulations and corrective action provisions. More specifically, the Tri-Party Agreement: 1) defines and ranks cleanup commitments, 2) establishes responsibilities, 3) provides a basis for budgeting, and 4) reflects a concerted goal of achieving full regulatory compliance and remediation, with enforceable milestones in an aggressive manner.

Tri-Party Agreement/Compliance Milestones:

Tri-Party Agreement major milestones for K Basin Closure
- M-034-00A, Complete Removal of the K Basins and their Content by March 2009

Tri-Party Agreement major milestones for Plutonium Finishing Plant Project
- M-083-00A, PFP Facility Transition and Selected Disposition Activities by September 2016

Tri-Party Agreement major milestones for Transuranic Retrieval
- M-091-40, Complete Retrieval of Contact-Handled Waste by December 2010
- M-091-41A, Complete Retrieval of Non-Caisson Remote-Handled Waste by December 2014
- M-091-44B, Complete Retrieval of the 200A Caisson Remote-Handled Waste in 218-W-4B by December 2018

Tri-Party Agreement major milestones for Fast Flux Test Facility
- M-081-14, Complete Fast Flux Test Facility Sodium Drain by September 2009
- M-081-00A, Complete Fast Flux Test Facility Transition by February 2011

Tri-Party Agreement major milestones for River Corridor Closure Project
- M-016-58, Initiate K-West Basin Soil Remediation by April 2009
- M-016-00A, Complete All Interim Response Action for the 100 Areas by December 2012
- M-094-00, Complete disposition of 300 Area surplus facilities by September 2015
- M-016-69, Complete All Interim 300 Area Remedial Actions by September 2015

Tri-Party Agreement major milestones for the Central Plateau clean up activities
- M-15-00, Complete 200 Area Remedial Investigation/Feasibility Study Process for all Non-Tank Farm Operable Units by December 2008
- M-20-00, Submit Part B Permit Application or Closure/Post Closure Plans for all Resource Conservation and Recovery Act Treatment, Storage, and Disposal Units by December 2008
- M-034-30, Initiate Sludge Treatment by December 2008
- M-034-31, Complete Sludge Treatment by November 2009
- M-16-00, Complete Remedial Actions for all Non-Tank Farm Operable Units by December 2024

Critical Site Uncertainties and Assumptions

The Richland Operations Office is currently addressing a number of significant known uncertainties including:

- Waste Isolation Pilot Plant receiving schedule for transuranic waste from Hanford.
- The current approved closure date for Richland Operations Office is 2035; however, this may be impacted by the extension to the completion of the Waste Treatment and Immobilization Plant operations.
- The opening date of a Federal repository for spent nuclear fuel and high-level waste and subsequent receipt of spent nuclear fuel and high-level waste from the Hanford Site.
- Timely decision and implementation of the plutonium consolidation strategy to support de-inventory of materials in storage at the Plutonium Finishing Plant.
- The acceptance of cleanup levels in Interim Records of Decision by regulators to support deletion of the Hanford Site from the National Priority List.
- Records of Decision for the Central Plateau Area that will define cleanup actions of central plateau waste sites.
- Unexpected contamination at some waste sites or facilities.

Interdependencies

Richland has identified the following near term interdependencies needed for mission execution:

- Transuranic Waste Shipments: About 27,000 cubic meters of transuranic waste is to be processed and shipped to the Waste Isolation Pilot Plant from the Hanford Site.
- Department of Defense Naval Reactors: Over 200 defueled naval reactor compartments will be disposed in a dedicated trench at the Hanford Site in the 200 Area.
- Spent Fuel: Approximately 2,100 metric tons of spent nuclear fuel currently in interim storage at the Hanford Site is to be transported to a Federal repository for disposal.
- Cesium and Strontium Capsules: Approximately 1,936 capsules currently in interim storage at the Hanford Site are to be transported to a Federal repository for disposal.
- Remediation of Central Plateau: Waste sites will need to be coordinated with the Office of River Protection's tank farm activities.
- Fast Flux Test Facility: Sodium-bonded fuel is to be transported to the Idaho National Laboratory for disposition.

- Special Nuclear Materials: Coordination of the consolidation strategy involving sites presently storing materials, transportation elements and the candidate consolidation site.

Contract Synopsis

At the end of FY 2006, two major contracts to implement the cleanup strategy across the Hanford Site will expire: the Project Hanford Management Contract (RL) and the Tank Farm Management Contract (ORP). Extensions through FY 2008 were negotiated and signed. EM is currently developing an acquisition strategy for the follow on contracts. The draft Request for Proposals for competitive selections of the mission support and plateau remediations contractors were issued on November 17, 2006.

The River Corridor Closure contract, a cost plus incentive fee type contract awarded in June 2005, is responsible for the cleanup of the nuclear reactor sites and the industrial 300 Area along the Columbia River as well as facilities in the 400 Area and two burial grounds in the 600 Area. The cost plus incentive fee type contract was implemented to increase efficiency and accelerate the schedule for cleanup.

Cleanup Benefits

Near Term

Cleaning up the Hanford Site and protecting the Columbia River is a vast and complex task – one that has often been called the world's largest environmental cleanup project. The legacy of Hanford's 40 years of nuclear weapons production for the nation's defense includes enormous quantities of spent nuclear fuel, leftover plutonium in various forms, buried waste, contaminated soil and groundwater, and contaminated buildings that must undergo cleanup and be torn down (also known as D4). Forty percent of the approximately one billion curies of human-made radioactivity that exist across the nuclear weapons complex resides at Hanford and must be dealt with to protect human health and the environment.

The cleanup momentum over the past several years has been and continues to be focused on completing cleanup along the Columbia River Corridor and transitioning the Central Plateau of the Hanford Site to a modern, protective waste management operation - - driving down the risks to our workers, the community and the environment.

- Spent Nuclear Fuel (K Basins Closure) project completed and removed more than 55 million curies of radioactivity – more than 95 percent of the radioactivity in Hanford's River Corridor.

- Reactor Interim Safe Storage completed for five of the eight reactors to be placed in interim safe storage at Hanford.

- If the decision is made to consolidate plutonium at an off-site location, then plutonium will be shipped off-site to eliminate risk and protect the Plutonium Finishing Plant area.

- Risks associated with the radioactive fuel and liquid sodium coolant at the Fast Flux Test Facility will be reduced and the facility will be placed in long-term surveillance and maintenance.

Longer Term

- Complete CERCLA Records of Decision for the Central Plateau and initiate remediation activities.
- Complete retrieval of contact-handled transuranic waste by 2010 reducing the environmental risks in the 200 Area.
- Complete remedial actions in the 100 B/C, 100F and 100H areas.
- Complete K Basins sludge treatment, demolition of the basins, and 100 K Area remediation.
- Complete conversion of KE, KW and N reactors to interim safe storage – the last of the eight reactors to be placed in interim safe storage.

Direct maintenance and repair at the Richland Operations Office is estimated to be $81,256,100.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Hanford Site			
2012 Completion Projects			
RL-0011 / NM Stabilization and Disposition-PFP	140,749	81,651	98,002
RL-0012 / SNF Stabilization and Disposition	113,835	81,069	99,815
RL-0013B / Solid Waste Stabilization and Disposition- 2012	0	39,876	0
RL-0041 / Nuclear Facility D&D-River Corridor Closure Project	176,722	221,022	215,221
RL-0043 / HAMMER Facility	7,425	0	0
RL-0044 / B-Reactor Museum	1,980	0	0
Subtotal, 2012 Completion Projects	440,711	423,618	413,038
2035 Completion Projects			
HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	1,795	0	0
RL-0013 / Solid Waste Stabilization and Disposition-200 Area	165,448	0	0
RL-0013C / Solid Waste Stabilization and Disposition- 2035	0	188,989	236,788
RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone - 2035	73,753	75,973	105,552
RL-0040 / Nuclear Facility D&D-Remainder of Hanford - 2035	70,106	94,270	98,753
RL-0080 / Operate Waste Disposal Facility	5,803	3,534	3,329
RL-0100 / Richland Community and Regulatory Support	15,257	18,332	19,620
Subtotal, 2035 Completion Projects	332,162	381,098	464,042
Total, Hanford Site	772,873	804,716	877,080

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D			
RL-0042 / Nuclear Facility D&D-Fast Flux Test Facility Project	45,652	34,843	10,342
Total, Richland	818,525	839,559	887,422

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Richland					
Geographic Sites Eliminated (number of sites)	0	0	0	1	0%
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	3,500	3,500	3,500	3,500	100%
Enriched Uranium packaged for disposition (Number of Containers)	2,958	2,958	2,958	2,958	100%
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	3,437	3,437	3,437	3,437	100%
Depleted and Other Uranium packaged for disposition (Metric Tons)	3,100	3,100	3,100	3,100	100%
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2,124	2,124	2,124	2,124	100%
Transuranic Waste shipped for disposal (Cubic meters)	1,781	2,279	2,749	28,369	10%
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	2	50%
Nuclear Facility Completions (Number of Facilities)	24	24	24	80	30%
Radioactive Facility Completions (Number of Facilities)	40	47	56	333	17%
Industrial Facility Completions (Number of Facilities)	279	281	286	1,051	27%
Remediation Complete (Number of Release Sites)	427	460	514	1,645	31%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	44,082	44,188	44,294	50,864	87%

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
RL-0011 / NM Stabilization and Disposition-PFP (life-cycle estimate $2,189,498K)	**140,749**	**81,651**	**98,002**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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. The bulk of the plutonium bearing materials at the Plutonium Finishing Plant are stored in vaults. This PBS implements actions to package and ship special nuclear materials and fuels to long-term storage facilities; cleanout facilities and demolish them to slab-on-grade; and transition the below grade structures to PBS RL-0040, Nuclear Facility Decommissioning & Decontamination- Remainder of Hanford. 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) interim storage of special nuclear materials; 3) maintaining the facilities in a safe and secure manner until the completion of demolition; and 4) cleanout and demolition of facilities.

As of September 30, 2006, the Plutonium Finishing Plant has: packaged 2,275 containers that meet DOE Standard 3013 (50 year container design life); completed repackaging of over 3,400 kilograms of bulk plutonium residues for shipment to the Waste Isolation Pilot Plant; removed 100 percent of Legacy plutonium holdup which is required for decommissioning & decontamination to proceed; and demolished 17 facilities.

The end-state for this PBS is dismantlement of the nuclear facilities in the Plutonium Finishing Plant complex to slab-on-grade.

The PBS has been validated by OECM with a Total Project Cost of $3,569,700,000 and a scheduled completion date of September 2016.

In FY 2008, the following activities are planned:

- Maintain Plutonium Finishing Plant complex facilities including vaults.
- Submit Below Grade Structures Engineering Evaluation/Cost Analysis and Action Memorandum to the Washington State Department of Ecology for the Plutonium Finishing Plant's complex below grade structures infrastructure.
- Maintain safe and secure storage of special nuclear material until completion of deinventory.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue deinventory of 3013 containers from the Plutonium Finishing Plant complex to an off-site location for consolidation and disposition, should a consolidation decision be made.
- Procurement of casks to support shipment to an offsite location for consolidation of Category 1 and 2 material.
- Continue dismantlement/demolition of facilities associated with Tri-Party Agreement commitments.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	3,100	3,100	3,100	3,100	100%
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	3,437	3,437	3,437	3,437	100%
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	2	50%
Nuclear Facility Completions (Number of Facilities)	17	17	17	31	55%
Radioactive Facility Completions (Number of Facilities)	0	3	3	26	12%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Demolished 232-Z facility to slab-on-grade. (FY 2006)
- De-inventory 1,500 3013 containers. (September 2007)
- Demolish 241-Z facility to slab-on-grade. (September 2008)
- De-inventory 1,500 model 3013 containers. (September 2008)
- Submit Below Grade Structures Engineering Evaluation/Cost Analysis and Action Memorandum to the Washington State Department of Ecology for the Plutonium Finishing Plant complex below grade structures infrastructure. (September 2008)

RL-0012 / SNF Stabilization and Disposition (life-cycle estimate $1,970,759K)	**113,835**	**81,069**	**99,815**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This project supports Richland's mission to clean the River Corridor by accelerating the stabilization and shipment off-site of nuclear materials by removing and dispositioning spent nuclear fuel, sludge, water and

(dollars in thousands)

FY 2006	FY 2007	FY 2008

debris from the K Basins. This PBS also supports basin removal, as well as, transitioning the 100 K Area facilities and remaining waste sites to the River Corridor Contractor. The scope of this project encompasses the packaging and transportation of approximately 2,100 metric tons of degrading spent nuclear fuel from wet storage in the K Basins (K-East and K-West) near the Columbia River to safe, dry interim storage on the 200 Area Central Plateau. In addition, 44 cubic meters of radioactive sludge that currently resides in the basins will be removed from the basins and treated into its final disposal form, ready for permanent disposal off the Hanford site. In addition, 70 tons of debris will be removed and disposed on the Hanford Site from the K Basins.

As of September 2006, spent nuclear fuel has been removed from the K Basins (with the exception of fuel found during sludge consolidation) and full-scale sludge and debris removal from the K-East Basin was well underway. Significant quantity of debris was removed from the basins, thus making the basin conductive for effective sludge vacuuming. The majority of sludge in the K Basins has been containerized.

The end-state of this PBS 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; transport K Basin water to the 200 Area for treatment and disposal; consolidation of all non-defense production spent nuclear fuel in the Central Hanford 200 Area pending final disposition; and all 100 Area K-East and K-West facilities will be transitioned to the River Corridor Contractor for final disposition. Construction of the Sludge and Removal Water System has been completed and K Basin sludge retrieval operations are underway. Debris/empty fuel canister removal is continuing. This eliminates a significant risk to the Columbia River and public. 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.

The PBS has been validated by OECM with a Total Project Cost of $2,430,100,000 and a scheduled completion date of November 2012.

In FY 2008, the following activities are planned:

- Provide surveillance and maintenance of K-East and K-West Basin systems.
- Complete transfer of fuel found at the K-East Basin to K-West Basin for subsequent processing at Cold Vacuum Drying Facility.
- Complete transfer of K-East Basin sludge to K-West Basin for consolidation of all sludge at K-West Basin for subsequent treatment activity.
- Construction and installation of sludge treatment system for treatment of K Basin sludge.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue decontamination and demolition of K-East Basin in the 100-K Area with completion in FY 2009.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2,117	2,117	2,117	2,117	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Removal of K-East sludge and transfer to K-West. (FY 2006)
- Completed containerization of K-West sludge. (FY 2006)
- Complete transfer of containerized sludge from the K-East Basin to engineered containers within the K-West Basin. (May 2007)
- Complete K-West Basin final pass cleanup. (January 2008)

RL-0013B / Solid Waste Stabilization and Disposition-2012 (life-cycle estimate $0K) **0** **39,876** **0**

Scope of this PBS has been transferred to RL-0013C in FY 2008 to consolidate all activities in one PBS for clarity.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

RL-0041 / Nuclear Facility D&D-River Corridor Closure Project (life-cycle estimate $4,233,977K) **176,722** **221,022** **215,221**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The River Corridor Closure Project will complete remediation of 761 contaminated waste sites (including 50 burial grounds), the decontamination, decommissioning, and demolition of 379 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 work includes digging up contaminated soil, constructing interim safe storage (cocooning) of 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. Operation of the Environmental Restoration Disposal Facility is funded under this PBS as the River

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Corridor Closure Project is the primary user of the disposal facility.

At completion, 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 completion. At that time, the footprint of active Hanford cleanup will be reduced from the present 586 square miles to about 75 square miles.

As of September 30, 2006, activities completed included: cocooning 5 of 8 reactors; remediation of approximately 391 of the 761 life-cycle waste sites and burial ground, and 109 of 379 excess facilities; the removal of 2.3 metric tons of spent nuclear fuel from the 300 Area, which is near the river and local community; 2,958 of 2,958 containers of enriched uranium packaged and disposed; and disposal of a total of 6.1 million metric tons of remediation waste in the Environmental Restoration Disposal Facility.

OECM has completed their external independent review. OECM has not yet validated the baseline or determined that the baseline is reasonable.

In FY 2008, the following activities are planned:

- Continue decommissioning and demolition of 100 Area facilities in support of upcoming N & KE/KW reactor cocooning activities.
- Continue demolition of facilities in the 300 Area to meet consent order milestones and provide access for waste site remediations.
- Perform deactivation activities at Building 324, Waste Technology Engineering Laboratory and Building 327, Post Irradiation Test Laboratory.
- Continue waste site and burial ground remediations in the 100-D, 100-F, and 100-H Areas to meet near-term compliance milestones.
- Continue waste site and burial ground remediations in and near the 300 Area.
- Continue operation of the Environmental Restoration Disposal Facility, receiving more than 550,000 tons of remediation waste.
- Continue construction of new disposal Cells 7 & 8 to provide needed capacity at the Environmental Restoration Disposal Facility.
- Continue risk assessment activities in support of final end state and site closure.
- Initiate substantial and continuous soil remediation at the 618-1 Burial Ground.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Initiate Response Actions for remaining waste sites for 100 N Area.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Enriched Uranium packaged for disposition (Number of Containers)	2,958	2,958	2,958	2,958	100%
Depleted and Other Uranium packaged for disposition (Metric Tons)	3,100	3,100	3,100	3,100	100%
Nuclear Facility Completions (Number of Facilities)	3	3	3	6	50%
Radioactive Facility Completions (Number of Facilities)	28	32	41	118	35%
Industrial Facility Completions (Number of Facilities)	78	80	85	371	23%
Remediation Complete (Number of Release Sites)	392	425	470	788	60%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed closure of non-permitted mixed waste units in 324 Building Rec. B&D Cells. (FY 2006)
- Initiated Remedial Actions for Remaining Waste Sites for 100 D Area. (FY 2006)
- Completed deactivation, decontamination, decommissioning, and demolition of the 313 and 314 Facilities. (FY 2006)
- Complete Interim Remedial Actions for at Least 3 High Environmental Priority 300-FF-2 Waste Sites and Confirmatory Sampling of 2 of the 300-FF-2 Candidate Sites. (December 2006)
- Complete Interim Remedial Action for 100 B/C Area. (December 2006)
- Initiate Remedial Actions for Remaining Waste Sites for 100 H Area. (July 2007)
- Initiate construction of new disposal Cells 7 and 8 to provided needed capacity at the Environmental Restoration Disposal Facility. (September 2007)
- Complete the selected removal and/or remedial actions that are selected for three high priority facilities in the 300 Area. (December 2007)
- Initiate Response Actions for Remaining Waste Sites for 100 N Area. (July 2008)
- Initiate Substantial and Continuous Soil Remediation at the 618-1 Burial Ground. (September 2008)
- Dispose of over 550,000 tons of remediation waste at the Environmental Remediation Disposal Facility (ERDF) at Hanford. (September 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
RL-0043 / HAMMER Facility (life-cycle estimate $0K)	**7,425**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS was a Congressionally Directed Activity in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

RL-0044 / B-Reactor Museum (life-cycle estimate $0K)	**1,980**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS was a Congressionally Directed Activity in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository (life-cycle estimate $0K)	**1,795**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS was created to manage the non-legacy spent nuclear fuel originating from non-DOE activities to facilitate potential transfer of these responsibilities to other non-EM programs. This transfer is no longer anticipated to occur. As a result, the work scope associated with this PBS at Idaho, Richland and Savannah River is transferred to PBS ID-0012B-D, RL-0012, and SR-0012, respectively.

In FY 2008, the following activities are planned:

- No activity planned.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
RL-0013 / Solid Waste Stabilization and Disposition-200 Area (life-cycle estimate $5,777,625K)	**165,448**	**0**	**0**

Scope of this PBS has been transferred to RL-0013C to consolidate all activities in one PBS for clarity.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

RL-0013C / Solid Waste Stabilization and Disposition-2035 (life-cycle estimate $6,334,719K)	**0**	**188,989**	**236,788**

This PBS can be found within the Defense Environmental Cleanup appropriation.

Scope of this PBS includes retrieval of contact-handled suspect transuranic waste in the low-level burial grounds. All contact-handled suspect transuranic waste associated with the Tri-Party Agreement milestone for contact-handled retrievably stored waste that will be retrieved and shipped to the Central Waste Complex for storage.

Scope of this PBS also includes storage of spent nuclear fuel, transuranic waste, mixed low-level waste, and low-level waste generated at the Hanford Site and other DOE and Department of Defense facilities. The transfer of 72 Shippingport spent nuclear fuel elements to the Canister Storage Building is complete for this PBS. This PBS includes packaging of EM legacy and non-legacy spent nuclear fuel and storage in the Canister Storage Building or 200 Area Interim Storage Area prior to shipment to a geologic repository.

This PBS also stores 1,936 cesium and strontium (Cs and Sr) capsules in the Waste Encapsulation and Storage Facility, in wet storage, which are subsequently planned to be transferred to dry storage while awaiting shipment to a geological repository. Retrieval of contact- and remote- handled suspect transuranic waste in the low-level burial grounds will also be performed. About 27,000 cubic meters of transuranic waste is to be processed and shipped to the Waste Isolation Pilot Plant including: transuranic waste generated during retrieval operations; transuranic waste currently in storage; 618-10/11 waste site remediation waste; and facility decontamination and decommissioning waste. Additional sources of transuranic waste, which could change the forecast waste volumes include pre-1970 burial ground remediation waste, canyon demolition waste, and transuranic tank waste. Processing of transuranic waste for shipment to the Waste Isolation Pilot Plant will occur in the Waste Receiving and Processing facility or the T Plant facility. About 70,000 cubic meters of mixed low-level waste will be treated to meet regulatory requirements and disposed in the mixed waste trenches or other facilities such as the Environmental Restoration Disposal Facility. This mixed low-level waste is either currently in storage or will be generated during retrieval operations, facility demolition, or from other on-site/off-site sources. Over 200 de-fueled naval reactor compartments will be disposed in a dedicated trench. About 130,000 cubic meters

(dollars in thousands)

FY 2006	FY 2007	FY 2008

of low-level waste will be disposed through site closure. This low-level waste is to be generated during facility demolition, or from other on-site/off-site sources, or is currently stored onsite. The 200 Area Effluent Treatment Facility, Liquid Effluent Retention Facility, and 300 Area Treated Effluent Disposal Facility provide treatment of cleanup generated liquid waste. Technical support is provided to all waste generators for all waste types. Other site-wide storage and disposal facilities will be transferred to this PBS in order to consolidate similar activities.

As of September 2006, over 4,400 cubic meters of suspect transuranic waste have been retrieved. Additionally, 288 transuranic waste shipments (1,842 cubic meters) to the Waste Isolation Pilot Plant have been completed; over 5,000 cubic meters of mixed low-level waste (since January 2003) and 532 cubic meters of mixed low-level waste have been treated; and this project has completed treatment of K Basins North Load Out Pit sludge at the T Plant.

The end-state for this project will be that all contact-handled waste is retrieved and transferred to a treatment, storage, and/or disposal facility.

OECM has completed their External Independent Review. OECM has not yet validated the baseline or determined that the baseline is reasonable.

In FY 2008, the following activities are planned:

- Retrieve 2,500 cubic meters of suspect transuranic waste.
- Treat approximately 1,440 cubic meters of mixed low-level waste (1,390 non-thermal and 50 thermal), dispose of approximately 2,000 cubic meters of low-level/mixed low-level waste, also certify and ship 385 cubic meters of transuranic waste to the Waste Isolation Pilot Plant.
- Operate the Waste Receiving and Processing Facility, and T Plant to process, certify, and ship transuranic waste for disposal at the Waste Isolation Pilot Plant.
- Operate the Liquid Effluent Facilities to treat and dispose of liquid radioactive/hazardous waste in support of the Hanford Site cleanup.
- Provide storage of mixed low-level and transuranic waste prior to treatment/disposal.
- Operate the 200 Area Interim Storage Area to receive and store non-legacy spent nuclear fuel.
- Provide appropriate security enhancements and upgrades to permit the relocation of the irradiated fuel items from the Plutonium Finishing Plant to the Canister Storage Building to meet the May 2003 Design Basis Threat requirements.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Initiate conceptual design of the remote-handled transuranic waste processing capability to meet Tri-Party Agreement M-91-00.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	1,781	2,279	2,749	28,369	10%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	44,082	44,188	44,294	50,864	87%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Treated 3,260 cubic meters of contact-handled mixed low-level waste. (FY 2006)
- Treated and disposed of approximately 2,300 cubic meters of mixed low-level and low-level waste. (FY 2006)
- Retrieved approximately 1,800 cubic meters of transuranic waste. (FY 2006)
- Retrieve 2,400 cubic meters of suspect transuranic waste. (September 2007)
- Treat 1,630 cubic meters of mixed low-level waste. (September 2007)
- Complete thermal treatment of 600 cubic meters of mixed low-level waste. (September 2007)
- Treat 1,630 cubic meters (6,250 cubic meters cumulative) of non-thermal mixed low-level waste. (September 2008)
- Retrieve 2,500 cubic meters (7,200 cubic meters cumulative) of suspect transuranic waste. (September 2008)

RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone - 2035 (life-cycle estimate $1,658,962K)	**73,753**	**75,973**	**105,552**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS provides for groundwater/vadose zone remediation activities that address groundwater contamination (e.g. carbon tetrachloride, chromium, technetium 99, strontium, and uranium plumes) and protection of the groundwater resources on the Hanford Site. Final substantive groundwater remedial actions are to be completed by 2024. Long-term monitoring, natural attenuation and other regulatory review completion activities will continue through the 2035 time frame. The principal activities for this PBS include: 1) field characterization for movement of radionuclides and chemicals in the vadose zone and groundwater; 2) assessing the groundwater to determine the type and extent of contamination so that final remediation of the groundwater can be completed; 3) vadose zone, groundwater and risk assessment modeling for selection of remedial alternatives and evaluating cumulative impacts to the Hanford groundwater and Columbia River; 4) operation of groundwater remediation systems and implementation

(dollars in thousands)

FY 2006	FY 2007	FY 2008

of alternatives methods to complete actions; 5) installation of wells to maintain Comprehensive Environmental Response, Compensation, and Liability Act of 1980/Resource Conservation and Recovery Act integrated compliant network and address emerging groundwater plumes and remediation requirements and conduct site-wide groundwater monitoring; and 6) groundwater well maintenance and decommissioning and drilling.

Final Comprehensive Environmental Response, Compensation, and Liability Act feasibility studies and proposed plans for all groundwater operable units at the Hanford Site will be completed by 2012 and final remedial actions implemented by 2016. Groundwater completion activities will follow waste tank and waste site closure activities. At that time, all existing unused wells (approximately 1,500) will be physically decommissioned.

As of September 2006: 1) remedial action objective concentrations have been achieved in all but one well for the 100-HR3H groundwater cleanup site. The pump and treat system has been reconfigured to extract water to address the remaining contamination.; 2) completed decommissioning of 343 of 574 high-risk wells to eliminate these pathways for contamination reaching the groundwater; 3) completed key field investigations for the carbon tetrachloride Dense Non-Aqueous Phase Liquid investigation in the 200 West Area; 4) continued to operate four pump and treatment systems for groundwater remediation; 5) suspended pump and treat system at 100-NR2 and implemented an alternative passive barrier demonstration; 6) successfully completed year-long rebound study for UP-1 groundwater cleanup in 200 West; and 7) completed alternative chromium remediation treatability test for the 100-KR4 groundwater plume.

OECM has completed their External Independent Review. OECM has not yet validated the baseline or determined that the baseline is reasonable.

In FY 2008, the following activities are planned:

- Prevent the potential for contaminants reaching the groundwater by decommissioning an additional 100 unused groundwater wells.
- Monitor 700-plus wells for contaminants of concern above drinking water standards.
- Install additional wells to maintain Comprehensive Environmental Response, Compensation Liability Act/Resource Conservation Recovery Act integrated compliant network and address emerging groundwater plumes and remediation requirements.
- Operate existing groundwater remediation systems to reduce risk.
- Initiate design for final remedial actions for the ZP-1 groundwater operable unit in 200 West to address Carbon Tetrachloride and Technetium 99 plumes and associated co-contaminants.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Upgrade remediation approach for hexavalent chromium plumes for 100-KR4 and 100-HR3D groundwater remediation systems along the Columbia River to meet remedial action goals as identified in the Comprehensive Environmental Response, Compensation Liability Act five year review.

- Conduct Remedial Investigation/Feasibility Study Comprehensive Environmental Response, Compensation, and Liability process for the BP-5 and PO-1 groundwater operable units in 200 East and UP-1 in 200 West.

- Expansion of pump and treatment for the chromium plume in the 100 Area and carbon tetrachloride and technetium-99 plumes in the 200 Area to meet federal and state environmental statutes.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed upgraded remediation system for 100 D area chromium plume. (FY 2006)
- Completed installation of the Integrated Monitoring Well Network (60 wells). (FY 2006)
- Initiate Remedial Investigation/Feasible Study Comprehensive Environmental Response, Compensation, and Liability Act process for the BP-5 and PO-1 groundwater operable units. (September 2007)
- Complete cumulative installation of 75 groundwater protection, monitoring, and remediation wells. (December 2007)

RL-0040 / Nuclear Facility D&D-Remainder of Hanford - 2035 (life-cycle estimate $7,010,115K)	**70,106**	**94,270**	**98,753**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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 cubic meters of solid waste 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. This PBS implements various Hanford Site cleanup initiatives: cleanup of radioactivity and chemical contamination in about 800 waste sites with potential impact to groundwater, and approximately 1,000 facilities primarily on the Central Plateau; continuing support for Hanford litigation activities; and operations of Hanford's infrastructure to complete the Hanford EM mission. Life-cycle workscope includes: decontamination, decommissioning, dismantlement, and disposition of surplus facilities (including canyon facilities); remediation of all 200 Area waste sites containing large inventories of mobile contaminants that may migrate into groundwater plumes (includes removal of contaminants or

(dollars in thousands)

FY 2006	FY 2007	FY 2008

construction of surface barrier caps over waste sites); deactivation and disposition of contaminated equipment; final disposition of Cold War legacy wastes; site occupational medicine program; minimum safe operations of facilities awaiting deactivation and demolition; and maintenance and repair of infrastructure to remedy failing or failed systems.

As of September 2006, activities completed include: remediation of 35 out of 800+ life-cycle waste sites and burial grounds, and removal of Phase II vitrified clay pipe that transported low-level and mixed low-level waste was completed; in FY 2006, completed disposition of an additional 8 excess facilities; provided for capital equipment replacements; provided for haul road to obtain borrow source in support of evapotranspiration barriers; and obtained approval of the U Plant Canyon Record of Decision (ROD). Other activities included regulatory document development, surveillance and maintenance, infrastructure operations, and litigation support activities.

OECM has completed their External Independent Review. OECM has not yet validated the baseline or determined that the baseline is reasonable.

In FY 2008, the following activities are planned:

- Central Plateau surveillance and maintenance for facilities and waste sites and 325 Radiochemical Processing Laboratory safety activities.
- Perform replacements and upgrades including utility systems for the water, sewer, electrical distribution, primary road refurbishment and telecommunications.
- Support infrastructure activities such as steam, occupational medicine, and services contracts.
- Continue Remedial Investigation/Feasibility Study documentation preparation.
- Prepare Comprehensive Environmental Response, Compensation, and Liability Act and Resource Conservation and Recovery Act decision documentation for waste sites and surplus facilities.
- Continue remedial investigations and characterization.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Nuclear Facility Completions (Number of Facilities)	4	4	4	39	10%
Radioactive Facility Completions (Number of Facilities)	12	12	12	180	7%
Industrial Facility Completions (Number of Facilities)	201	201	201	649	31%

			(dollars in thousands)		
			FY 2006	FY 2007	FY 2008
Remediation Complete (Number of Release Sites)	35	35	44	857	5%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Continued remediation of B/C Cribs risk. (FY 2006)
- Continued U Plant high-risk waste site remediations. (FY 2006)
- Continue U Plant waste site remediations. (September 2007)
- Complete construction of A-8 Electrical Substation upgrade. (September 2007)
- Maintain Minimum Safe/Essential Services for the Central Plateau. (September 2008)
- Prepare Comprehensive Environmental Response, Compensation, and Liability Act/Resource Conservation and Recovery Act documentation for waste sites and surplus facilities. (September 2008)
- Continue remedial investigations and characterization. (September 2008)

RL-0080 / Operate Waste Disposal Facility (life-cycle estimate $84,145K)	**5,803**	**3,534**	**3,329**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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, and transportation and packaging support to move waste around the burial grounds, etc.

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. Disposal costs are paid for by generators and are not funded under this PBS.

The end-state of this PBS is: 1) completion of shipment of off-site waste to Hanford; 2) cessation of Hanford waste production; or 3) start of operations of Integrated Disposal Facility by Office of River Protection under PBS ORP-0014. After the end state is achieved, PBS RL-0040, Nuclear Facility Decontamination and Decommissioning- Remainder of Hanford, will demolish facilities and close the disposal sites.

OECM has completed their External Independent Review. OECM has not yet validated the baseline or determined that the baseline is reasonable.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activity is planned:

- Provide on-going operations of the Hanford Site's waste disposal facilities for the low-level and mixed low-level waste.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Provided on-going operations of the Hanford Site waste disposal facilities for the low-level and mixed low-level waste. (FY 2006)
- Provide on-going operations of the Hanford Site waste disposal facilities for the low-level and mixed low-level waste. (September 2007)
- Operations of Waste Disposal Facilities. (September 2008)

RL-0100 / Richland Community and Regulatory Support (life-cycle estimate $803,242K)	**15,257**	**18,332**	**19,620**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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 grants to Washington State and Oregon State for their participation in Hanford related activities including environmental oversight and emergency preparedness activities; 3) 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; and 4) Grant for Self Reliance Foundation to provide the Hispanic community with energy and environmental information and allows the community to more effectively participate in DOE public outreach activities. This PBS scope will end upon completion of the Hanford EM mission in 2035.

OECM validation is not required for this PBS.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- Reimburse regulators for costs incurred monitoring compliance with the Tri-Party Agreement and other regulatory requirements.
- Provide Payment-in-Lieu-of-Taxes to three host counties of the Hanford Site.
- Provide grants to Washington and Oregon for oversight activities and Self-Reliance Foundation for public outreach.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Supported 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 2006)
- Provided Payment-in-Lieu-of-Taxes to three counties (Benton, Franklin, and Grant). (FY 2006)
- 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. (September 2007)
- Support Washington and Oregon States emergency preparedness, environmental oversight and other activities related to Hanford cleanup. (September 2007)
- Provide Payment-in-Lieu-of-Taxes to three counties (Benton, Franklin, and Grant). (September 2007)
- Support activities required by regulations. (September 2008)
- Provide for Payment-in-Lieu-of-Taxes. (September 2008)

RL-0042 / Nuclear Facility D&D-Fast Flux Test Facility Project (life-cycle estimate $803,282K)	**45,652**	**34,843**	**10,342**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

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 this facility will be permanently closed. At that time sodium drain 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 had been initiated. This PBS deactivates and decommissions

(dollars in thousands)

FY 2006	FY 2007	FY 2008

the Fast Flux Test Facility, a 400-megawatt (thermal) liquid metal (sodium) cooled fast neutron flux nuclear test reactor, and 44 support buildings and structures. The deactivation activities consist of: reactor de-fueling; disposition of 376 reactor fuel assemblies by washing, drying, loading in storage casks, and transferring to appropriate storage locations; the draining of approximately 260,000 gallons of sodium from operating plant systems, reactor vessel, and fuel storage vessels; sodium residual cleaning of all plant systems and vessels; disposition of the 260,000 gallons of bulk sodium by conversion to sodium hydroxide for use by the Waste Treatment Plant; and the shutdown of Fast Flux Test Facility auxiliary systems. The facility end-state for the Fast Flux Test Facility containment building, including the de-fueled reactor vessel, will be determined following the appropriate environmental analysis process. For planning purposes it is assumed the reactor containment dome will be removed, the below-grade reactor containment building will be grouted and entombed, and the support facilities and structures will be demolished to three feet below grade and backfilled. The Fast Flux Test Facility end state alternatives are being evaluated in the Tank Closure/Waste Management Environmental Impact Statement.

Based on the Department's December 2005 acquisition decision, this PBS has been revised. The revised approach for the Fast Flux Test Facility Project is to complete sodium drain from the Fast Flux Test Facility to the Sodium Storage Facility, offload and store the reactor nuclear fuel, and place the facilities in long term surveillance and maintenance. The disposition of bulk and residual sodium and facilities decommissioning and demolition will be deferred. This revised Fast Flux Test Facility Closure Project approach extends the project completion date and significantly increases the Total Project Cost. The increased costs are due to the addition of several years of Fast Flux Test Facility surveillance and maintenance; Fast Flux Test Facility systems re-mobilization; and delayed facilities demolition.

As of September 30, 2006, all the bulk sodium has been drained from the reactor plant and the fuel storage vessels. Sodium-potassium was flushed from the in-containment cooling loops and sodium-potassium was drained from the Fuel Storage Facility cooling loop. Sodium-potassium residuals have been cleaned from the Fuel Storage Facility cooling loop. The bulk sodium drained and transferred to the Sodium Storage Facility constitutes ~260,000 gallons (100 percent) of the bulk sodium inventory. Sodium residuals remain throughout all the sodium systems. Of the original 376 fuel assemblies, 360 fuel assemblies (96 percent) have been washed, dried, and loaded into above ground Interim Storage Casks. Interim Storage Casks loaded with fuel assemblies were shipped to either the Plutonium Finishing Plant, or the 200 Area Interim Storage Area. The remaining fuel assemblies are sodium-bonded. The sodium-bonded fuel assemblies will be transferred to the Idaho National Laboratory for disposition.
The facility end state for the Fast Flux Test Facility containment building, including the de-fueled reactor vessel, will be determined following the appropriate National Environmental Policy Act process, as part of the Tank Closure/Waste Management Environmental Impact Statement that is underway. For planning purposes, it is assumed the reactor containment dome will be dispositioned, the below-grade reactor containment building will be grouted and entombed, and the support facilities and structures will be demolished to three feet below grade and backfilled. The Fast Flux Test Facility end state alternatives are being evaluated in the Tank Closure/Waste Management Environmental Impact Statement.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Following sodium-bonded fuel offload, the shutdown and deactivation of the Interim Examination and Maintenance cell and fuel handling equipment will commence. Fast Flux Test Facility support systems will be shutdown and deactivated. Fuel offload and deactivation workscope are in support of Fast Flux Test Facility shutdown to a long-term surveillance and maintenance mode.

OECM has not yet performed an external independent review. The review has not been scheduled.

Specific planned accomplishments in FY 2008 are:

- Complete excess of spare parts and vacate the warehouse facilities outside the 400 Area Property Protected Area and turnover the facilities to the owner.
- Complete the transfer of sodium bonded fuel to the Idaho National Laboratory.
- Complete the disposition of three additional Polychlorinated Biphenyl transformers.
- Continue deactivation of Fast Flux Test Facility operating systems, including the Interim Examination and Maintenance cell and fuel handing equipment.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	400	400	400	400	100%
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	7	7	7	7	100%
Nuclear Facility Completions (Number of Facilities)	0	0	0	4	0%
Radioactive Facility Completions (Number of Facilities)	0	0	0	9	0%
Industrial Facility Completions (Number of Facilities)	0	0	0	31	0%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed wash, dry and storage of Fast Flux Test Facility spent nuclear mixed oxide fuel. (FY 2006)
- Transition Fast Flux Test Facility to long-term surveillance and maintenance. (September 2008)

Total, Richland	**818,525**	**839,559**	**887,422**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Hanford Site	
2012 Completion Projects	
RL-0011 / NM Stabilization and Disposition-PFP	
▪ Increase reflects shipping of category 1 and 2 materials to an offsite location pending a decision to consolidate this material off-site.	16,351
RL-0012 / SNF Stabilization and Disposition	
▪ The net increase reflects: a ramp down in sludge containerization activities planned to be completed in early FY 2008; an increase in decontamination and demolition activities for K-East Basin; construction and installation of sludge treatment system; and transfer of legacy spent nuclear fuel for consolidation and storage.	18,746
RL-0013B / Solid Waste Stabilization and Disposition- 2012	
▪ Decrease reflects work scope from this PBS being transferred to RL-0013C.	-39,876
RL-0041 / Nuclear Facility D&D-River Corridor Closure Project	
▪ The net decrease reflects: increased waste site remediation in 100-N, 100-K, 300, and 600 Areas offset by decreased facilities demolition in 300 Area and discontinued limited placement of reactors into an interim safe storage (i.e. cocooning) mode in the 100 Area.	-5,801
2035 Completion Projects	
RL-0013C / Solid Waste Stabilization and Disposition- 2035	
▪ Overall increase reflects the transfer of suspect contact-handled transuranic retrieval activities from PBS, RL-0013B, Solid Waste Stabilization and Disposition-2012; upgrades to the Canister Storage Building to support consolidation and storage of legacy spent nuclear fuel from PBS RL-0012; increase in Mixed Low-Level Waste treatment activities; initiation of conceptual design for remote-handled transuranic processing capability; and increased Environmental Impact Statement activities partially offset by the transfer of sludge treatment activities to PBS, RL-0012.	47,799

	FY 2008 vs. FY 2007 ($000)
RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone - 2035	
▪ Increase reflects expansion of pump and treatment for the chromium plume in the 100 Area and Carbon Tetrachloride and Technetium-99 plumes in the 200 Area to meet federal and state environmental statutes; and an increase for well decommissioning to comply with Washington State law, stakeholder concerns and Inspector General audit findings.	29,579
RL-0040 / Nuclear Facility D&D-Remainder of Hanford - 2035	
▪ Increase reflects continued work at a higher level for characterization and field work for Remedial Investigations/Feasibility studies in the Central Plateau.	4,483
RL-0080 / Operate Waste Disposal Facility	
▪ No significant change.	-205
RL-0100 / Richland Community and Regulatory Support	
▪ Increase is to accommodate Washington and Oregon State assistance as well as various permits, fees, and payments, including Self-Reliance Foundation, and Payments-in- Lieu-of-Taxes to the host counties associated with cleanup activities.	1,288
Non-Defense Environmental Cleanup	
Fast Flux Test Reactor Facility D&D	
RL-0042 / Nuclear Facility D&D-Fast Flux Test Facility Project	
▪ Decrease reflects Fast Flux Test Facility and support facilities being placed in long-term surveillance and maintenance.	-24,501
Total, Richland	**47,863**

River Protection

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
River Protection	848,334	964,127	963,443
Total, River Protection	848,334	964,127	963,443

Site Overview

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 is responsible for the storage, retrieval, treatment, immobilization, and some disposal of tank waste and the operation, maintenance, engineering, and construction activities in the 200 Area Tank Farms. These Tank Farms include 177 underground storage tanks (149 single-shell tanks and 28 double-shell tanks) that contain approximately 190 million curies in approximately 53 million gallons of chemically hazardous radioactive waste from past processing operations. A multi-year construction project to build a Waste Treatment and Immobilization Plant to process and immobilize the tank waste is ongoing.

Hanford Site cleanup is managed by two Department of Energy offices, the DOE Richland Operations Office and the DOE Office of River Protection. Each office reports to the Office of Environmental Management.

Site Description

The Hanford Site is the largest of the three original defense production sites founded in World War II as part of the Manhattan Project. The Hanford reservation is about half the size of the State of Rhode Island, at 586 square miles. Over its 40 years of operations, the site produced approximately 74 tons of plutonium – nearly two-thirds of all the plutonium recovered for government purposes in the United States. Between 1943 and 1963, nine plutonium production reactors were built along the Columbia River. Plutonium and reusable uranium were separated from irradiated fuel using various chemical precipitation and solvent extraction techniques. The plutonium was exported to other DOE sites for eventual defense use in United States nuclear weapons.

During plutonium production, highly radioactive waste resulting from site operations was piped to underground tanks. In some cases small amounts of radioactive waste, representing small amounts of radioactivity, was discharged underground. For example, uncontaminated and slightly contaminated liquids and cooling water were pumped to ditches and ponds. Contaminated water discharged from the reactors was pumped to nearby soil as well as into the Columbia River. Solid waste was buried in shallow trenches or stored inside facilities. The result is more than 1,600 identified waste sites and more than 500 waste facilities at Hanford. Forty percent of the approximately one billion curies of human-

made radioactivity that exists across the nuclear weapons complex resides at Hanford. These materials must be dealt with in a safe and protective manner.

The DOE Office of River Protection is responsible for the clean up of the approximately 53 million gallons of waste in 177 underground storage tanks, as well as contaminated equipment and soils in the 18 tank farms where these tanks are located which are primarily located on the central plateau of the Hanford site. Sixty-seven of the 177 tanks are suspected to have leaked waste to the environment.

Site Cleanup Strategy/Scope of Cleanup

Office of River Protection's cleanup strategy is a risk-based approach that focuses on those contaminant sources that are the greatest contributors to risk. Significant clean-up progress has occurred, for instance:

- Interim stabilization in which transfer of three-million gallons of pumpable liquids from Hanford's 149 single-shell tanks to safer double-shell tanks has been completed, to reduce the risk of future tank leaks to the environment.

- Completed retrieval of remaining solids and sludges from five single-shell tanks, initiated the retrieval process on three single-shell tanks, and initiated the design of one retrieval system. To date, approximately 12,500,000 curies and 1,100,000 gallons of waste have been retrieved and transferred to compliant double-shell tanks.

- The Waste Treatment and Immobilization Plant is being designed and constructed to vitrify the radioactive tank waste. It is the largest radioactive-chemical processing facility in the world.

- Completed the initial design of the Demonstration Bulk Vitrification System as a supplemental technology to increase the ability to treat Hanford's low-activity tank waste to supplement the Waste Treatment and Immobilization Plant capability.

- Retrieval of sludge/saltcake waste from the remainder of single-shell tanks continues.

- Construction of the Hanford integrated disposal facility, which will be used for the disposal of mixed low-activity wastes and low-level wastes, has been completed.

Site Completion (End State)

The River Protection Project end state goal is to clean up the tank waste and tank farms in a compliant manner; immobilize and facilitate safe disposal of associated radioactive and chemical wastes; and protect human health, the environment, and Columbia River resources by 2042. This date reflects the new Waste Treatment Plant and Tank Farms baseline. The following will have been accomplished at the completion of the Office of River Protection mission:

- High-level waste will be vitrified and shipped to the Federal repository.

- Low-activity wastes will be stabilized and disposed of onsite.

- Appropriate remediation measures will be implemented for contaminated soils.

- Tanks and related equipment will be stabilized in place pending a submittal/determination by the Nuclear Regulatory commission for tank closure criteria and/or inclusion under Section 3116 of the National Defense Authorization Act.

- Waste treatment systems will be decommissioned.

- Measures will be implemented to ensure the durability of protective conditions established through clean-up (e.g., durable surface barriers, long-term monitoring, markers, records, etc.).

Regulatory Framework

The principal regulatory drivers at the Hanford Site are the Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act; and the Atomic Energy Act. In May 1989, DOE, the U.S. Environmental Protection Agency and the Washington State Department of Ecology signed the Hanford Federal Facility Agreement and Consent Order, commonly known as the Tri-Party Agreement. The Tri-Party Agreement defines legally enforceable milestones for Hanford cleanup in accordance with Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act.

Significant Tri-Party Agreement milestones include:

- M-62-08 – Submit Hanford Tank Waste Supplemental Treatment technologies report by June 30, 2006. (Milestone missed; pending renegotiation.)
- M-48-00 – Complete double-shell tank integrity assessment by September 30, 2007.
- M-47-00 – Complete all work necessary in support of the acquisition and operations of the Hanford Site high-level radioactive tank waste treatment, storage, and disposal facilities by March 31, 2009.
- M-90-11 – Immobilized High-Level Waste Storage Capacity (Canister Storage Building) available by August 31, 2010.
- M-45-06-TO4 – First tank farm closure by March 31, 2014.
- M-45-05 – Single-shell tank retrievals complete by September 30, 2018.
- M-45-06 – Complete closure of all single-shell tank farms by September 30, 2024.
- M-61-00 – Complete supplemental treatment by December 31, 2028.

Critical Site Uncertainties and Assumptions

The River Protection Project is currently addressing a number of significant known uncertainties that are impacting the ability of the Hanford Site to disposition waste and complete the cleanup mission. Some of these uncertainties include:

- Delayed start of Waste Treatment and Immobilization Plant operations impacts the rates and timing of waste retrieval, treatment, disposal, and facility and site closure activities.

- Any significant delays in the availability of the Federal repository will delay project completion and increase storage costs of the vitrified canisters of high-level waste.

- Uncertainties regarding tank waste determination decisions due to the State of Washington not being a "covered State" under Section 3116 of the National Defense Authorization Act for FY 2005 can impact overall ORP tank closures, costs and schedules because alternative approaches may need to be taken.

- The retrieval, treatment, and disposal of any tank waste as transuranic waste at the Waste Isolation Pilot Plant is affected by the timing of National Environmental Policy Act decisions, a Waste Isolation Pilot Plant Class III permit modification decision, and a State of Washington Resource Conservation and Recovery Act permit.

- Successful identification, demonstration and regulator approval of a supplemental technology is needed to immobilize a portion of the low-activity waste.

- Although not included in the scope of the River Protection Project, determining a disposition path for almost 2,000 capsules of cesium and strontium salts currently stored in capsules on the Hanford Site, poses some risk to Waste Treatment and Immobilization Plant operations.

Interdependencies

The Office of River Protection has identified the following near-term interdependencies needed for mission execution:

- Technical consultation by the Nuclear Regulatory Commission on allowable waste residuals in the Hanford single-shell tanks.

- U.S. Environmental Protection Agency approval of the Hanford transuranic tank waste inventory inclusion in the Waste Isolation Pilot Plant compliance recertification application.

- State of New Mexico Department of Environment approval of the Waste Isolation Pilot Plant Class III Permit Modification for disposition of Hanford transuranic tank waste.

- Availability of the Federal repository for disposal of high-level waste.

Contract Synopsis

At the end of FY 2006, the Tank Farm Management Contract was extended to FY 2008. EM is developing an acquisition strategy for a new contract. A draft Request for Proposal was issued in November 2006.

The Office of River Protection currently has two prime contracts to implement its cleanup strategy. The Tank Farm Management contract with CH2M Hill Hanford, Inc. addresses the following: (1) store, operate, and interim stabilize Hanford tank waste; (2) retrieve and dispose waste from, and interim close, single-shell tanks; retrieve and dispose of waste from double-shell tanks, including completion of upgrades and waste retrieval and transfer systems; (3) construct, operate, and maintain facilities

necessary for storage/disposal of immobilized waste whether onsite or offsite, including balance of plant construction; (4) stabilize facilities and preparation of tank closure plans for single-shell tanks; and (5) perform decommissioning and decontamination to support improved long-term operational efficiencies. This contract is a cost type site facilities management contract with performance-based incentives.

The Waste Treatment and Immobilization Plant contract with Bechtel National, Inc. includes the design, construction, and commissioning of the Waste Treatment and Immobilization Plant which includes; completing the Process and Facility Design; managing construction and procurement; conducting acceptance testing; commissioning of the facility; conducting all required environment, safety, quality, and health actions; assuming Full Design Authority; and having full accountability for plant performance, cost, and schedule. This contract type is a cost plus incentive fee with cost, schedule, and operational incentives. DOE will renegotiate the contract based on the new Waste Treatment and Immobilization Plant baseline.

Actions to Attain Cleanup Benefits

Near Term

- Retrieve liquid waste from single-shell tanks and transfer the waste to double-shell tanks for safe storage until the waste can be treated through the Waste Treatment and Immobilization Plant.

- Complete the Tank Closure and Waste Management Environmental Impact Statement and continue development of retrieval technologies to remove hard-heel tank waste.

Longer Term

- Continue to retrieve and treat Hanford's tank waste and begin closure of the tank farms to protect the Columbia River.

- Implement a supplemental technology (e.g., bulk vitrification) to treat low-activity waste that has low-curie content.

- Develop ability to retrieve and package transuranic waste and ship to the Waste Isolation Pilot Plant.

Direct maintenance and repair at the Office of River Protection is estimated to be $27,281,000.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Office of River Protection			
Tank Farm Activities			
ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition	327,109	273,656	272,972
ORP-0100 / River Protection Community and Regulatory Support	466	471	471
Subtotal, Tank Farm Activities	327,575	274,127	273,443
Waste Treatment and Immobilization Plant			
ORP-0060 / Major Construction-Waste Treatment Plant	520,759	690,000	690,000
Total, Office of River Protection	848,334	964,127	963,443
Total, River Protection	848,334	964,127	963,443

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
River Protection					
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	54,000	0%
Liquid Waste Tanks closed (Number of Tanks)	0	0	0	177	0%
High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	9,667	0%
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	4,038	0%
Nuclear Facility Completions (Number of Facilities)	0	0	0	18	0%
Radioactive Facility Completions (Number of Facilities)	0	0	0	114	0%
Industrial Facility Completions (Number of Facilities)	0	0	0	128	0%
Remediation Complete (Number of Release Sites)	5	5	5	278	2%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	1,500	2,871	197,832	1%

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition (life-cycle estimate $26,193,112K)	**327,109**	**273,656**	**272,972**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS includes activities required to stabilize approximately 53 million gallons of radioactive waste stored underground in 177 tanks, including retrieval, treatment, disposal and closure of the facilities.

The radioactive waste stored in the Hanford tanks was produced as part of the nation's defense program and has been accumulating since 1944. Due to the age of the tanks, 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 seven and ten 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. DOE's plan is to process tank waste and disposition it as vitrified high-level waste (at a Federal repository), transuranic waste at the Waste Isolation Pilot Plant, or low-level waste at an approved disposal facility on the Hanford Site. A Closure and Waste Management Environmental Impact Statement will be used to decide how to close the tanks, ancillary equipment below grade, and any residual waste that cannot be retrieved, as well as above ground facilities. Appropriate caps and barriers will be used to remediate the contaminated soil surrounding the tanks as required.

The River Protection Project life-cycle cost and completion date were re-evaluated due to: 1) delays in the Waste Treatment and Immobilization Plant project, 2) scope deferrals, and 3) single-shell tank retrieval technical issues. A draft baseline change has been developed and subjected to an external independent review and is in the DOE approval process.

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.

- Operation of treatment facilities to complete the tank waste program.

- 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, facilities to store the vitrified high-level waste pending off-site disposal; and on-site low-activity waste disposal facilities. Closure of tanks will be conducted until all tank waste is stabilized.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Construction of storage facilities where vitrified high-level waste canisters will be stored prior to shipment to a geologic repository.

- Construction of a vitrified high-level waste canister shipping facility.

- Development and selection of a technology alternative or alternatives (such as bulk vitrification) for supplemental treatment of low-activity waste, followed by implementation, if approved, of the selected technology and approach.

- Disposal of low-activity waste containers at the Hanford Site

- Package 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, pending appropriate National Environmental Policy Act and regulatory approvals.

- Manage the tank farms in a safe and compliant manner until the waste is retrieved for processing and the tank farms are closed.

- Operate the Waste Treatment and Immobilization Plant after construction and perform decontamination and decommissioning of this facility. Operate the 222-S Laboratory and the 242-A Evaporator.

- Conduct independent expert reviews and evaluations, prepare activity baselines, and perform Environmental, Safety, Health, and Quality oversight activities.

An updated Tank Farms project performance baseline has been developed to incorporate lessons- learned, programmatic uncertainties, and schedule delays associated with the Tank Farms Project and the Waste Treatment and Immobilization Plant at the Hanford site.

As of September 30, 2006, tank farm activities completed under this PBS include: completed transfer of three-million gallons of pumpable liquids from Hanford's 149 Single-Shell tanks to safer double-shell tanks, to reduce the risk of future tank leaks to the environment. Completed retrieval of remaining solids and sludges from five single-shell tanks and initiated the retrieval process on three single-shell tanks with an additional single-shell tank retrieval system under construction and another retrieval system in design. To date approximately 12,500,000 curies and 1,100,000 gallons of waste have been retrieved to compliant double-shell tanks; completed construction of the integrated disposal facility for future use in disposing of low-activity waste and mixed low-level waste; and completed the initial design of the Demonstration Bulk Vitrification System as a supplemental technology to increase the ability to treat and dispose of Hanford's low-activity tank waste. DOE also conducted an independent technical review of the proposed

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Demonstration Bulk Vitrification System and the contractor is addressing identified findings.

The following activities have occurred: initiated the retrieval system design and construction to support waste feed delivery to the Waste Treatment and Immobilization Plant; continued development of additional single-shell tank retrieval technology demonstrations; started the acceleration of the National Environmental Policy Act process for closure of tanks and the study of supplemental treatment technologies; and submitted the tank closure plan for modification of the Hanford Site Resource Conservation and Recovery Act Part B permit.

OECM has validated Total Project Cost of $2,500,000,000 through FY 2012 for this PBS.

In FY 2008, the following activities are planned:

- Tank Operations, Retrieval, Waste Feed, and Closure Projects:
  - Manage Tank Farms in a safe and environmentally compliant condition including tank farm operations, surveillance and maintenance, environmental compliance, and Vadose Zone project.
  - Continue to retrieve waste from the Single-Shell Tanks.
  - Operate 242-A Evaporator and complete supporting upgrades.
  - Radiological characterization and alternatives study work for C tank farms pending discussions between the Department and State of Washington to initiate demonstration of High-Level Waste Tank closure.

- Tank Farm Support and Site Infrastructure:
  - Provide site and shared services.
  - Operate 222-S Laboratory and complete supporting upgrades.
  - Provide electricity to the Waste Treatment and Immobilization Plant.
  - Provide Tank Farm Project Services including Engineering, Radiation Protection, Quality Assurance, Environmental, Industrial Health and Safety and Upgrade and Maintenance of the Authorization Basis.

- Supplemental Treatment:
  - Continue study of, and proceed with implementation of a technology and approach if approved, supplemental alternative low-activity waste treatment technologies (with a goal of treatment operations by 2013).

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	54,000	0%
Liquid Waste Tanks closed (Number of Tanks)	0	0	0	177	0%
High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	9,667	0%
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	4,038	0%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	1,500	2,871	197,832	1%
Nuclear Facility Completions (Number of Facilities)	0	0	0	18	0%
Radioactive Facility Completions (Number of Facilities)	0	0	0	114	0%
Industrial Facility Completions (Number of Facilities)	0	0	0	128	0%
Remediation Complete (Number of Release Sites)	5	5	5	278	2%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Integrated Disposal Facility construction. (FY 2006)
- Complete double-shell tank integrity assessment. (September 2007)
- Complete retrieval of one single-shell tank. (September 2008)

ORP-0100 / River Protection Community and Regulatory Support (life-cycle estimate $7,454K)	**466**	**471**	**471**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The scope of this PBS is to provide support for the Hanford Advisory Board for public involvement related to the cleanup mission at the Hanford Site.

In FY 2008, the following activities are planned:

- Provide advice and recommendations on cleanup plans and issues; and support facilitation, technical consultants, travel reimbursement, meeting facilities and arrangements, audio/visual, and general administrative support for review of Hanford cleanup activities, such as Environmental Impact Statements, annual funding requests, and closure permits.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

ORP-0060 / Major Construction-Waste Treatment Plant (life-cycle estimate $12,263,000K) **520,759** **690,000** **690,000**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS will design, construct, and commission the line-item project 01-D-416, Waste Treatment and Immobilization Plant. In FY 2006, funds were appropriated at the line-item subproject level; with the five subprojects as follows: 01-D-16A Low-Activity Waste Facility, 01-D-16B Analytical Laboratory, 01-D-16C Balance of Facilities, 01-D-16D High-Level Waste Facility, and 01-D-16E Pretreatment Facility.

The Waste Treatment and Immobilization Plant is critical to the completion of the Hanford tank waste program by providing the primary facility to immobilize (vitrify) the radioactive tank waste at the Hanford Site. The Waste Treatment and Immobilization Plant complex includes the five major facilities noted above. The Pretreatment Facility will separate the radioactive tank waste into low-activity and high-level fractions. The high-level fraction will be transferred to the High-Level Waste Facility for immobilization (i.e., vitrified into glass), ready for disposal at a Federal geological repository for spent nuclear fuel and high-level waste. Approximately 40 percent of the low-activity waste fraction will be immobilized vitrified into glass) in the Waste Treatment and Immobilization Plant with the balance immobilized using alternative, supplemental treatment being developed on the Hanford Site. The Analytical Laboratory will provide real-time analytical support for plant operations. The Balance of Facilities includes office facilities, chemical storage, site utilities, and infrastructure.

As of September 30, 2006, progress to-date for the Waste Treatment and Immobilization Plant project is approximately 78 percent complete with engineering and 29 percent complete with construction.

- The Pretreatment Facility is about 70 percent complete with engineering and about 25 percent complete with commodity installation (70 percent of the concrete and 18 percent of the structural steel has been installed, as well as most process tanks). While construction work on the Pretreatment Facility has been suspended, the Pretreatment engineering group has focused on verification of the current design to the revised ground motion criteria, and on getting engineering design releases about a year ahead of construction need.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- The Low-Activity Waste Facility is over 93 percent complete with engineering and approximately 41 percent complete with commodity installation. Eighty-two (82) percent of the concrete and 78 percent of the structural steel has been installed, as well as approximately 26 percent of piping, 42 percent of Heating, Ventilating, and Air-Conditioning, and 49 percent of cable trays. The building has been 'closed-in' with substantial completion of the roofing and siding.

- The High-Level Waste Facility is approximately 79 percent complete with engineering and 20 percent complete with commodity installation (52 percent of the concrete and 6 percent of the structural steel has been installed). While construction work on the High-Level Waste Facility has been suspended, the High-Level Waste Facility engineering group has focused on verification of the current design to the revised ground motion criteria, and on getting engineering design releases about a year ahead of construction need.

- The Analytical Laboratory Facility is approximately 88 percent complete with engineering and 33 percent complete with commodity installation (88 percent of the concrete and 24 percent of the piping has been installed). The concrete basemat has been completed, and layout for erection of the structural steel has begun.

- The work on the Balance of Facilities has progressed to achieve 88 percent complete with engineering and approximately 50 percent of commodities installed. Construction is essentially complete on the main switchgear building, Balance of Facilities switchgear building, cooling tower, steam plant, four pump houses and associate tanks, and four tanks associated with the water treatment facility, and construction of the Chiller Compressor Building is about 68 percent complete. In addition, 92 percent of the underground piping and 84 percent of the underground conduit associated with Balance of Facilities has been installed.

The end-state of this construction project will be the completion of the Waste Treatment and Immobilization Plant hot commissioning. The previous $5,781,000,000 Total Estimated Cost for this project and associated schedule, approved in April 2003, was re-examined beginning in FY 2005. The Department directed the Waste Treatment and Immobilization Plant contractor (Bechtel National, Inc) to prepare a more detailed and updated Estimate-At-Completion. This updated Estimate-At- Completion was delivered to the Department on May 25, 2006. The revised estimate significantly increased out-year funding requirements and project schedule, with a proposed cost of $11,600,000,000 (not including fee) and a delayed completion of the contract by up to 8 years to August 2019.

The major reasons for the increases in the estimated cost and the schedule delays primarily result from the faulty initial estimates and the optimistic treatment of uncertainty and risk for the following: 1) design of novel technology for a large, complex nuclear-chemical plant (pulse jet mixing pumps, non-Newtonian fluids, etc), 2) quantity, procurement and availability of equipment and materials, 3) availability and productivity of professional and craft labor, and 4) environmental and safety regulatory compliance (fire proofing, seismic ground motion, etc.). One review team estimated these four factors alone accounted for

approximately $2,000,000,000 of the cost growth. These were further aggravated by conditions created by problems with the acquisition strategy and management approach.

In August 2006, the U.S. Army Corps of Engineers delivered to the Department an independent review of the May 2006 Estimate-At-Completion, which provided a qualified validation of the Estimate-At-Completion – with the addition of $650,000,000 and three months of schedule contingency. An External Independent Review, commissioned by the Department's Office of Engineering and Construction Management, conducted in late August 2006, concluded that the proposed baseline update was 'reasonably sound, defensible, and credible'.

In December 2006, the Department's Office of Engineering and Construction Management validated a final total Project Cost of $12,263,000,000 and schedule completion date of November 2019. The Office of Engineering and Construction Management validation was based on the results of its External Independent Review process conducted subsequent to the USACE validation process. On December 18, 2006, the revised project cost and schedule was presented to the Energy Systems Acquisition Advisory Board and was approved by the Deputy Secretary of Energy on December 22, 2006.

The FY 2007 National Defense Authorization Act restricts spending on the project to 90 percent of the obligated funds until the contractor's Earned Value Management System has been recommended for acceptance by the Defense Contracting Management Agency. Agency representatives led an independent team in the conduct of an onsite audit of the contractor's Earned Value Management System in late November 2006, identifying eight corrective action requests that are being worked by the contractor at this time. DOE expects the contractor to resolve these findings and have the Defense Contracting Management Agency recommend the Earned Value Management System be certified by the end of fiscal year 2007.

The FY 2007 National Defense Authorization Act restricts the obligations or expenditures in FY 2007 for critical equipment and construction of the Pretreatment and High-Level Waste facilities until certification to Congress. The certification will indicate the final seismic and ground motion criteria for the WTP have been approved by the Secretary and the contractor has been formally directed to use the criteria for final design. Certification of the seismic design criteria is expected to be complete in summer 2007 after completion and review of the drilling data analysis report. As of January 1, 2007, four geological-sampling boreholes were drilled at the Waste Treatment Immobilization Plant project construction site to collect data that is expected to confirm the seismic design criteria for the Waste Treatment Plant. During November to December 2006, geophysical and seismic measurement tools were deployed in the deep boreholes to obtain critical data. The report documenting the analysis of the data is expected in April 2007.

The March 2003 Waste Treatment Immobilization Plant baseline schedule was for completion of the contract by July 2011. Each of the five facilities was to be commissioned in roughly the same time period. However, with the change in the seismic criteria for the project, which affected the Pretreatment and High-Level Waste Facilities, the construction for these two facilities was halted at the end of FY 2005 and is scheduled to restart construction in early FY 2008. The strategy incorporated in the

(dollars in thousands)

FY 2006	FY 2007	FY 2008

December 2006 Performance Baseline is to complete construction on the Low-Activity Waste Facility, Analytical Laboratory, and Balance of Facility in FY 2012. The construction for the Pretreatment and High-Level Waste Facilities will be completed in FY 2017 followed by commissioning and contract completion in 2019.

This PBS also includes technical and managerial support workscope to the Federal Project Director for the Waste Treatment and Immobilization Plant. Some examples of this type of support include: project management and assessment of contractor performance, technical evaluations, and seismic analysis allowing DOE to be more proactive in identifying emerging cost and schedule issues. The Federal Project Director will maintain full accountability for the successful completion of the Waste Treatment Plant and Immobilization Plant project.

In FY 2008, the following activities are planned:

- Low-Activity Waste Facility: Complete closing-in of the annex building.
- Analytical Laboratory: Complete installation of roofing and complete close-in of the building.
- Balance of Facilities: Complete construction of water treatment building.
- High-Level Waste Facility: Resume construction of the facility. Install first high-level waste concrete and start installation of 14-foot elevation slabs.
- Pretreatment Facility: Resume construction of the facility. Install first pretreatment concrete, issue 4th lift walls for construction (design), complete 3rd lift concrete walls (construction), and complete external flowsheet review team testing.
- Provide technical and managerial support to the Federal Project Director for the Waste Treatment and Immobilization Plant. Some examples of this type of support include: project management and assessment of contractor performance, allowing the Department to be more proactive in identifying emerging cost and schedule issues.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Continued the Waste Treatment and Immobilization Plant design and engineering. (FY 2006)
- Continued Waste Treatment and Immobilization Plant facility construction for the Low Activity Waste Facility, Analytical Laboratory, and Balance of Facilities. (FY 2006)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
• Continue the Waste Treatment and Immobilization Plant design and engineering. (September 2007/September 2008) • Certify seismic criteria. (September 2007) • Certify contractor's Earned Value Management System. (September 2007) • Complete design of the Low Activity Waste Facility, Analytical Laboratory, and Balance of Facilities. (September 2007) • Continue Waste Treatment and Immobilization Plant facility construction for the Low Activity Waste Facility, Analytical Laboratory, and Balance of Facilities; and restart construction for the Pretreatment and High-Level Waste Facilities. (September 2008)			
Total, River Protection	**848,334**	**964,127**	**963,443**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Office of River Protection	
Tank Farm Activities	
ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition	
▪ No significant change.	-684
Total, River Protection	**-684**

01-D-416 Waste Treatment and Immobilization Plant (ORP-0060)

1. Significant Changes

On December 22, 2006, the Department of Energy (Department) approved a new Performance Baseline for the Waste Treatment and Immobilization Plant (WTP) Project, in accordance with DOE Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets*. This new Performance Baseline is based upon a May 2006 Estimate At Completion provided to the Department by the WTP Contractor (Bechtel National, Inc. - BNI), recommendations from the U.S. Army Corps of Engineers independent validation review, an External Independent Review of the baseline change proposal, and the recommendation of the Department's Office of Engineering and Construction Management. The Total Project Cost for the WTP Project has increased from $5,781,000,000 to $12,263,000,000, and the expected contract completion date has extended from July 2011 to November 2019. The December 2006 Performance Baseline assumes a funding level of $690,000,000 for FY 2007 and each of the outyears.

The following table provides a summary of the cost increases.

	(dollars in thousands)	
	March 203 Baseline	**December 2006 Baseline**
Base Cost	4,856,000	8,786,000
Management Reserve/Contract Contingency/Fee	775,000	2,278,000
Contract Scope Cost	**5,631,000**	**11,064,000**
Project Contingency	100,000	1,014,000
Other Project Costs	0	135,000
Transition Cost (from Privatization Contract)	50,000	50,000
Total Project Cost	**5,781,000**	**12,263,000**

Through the end of fiscal year 2006, the project has achieved 78 percent design completion, 29 percent construction and expended $3,391,000,000. The March 2003 Performance Baseline was established with a design completion of 30 percent with a majority of the estimating tools being parametric costs using similar facilities. The December 2006 Performance Baseline was established with a design completion of 78 percent with a majority of the estimating tools being costs from material take-offs. This provides a more highly detailed cost estimate. The to-go Base Cost of the December 2006 Performance Baseline is $5,395,000,000.

The "Management Reserve/Contract Contingency/Fee" includes funds to provide 80 percent confidence the scope in the contract can be completed. The WTP contractor is tasked to manage the risks for scope included in the contract, to consist of: 1) cost uncertainty due to variances in: commodity and equipment quantities, craft productivity, non-manual hours needed, labor pricing, material and equipment pricing; 2) schedule uncertainty mainly due to the completion of the Pretreatment and High-Level Waste Facilities; and 3) technical issues resulting from the resolution of external expert reviews as well as problems during startup and commissioning. The "Project Contingency" includes funds for risks covered by the Department, such as resin performance, air emission requirements, phased licensing, and multiple operational readiness reviews. The major reason for the increase in the contingency amounts in the

December 2006 Performance Baseline is the more realistic evaluation of the technical risks in completing the construction of the three nuclear production facilities, and especially the Pretreatment Facility, since it is the combination of a complex chemical facility as well as a nuclear facility. The vitrification systems of the High-Level Waste and Low-Activity Waste Facilities have many of the same characteristics as the vitrification systems of the Defense Waste Processing Facility at the Savannah River Site, SC, which has been operating for over 10 years. However, the High-Level Waste Facility will have nearly three times the through-put capacity as the Defense Waste Processing Facility and the Low-Activity Waste Facility will have over ten times the waste treatment through-put capacity as Defense Waste Processing Facility.

The "Other Project Costs" includes Office of River Protection costs to support management and analysis of the project, such as seismic evaluations, support contractors, consultants, and special analyses. With the significant increased cost and schedule for the WTP Project, there is the need for the type of support outlined in the "Other Project Costs". The "Transition Cost" is the cost incurred in 2001 from transitioning the privatization contract to the current contract.

The March 2003 baseline included completing the contract by July 2011. Each of the five facilities was to be commissioned in roughly the same time period. However, with the change in the seismic criteria for the project, which affected the Pretreatment and High-Level Waste Facilities, the construction for these two facilities was halted at the end of FY 2005 and is scheduled to begin in FY 2008. The strategy incorporated in the December 2006 Performance Baseline is to complete construction on the Low-Activity Waste Facility, Analytical Laboratory, and Balance of Facilities in FY 2012. The construction for the Pretreatment and High-Level Waste Facilities would be completed in FY 2017 followed by commissioning.

Over the past year, the Department has retained a broad range of external, distinguished senior professionals from private industry, academia and other Government agencies to thoroughly review the key elements of the WTP project, including technology, cost and schedule, project management, project controls, and earthquake seismic criteria. The positive results from these reviews provide the Department with the confidence that WTP will work effectively to process, treat and immobilize the tank waste and can be completed within the cost and schedule baseline. However, this will take continual senior management attention and support, as well as an effective project team. The recommendations from these reviews have been incorporated or are being incorporated into the project.

- After-Action Fact Finding Report - January 2006: The Department's Office of Engineering and Construction Management chartered an external non-profit firm to identify root causes of the projected cost/schedule increases and management weaknesses. The team concluded: cost and schedule controls were inadequate to establish and maintain a credible baseline; adequate project management oversight, resources, and processes had not been in place; technology resources had not been adequate to address first-of-a-kind problems; "optimism" all too often replaced "realism" within projections; management of safety issues in design had not received adequate attention; complexity had increased over time; and, unanticipated issues had continued to impact the project.

- External Technical Flowsheet Review - March 2006: An independent external team of experts completed a comprehensive review of the entire WTP process flowsheet and throughput, as defined in the contract requirements. The team concluded that all the issues identified have solutions and do not require new technology, but that resolution of the issues will require commitment of additional operations, engineering, and research and development resources.

- External Review of the December 2005 Estimate At Completion - March 2006: In December 2005, the contractor prepared an initial updated Estimate At Completion. An independent external team of experts completed a thorough assessment of that estimate, including the resource-loaded project cost, schedule, estimating methodology, contingency management, and overall project management system. The team estimated the project would cost $11,300,000,000 (without fee) as compared to the December 2005 Estimate At Completion of $10,500,000,000; with a completion date for hot commissioning in mid-2018 as compared to the December 2005 Estimate At Completion date of May 2017.

- Independent Validation Review of the May 2006 Estimate At Completion - August 28, 2006: In May 2006, the contractor updated their December 2005 Estimate At Completion to incorporate the results of the March 2006 external reviews and to account for the revised funding levels. The U.S. Army Corps of Engineers validated the estimate at a Total Cost of $12,203,000,000 (without fee) as compared to the May 2006 Estimate At Completion of $11,553,000,000. The completion date was validated at November 2019 as compared to the May 2006 Estimate At Completion of August 2019. A condition of validation was an assumption of $690,000,000 of annual funding for FY 2007 and the outyears. There were also a number of recommendations for improvement of project and contract management.

- External Independent Review - October 6, 2006: The Department's Office of Engineering and Construction Management chartered an external firm to review the WTP project in accordance with DOE Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets.* The team recommended the revised Total Project Baseline be conditionally validated pending disposition of the one Major Finding dealing with allocation of risk elements identified by the review team, as well as the establishment of acceptable corrective action plans for twelve other Findings identified by the team.

- Independent Review of Implementation of Revised Seismic Design Criteria - October 13, 2006: The U.S. Army Corps of Engineers independently reviewed the latest revision to the structural design criteria and its incorporation of interim seismic criteria. This also included "over-the-shoulder" reviews of structural qualifications of the buildings, equipment, and piping to determine design adequacy to meet the 2005 interim seismic criteria. The Corps did not identify any major concerns.

- Baseline Validation Recommendation - December 2006: The Department's Office of Engineering and Construction Management chartered an external firm to review the corrective action plan written in response to the October 6, 2006 External Independent Review recommendations, and a supplemental evaluation of the November 2006 proposed baseline. The team recommended that the adjusted baseline could be validated.

The Defense Nuclear Facilities Safety Board provides continuous assessment of the WTP project. In a September 7, 2006, letter to the Department, the Board indicated the revised ground motion criteria provides a reasonably conservative basis for validating the design of the WTP and believes the criteria should be used to complete the design. There are still several open issues: 1) the structural analysis and the structure's predicted response to the revised ground motion criteria; however, the Board expects this review should be reasonably straightforward; 2) the adequacy of fireproofing material coatings to protect the structural steel against potential fires; and 3) the potential build-up of hydrogen in piping and ancillary vessels during power outages. The Department is working diligently to resolve these issues in FY 2007.

The reasons for the increases in the estimated cost and the schedule delays primarily result from the faulty initial estimates and the optimistic treatment of uncertainty and risk for the following: 1) design of novel technology for a large, complex nuclear-chemical plant (pulse jet mixing pumps, non-Newtonian fluids, etc.); 2) quantity, procurement and availability of equipment and materials; 3) availability and productivity of professional and craft labor; and 4) environmental and safety regulatory compliance (fire proofing, seismic ground motion, etc.). One review team estimated these four factors alone accounted for approximately $2,000,000,000 of the cost growth. These were further aggravated by conditions created by problems with the acquisition strategy and management approach. As indicated above, the recommendations from the multiple reviews to address theses issues have been incorporated or are being incorporated into the project.

Construction of the High-Level Waste and Pretreatment facilities was curtailed in FY 2005, primarily due to concerns about seismic design criteria for the facility. In early FY 2006 the Department increased the ground motion requirement for seismic design to bound the site response uncertainties in ground motions and incorporated this revised ground motion requirement in the structural design criteria for the WTP.

Concurrent with the revision of seismic ground motions, potential new issues were identified regarding the adequacy of seismic sources and earthquake recurrence rates that could produce ground motions beyond those in the revised ground motion criteria. To address this issue, the Department retained the U.S. Army Corps of Engineers to oversee the drilling of several geological-sampling deep boreholes at the WTP Project construction site to confirm the geophysical properties of the layers of bedrock below the WTP. A report documenting the analysis of geophysical data from the boreholes is expected in 2007. FY 2007 authorization language precludes obligations or expenditures in FY 2007 for critical equipment of the Pretreatment and High-Level Waste facilities until certification to Congress is made that the final seismic and ground motion criteria for the WTP have been approved by the Secretary and the contractor has been formally directed to use the criteria for final design. Certification of the seismic design criteria is expected to be complete in summer 2007 after review of the drilling data.

The WTP contractor is required to implement an Earned Value Management System that fully complies with the American National Standards Institute 748-A-1998. The Defense Contract Management Agency will recommend acceptance to the Department. An Agency team evaluated the contractor's system the week of November 27, 2006, which resulted in three major and five minor Corrective Action Requests. The contractor is in the process of developing responses to the Corrective Action Requests, and plans to implement the responses to permit certification of the system no later than September 2007.

Background

The FY 2006 Congressional Budget Request was made at the project level for the WTP Project, but funds were appropriated at the subproject level. To conform with this action, funds are now requested at the subproject level. This Construction Project Data Sheet is structured with summary information at the project level with details provided at the subproject level. The five subprojects for the WTP are:

- 01-D-16A, Low-Activity Waste Facility
- 01-D-16B, Analytical Laboratory
- 01-D-16C, Balance of Facilities
- 01-D-16D, High-Level Waste Facility
- 01-D-16E, Pretreatment Facility

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2001 Budget Request	4Q FY1998	2Q FY2005	1Q FY2001	1Q FY2007	N/A	N/A
FY 2002 Budget Request	4Q FY1998	2Q FY2005	3Q FY2002	1Q FY2007	N/A	N/A
FY 2003 Budget Request	4Q FY1998	2Q FY2005	3Q FY2002	1Q FY2007	N/A	N/A
FY 2004 Budget Request	4Q FY1998	2Q FY2005	4Q FY2002	1Q FY2007	N/A	N/A
FY 2003 Congressional Notification	4Q FY1998	2Q FY2005	4Q FY2002	3Q FY2008	N/A	N/A
FY 2005 Budget Request	4Q FY1998	2Q FY2005	4Q FY2002	3Q FY2008	N/A	N/A
FY 2004 Reprogramming	4Q FY1998	4Q FY2005	4Q FY2002	3Q FY2008	N/A	N/A
FY 2006 Budget Request	4Q FY1998	4Q FY2007	4Q FY2002	3Q FY2008	N/A	N/A
FY 2007 Budget Request	4Q FY1998	4Q FY2007	4Q FY2002	3Q FY2008	N/A	N/A
FY 2008 Budget Request	4Q FY1998	4Q FY2010	4Q FY2002	2Q FY2017	N/A	N/A

Note: The scheduled completion (including schedule contingency) of Hot Commissioning is during 3rd Q FY2019, and turnover to an operating contractor is scheduled for 1Q FY2020.

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2001	5,466,000	7,022,000	0	12,488,000	4,350,000	5,466,000
FY 2002	4,350,000	0	0	4,350,000	N/A	4,350,000
FY 2003	4,350,000	0	0	4,350,000	N/A	N/A
FY 2004	4,350,000	0	0	4,350,000	N/A	N/A
FY 2003 Congressional Notification	5,781,000	0	0	5,781,000	5,781,000	5,781,000
FY 2005	5,781,000	0	0	5,781,000	N/A	N/A
FY 2006	5,781,000	0	0	5,781,000	N/A	N/A
FY 2007	5,781,000	0	0	5,781,000	N/A	N/A
FY 2008	12,263,000	0	0	12,263,000	12,263,000	N/A

Note: FY 2008 includes an allowance for contractor fee, which is still TBD pending contract negotiations.

The FY 2001 Budget Request presented the privatization approach for this project which included design, construction, commissioning (Total Estimated Cost of $5,466,000,000) and ten years of operations for a facility that would treat approximately 10 percent of waste by volume, and 25 percent of the waste, by radioactivity, for a Total Project Cost of $12,488,000,000. This plant was expected to have a 40 year life, which would process 40 percent of the waste by volume. A second plant was necessary to treat and immobilize the balance of the waste. In May 2000, the Secretary of Energy terminated the privatization contract, because of the dramatic cost increase submitted by the contractor to complete the project. The Department decided to issue a Request for Proposal for the design, construction and commissioning of the WTP. In December 2000, the Department awarded a cost-plus-incentive-fee contract. With the FY 2002 Budget Request, the approach for the project shifted to a traditional funding strategy and reduced the scope to design, construction and commissioning. Based on the new contract, which was awarded in December 2000, the baseline was estimated at $4,350,000,000. In April 2003, the Department approved a Performance Baseline for the WTP Project of $5,781,000,000 that would be capable of treating approximately 50 percent of the waste, by volume, and approximately 90 percent of the waste, by radioactivity. An Estimate At Completion was submitted by the WTP Contractor in April 2005, which proposed a significant increase in project cost to about $8,000,000,000. Due to the lack of specificity, the Department directed the contractor to prepare a more detailed Estimate At Completion which was revised and delivered in May 2006. The $12,263,000,000 value above was validated by the Department on December 22, 2006.

4. Project Description, Justification, and Scope

Radioactive waste has been stored in large underground storage tanks at the Hanford Site since 1944. Approximately 53 million gallons of waste containing approximately 240,000 metric tons of processed chemicals and 190 million curies of radionuclides are currently stored in 172 tanks (5 tanks have been emptied). These caustic wastes are in the form of liquids, slurries, saltcakes, and sludge.

The Office of River Protection is implementing cleanup under two contract vehicles:

- The Tank Farm Contractor provides for safe storage and retrieval of tank wastes, storage and disposal of treated 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 WTP and support transition of the plant into full operation. Operation of the WTP is planned to be under a separate contract.

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 agreed to a timetable for cleanup of the Hanford Site. Major milestones included completing hot commissioning of the WTP by 2011, to treat approximately 10 percent of the tank waste (by mass) and 25 percent of the tank waste (by radioactivity) by 2018, and to complete treatment of all tank waste by 2028. The signatories to the Tri-Party Agreement are having preliminary discussions of the impact of the delay in the completion of the WTP on the completion dates for the above milestones.

The WTP 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 operating and commissioning capability; and conduct all required environmental, safety, quality, and health actions. From contract award, the WTP Contractor is the design authority responsible for the design of the plant.

The concept for the operation of the WTP is to pre-treat tank waste through separation into a high-level fraction and a low-activity fraction. Both fractions will be immobilized through vitrification into glass. The high-level fraction will be disposed in the national geologic repository for spent fuel and high-level waste. The low-activity fraction will be placed in a disposal facility on the Hanford site. The Plant is composed of five facilities which are integrated to accomplish the mission for the Plant. The Pretreatment Facility accomplishes the separation of the wastes. The High-Level Waste Facility will treat/immobilize, through vitrification, the entire high-level fraction. The Low-Activity Waste Facility will treat/immobilize, through vitrification, a substantial portion of the low-activity fraction. A supplemental technology - bulk vitrification (under a separate contract) - is being evaluated for treatment of the remaining low-activity waste. An Analytical Laboratory will provide the necessary sample analysis needed throughout the processing facilities. The Balance of Facilities includes the plant infrastructure and support facilities (steam plant, electrical switch yards, chiller plant, etc.).

Planned FY 2007 Activities: The Department is implementing a strategy to complete construction of the Low-Activity Waste Facility, Analytical Laboratory and Balance of Facilities prior to the Pretreatment and High-Level Waste Facilities that will ensure effective and efficient use of the $690,000,000 requested for FY 2007. This strategy will allow increased efforts and continued momentum on detailed design of the Pretreatment and High-Level Waste facilities, while still preserving the construction pace on Low-Activity Waste Facility, Analytical Laboratory, and Balance of Facilities. Engineering efforts will continue to be targeted at developing and maintaining about a year's gap between design completion and start of construction activities. Required procurements will continue with delivery of equipment that was substantially complete prior to work stoppage on Pretreatment and High-Level Waste Facilities in FY 2006. For the Low-Activity Waste Facility, Analytical Laboratory, and Balance of Facilities, design finalization and construction efforts will continue, and long-lead procurements will be purchased.

Proposed FY 2008 Activities: For the Low-Activity Waste Facility, Analytical Laboratory, and Balance of Facilities, construction efforts will continue. The design of these facilities will essentially be completed, and procurements will continue for basic commodities and major equipment. For the Low-Activity Waste Facility, all concrete will be completed; and in the sub-basement, bulk piping will be completed and installation will begin for drywall. For the Analytical Laboratory, fire proofing, fire protection, and special coatings will be completed, as well as partition walls and liner plate in the Hot Cell. Substantial progress on heating, ventilation and air conditioning installation will be made, and bulk commodity installations will begin for electrical and piping. For the Balance of Facilities, the Steam Plant will be completed, and installations will continue on piping, utilities, and the pipe rack structural steel.

For the Pretreatment and High-Level Waste facilities, ramp-up of construction will begin during the first quarter. For the Pretreatment Facility, engineering will complete civil design of the third floor walls and fourth floor elevated slabs, and continue with piping design in the black cells and hot cell. Major equipment procured will include mechanical handling equipment, shield doors, vessels, and seismic upgrade kits for some vessels. Construction will focus on concrete walls from the third to fourth floors and elevated slabs for the third floor; piping installation in the black cells and hot cell; heating, ventilation and air conditioning ducting design and fabrication; fire protection piping; miscellaneous equipment sets; and initiation of installation of seismic upgrade kits in the vessels. For the High-Level Waste Facility, engineering will complete civil design of the second floor elevated slab and structural steel for the roof, continue piping design, and complete electrical and instrumentation cable layouts for areas on the fourth floor and roof. Major equipment procured will include mechanical handling cranes, shield doors, electrical transformers, switchgear and motor control centers, and heating, ventilation and air conditioning air handling units and fans. Construction will focus on concrete walls from main to first floor, and initiate elevated slab placements and structural steel installation at the first floor, piping installation in the basement corridors, and miscellaneous equipment sets.

The following table provides the design status for each facility at the end of FY 2006, FY 2007, and FY 2008.

	FY 2006	FY 2007	FY 2008
Low-Activity Waste	92%	98%	100%
Analytical Laboratory	88%	96%	100%
Balance of Facilities*	87%	96%	100%
High-Level Waste	79%	88%	95%
Pretreatment	70%	79%	88%

* This date represents essential completion of design; however, some design will continue to accommodate evolving changes in the other facilities that Balance of Facilities supports.

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design/Construction			
FY 2001	401,171	401,171	226,311
FY 2002	665,000	665,000	488,469
FY 2003	671,898	671,898	621,574
FY 2004	697,530	682,402	725,246
FY 2005	684,480	695,552	812,390
FY 2006	520,759	524,815	517,185
FY 2007	690,000	690,000	665,325
FY 2008	690,000	690,000	745,500
FY 2009	690,000	690,000	732,000
FY 2010	690,000	690,000	700,000
FY 2011	690,000	690,000	670,000
FY 2012	690,000	690,000	690,000
FY 2013	690,000	690,000	691,500
FY 2014	690,000	690,000	684,500
FY 2015	690,000	690,000	707,000
FY 2016	690,000	690,000	679,000
FY 2017	690,000	690,000	677,500
FY 2018	690,000	690,000	693,778
FY 2019	255,000	255,000	349,830
FY 2020	87,162	87,162	185,892
Total, Design and Construction	12,263,000	12,263,000	12,263,000

(a) FY 2001 Appropriations reflect a FY 2001 Rescission of $829,000 and FY 2001 Supplemental Appropriation of $25,000,000. The original appropriation was $377,000,000.
(b) FY 2003 Appropriations reflect approved FY 2003 reprogramming of $83,981,567 to increase the project from $606,018,433 to $690,000,000 to meet project requirements.
(c) FY 2003 Appropriations and Obligations reflect a reduction of $18,102,000 as part of the FY 2004 Energy and Water Development Appropriation Act prior year reduction.
(d) FY 2004 Appropriations reflect a reduction of $3,964,000 due to FY 2004 Government-wide Rescission of 0.59 percent and increase of $11,494,000 due to a reprogramming.
(e) FY 2005 Appropriations reflect a reduction of $5,520,000 due to FY 2005 Government-wide Rescission of 0.8 percent.
(f) New WTP Project Performance Baseline as approved on December 18, 2006.

In FY 2006, the sequencing for the completion of facilities was revised to account for the halt in construction of the Pretreatment and High-Level Waste Facilities, to permit the incorporation of the revised seismic criteria. The Department decided the pace of construction for Low-Activity Waste Facility, Analytical Laboratory and Balance of Facilities would continue through FY 2007 until completion of construction for these facilities - estimated to be in FY 2012. Then, in FY 2008, construction would resume on the Pretreatment and High-Level Waste Facilities. This approach would require an allocation of funds among the subprojects different than reflected in the FY 2007 request. The Table below illustrates the allocation of funds among subprojects the Department would execute under a continuing resolution, assuming the Department has the flexibility to shift funds among activities within the appropriation under a continuing resolution. This is the FY 2007 allocation used to build the subproject request for FY 2008 in this Construction Project Data Sheet.

Funding for FY 2007 (dollars in thousands)

Facility	Actual FY 2006 Funding	FY 2007 Request	FY 2007 Continuing Resolution*
Low-Activity Waste	161,200	77,800	186,000
Analytical Laboratory	44,900	21,800	59,000
Balance of Facilities	64,300	48,900	57,000
High-Level Waste	102,900	253,700	177,000
Pretreatment	147,000	287,800	211,000
Total	**520,700**	**690,000**	**690,000**

*Illustrates the allocation of funds under a continuing resolution, assuming flexibility to shift funds among activities within the appropriation under a continuing resolution. The FY 2007 allocation used elsewhere in the Construction Project Data Sheet reflects this subproject allocation.

The following table breaks out appropriations by Subproject:

WTP Project	Prior	FY07	FY08	FY09	FY10	FY11	FY12	Outyears	Total
Low-Activity	788,000	186,000	143,000	78,000	80,000	75,000	51,000	347,000	1,748,000
Analytical Lab	162,000	59,000	45,000	29,000	40,000	20,000	39,000	282,000	676,000
Bal of Facilities	395,000	57,000	72,000	21,000	50,000	75,000	98,000	369,000	1,137,000
High-Level	903,000	177,000	177,000	195,000	175,000	180,000	182,000	1,319,000	3,308,000
Pretreatment	1,392,838	211,000	253,000	367,000	345,000	340,000	320,000	2,165,162	5,394,000
Total Project Appropriations	3,640,838	690,000	690,000	690,000	690,000	690,000	690,000	4,482,162	12,263,000

The following table provides a breakdown of funding for engineering, construction, and procurement for each facility. Construction continues for the Low-Activity Facility, Analytical Laboratory, and Balance of Facilities, with minimal effort to maintain the site conditions and materials in-place for the Pretreatment and High-Level Waste Facilities.

Planned Funding for FY 2007 (dollars in thousands)

Facility	Engineering	Procurement	Construction	Commissioning	Total
Low-Activity Waste	30,000	69,000	87,000	0	186,000
Analytical Laboratory	8,000	23,000	23,000	5,000	59,000
Balance of Facilities	10,000	14,000	33,000	0	57,000
High-Level Waste	48,000	106,000	23,000	0	177,000
Pretreatment	78,000	107,000	26,000	0	211,000
Total	**174,000**	**319,000**	**192,000**	**5,000**	**690,000**

The following table provides a breakdown of proposed funding for engineering, construction, and procurement for each facility for FY 2008. This profile allows for resumption of construction on the Pretreatment and High-Level Waste Facilities.

Proposed Funding for FY 2008 (dollars in thousands)

Facility	Engineering	Procurement	Construction	Commissioning	Total
Low-Activity Waste	8,000	40,000	95,000	0	143,000
Analytical Laboratory	3,000	6,000	33,000	3,000	45,000
Balance of Facilities	7,000	30,000	35,000	0	72,000
High-Level Waste	33,000	110,000	34,000	0	177,000
Pretreatment	95,000	120,000	38,000	0	253,000
Total	**146,000**	**306,000**	**235,000**	**3,000**	**690,000**

6. Total Estimated Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
N/A	N/A	N/A

The following table provides a comparison of the costs by facility for the Current Estimate and the Previous Estimate.

WTP Total Project	(dollars in thousands) Current Estimate	Previous Estimate
Facility		
Low-Activity Waste Facility	1,748,000	1,060,740
Analytical Laboratory Facility	676,000	267,140
Balance of Facilities	1,137,000	596,711
High-Level Waste Facility	3,308,000	1,512,664
Pretreatment Facility	5,394,000	2,343,745
Total, TEC	12,263,000	5,781,000

Other Project Costs

N/A

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
Total	4,056,500	745,500	732,000	700,000	670,000	690,000	4,669,000	12,263,000

The following table breaks out the costs by subproject.

WTP Costs By Subproject (dollars in thousands)

WTP Project	Prior	FY07	FY08	FY09	FY10	FY11	FY12	Outyears	Total
Low-Activity	757,767	175,233	115,000	77,000	78,000	67,000	53,000	425,000	1,748,000
Analytical Lab	142,756	53,244	43,000	50,000	42,000	17,000	37,000	291,000	676,000
Balalance of Facilities	371,690	51,810	67,500	51,000	59,000	78,500	99,500	358,000	1,137,000
High-Level	826,691	176,309	211,000	193,000	174,500	172,500	182,000	1,372,000	3,308,000
Pretreatment	1,292,271	208,729	309,000	361,000	346,500	335,000	318,500	2,223,000	5,394,000
Total Project Costs	3,391,175	665,325	745,500	732,000	700,000	670,000	690,000	4,669,000	12,263,000

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter)	1Q FY 2020
Expected Useful Life (number of years)	40
Expected Future Start of D&D for New Construction (fiscal quarter)	TBD

Operations will start after the project is completed in November 2019. The annual facility operating costs for the WTP (following start-up and commissioning) and subsequent Decommissioning and Demolition are not included in this line item project or in the five subprojects. These costs are included in PBS ORP-0014, Office of River Protection - Radioactive Liquid Tank Waste Stabilization and Disposition project, and are therefore not included in this Construction Project Data Sheet.

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
N/A	N/A	N/A	N/A	N/A

9. Required D&D Information

This project is providing new capability for the Hanford site, and is not replacing a current capability. Thus, this project was not justified on the basis of replacing current facilities. Therefore, no existing facilities will be demolished in conjunction with this project.

10. Acquisition Approach (formerly Method of Performance)

The acquisition of a waste treatment facility to clean up Hanford waste was initially planned as a privatized procurement and the project was referred to as the Tank Waste Remediation System. The strategy was for the contractor to design, build, finance, and operate the facility for 10 years and the Department would pay for waste processed. Two privatization contracts were signed in September 1996 for the preparation of conceptual designs: 1) BNFL, Inc., a subsidiary of BNFL plc, with Bechtel National, Incorporated as a subcontractor, and 2) Lockheed-Martin. In May 1998, BNFL, Inc. was authorized to proceed with preliminary design. Construction was scheduled to commence in December 2000 and hot operations were to start in December 2007, to treat approximately 10 percent of the tank waste (by mass) and 25 percent of the tank waste radioactivity inventory. Planning associated with this privatization contract completed the following Critical Decision milestones.

- Critical Decision 0: Approved Mission Need - September 1995
- Critical Decision 1: Approved Preliminary Baseline Range - September 1996
- Critical Decision 2: Approved Performance Baseline - August 1998

In May 2000, the Secretary of Energy terminated the BNFL privatization contract, because of the dramatic cost increase submitted by BNFL, Inc. to complete the project. The Department decided to issue a Request for Proposal for the design, construction and commissioning of the WTP. In December 2000, the Department awarded a cost-plus-incentive-fee contract to Bechtel National, Incorporated.

The cost-plus-incentive-fee contract was structured with: 1) a target cost of $3,965,000,000; 2) a target cost performance fee of $276,000,000; 3) a cost share ratio of 80/20 (government/contractor) for cost underruns and cost overruns; 4) a minimum cost performance fee of $128,000,000; and 5) several incentive fee payments based on schedule and operational performance. The target cost was based on $362,000,000 for FY 2001 and annual funding of $690,000,000 for FY 2002 and each year beyond. In April 2003, Modification A029 was negotiated with the principal change of increasing the through-put capacity of the Pretreatment and High-Level Waste Facilities, increasing the target cost and revising the fee structure. The cost and fee structure was revised as follows: 1) a target cost of $5,000,000,000; 2) a target cost performance fee of $200,000,000; 3) a cost ratio of 50/50 (government/ contractor) for cost underruns and cost overruns; 4) no minimum cost performance fee; 5) several incentive fee payments based on completing schedule milestones for $114,000,000; and 6) incentive fee payments for operational performance minimums and maximums for each of the three nuclear production facilities for $111,000,000.

The Department will be modifying the contract to accommodate the revised Performance Baseline of $12,263,000,000, which was approved on December 22, 2006.

The project is being executed in accordance with the project management requirements in DOE Order 413.3A and DOE Manual 413.3-1, *Program and Project Management for the Acquisition of Capital Assets*. The following critical decisions were approved after the December 2000 award:

- Critical Decision 3A: Approved Limited Construction - October 2001
- Critical Decision 3B: Approved Preliminary Construction - May 2002
- Critical Decision 3C: Approved Full Construction - April 2003

- Approval of Revised Cost and Schedule Baseline - December 2006

The following critical decision is planned for the future.

- Critical Decision 4: Approved Start of Operation - 4Q FY 2018
  (Based on only one Operational Readiness Review for the WTP Project, prior to hot commissioning of the Pretreatment Facility.)

The following project milestones are revised based on the December 2006 Performance Baseline. The Department has engaged in discussions with the Washington State Department of Ecology in regard to updating the regulatory milestones.

Waste Treatment and Immobilization Plant Milestones

Milestone Title	March 2003 Baseline	December 2006 Baseline
Start of Construction	July 2002 A	July 2002 A
Move High-Level Waste Melter #1 into Facility	December 2007	July 2015
Completion of Cold Commissioning	December 2009	May 2018
Completion of Hot Commissioning	January 2011	May 2019
Completion of Contract Requirements	July 2011	November 2019

A = Actual Date
Note: For the December 2006 Performance Baseline, the planned dates include 20 months of schedule contingency estimated to be needed for the overall project to achieve an 80 percent confidence level.

01-D-16A Low Activity Waste Facility

1. Significant Changes

The revised estimated dollars and schedule dates included with this sub-project Construction Project Data Sheet are based on the December 2006 Performance Baseline for the overall WTP Project of $12,263,000,000 and a completion date of November 2019.

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2007	4Q FY1998	4Q FY2007	4Q FY2002	3Q FY2008	N/A	N/A
FY 2008	4Q FY1998	4Q FY2008	4Q FY2002	2Q FY2012	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2007	1,060,740	0	0	1,060,740	N/A	N/A
FY 2008	1,748,000	0	0	1,748,000	1,748,000	N/A

4. Project Description, Justification, and Scope

The Low-Activity Waste Facility will vitrify low activity liquid waste from the tank farms that is processed through the Pretreatment Facility. The waste will be mixed with glass formers, converted to glass, and placed in stainless steel canisters (height 90", diameter 48"), which will be disposed in the on-site Integrated Disposal Facility. Ancillary systems remove contaminants from the air discharged from the facility. Contaminated fluids are returned to the Pretreatment Facility for further processing. The Low-Activity Waste Facility utilizes two melters for a total average facility throughput of 30 metric tons of glass per day.

Status as of the end of FY 2006: Construction on the facility started in July 2002. Construction is ongoing for all four levels of the main Low-Activity Waste Facility. All fourteen process cell vessels have been delivered to the site and placed into the facility. The turntables and elevators in the two melter pour caves are installed. All the main facility concrete slabs have been placed. Structural steel for the main facility is complete, and roofing material installation will be substantially complete. On the second floor the de-mineralized water tank and the caustic blow-down tank are installed. The siding contractor started installing siding in June 2006, and was over 75 percent complete at the end of September 2006.

The East Export Bay basemat has been placed, and installation of door frames, embeds, and reinforcing steel is progressing. On-going construction activities include: application of fireproofing material, application of special protective coating on floors and walls, installation of heating, ventilation, and air conditioning, cable trays, conduit, piping, commodities, and forms, rebar, embeds and penetrations.

Planned FY 2007 Activities: By year-end, the Low-Activity Waste Facility design will be essentially 100 percent complete. The following construction activities will be performed: all the siding and roofing installation will be completed, the facility stack and internal ducting will be installed, and mechanical and electrical construction activities will continue. Construction will start on the Annex building, electrical switchgear building, and the Container Import Bay.

Proposed FY 2008 Activities: Minor engineering hours for completing final design and minor change order work and construction activities will continue throughout the year. All concrete placements will be completed. At the minus 21' elevation, bulk piping will be complete and installation will begin for drywall. Mechanical and electrical construction activities will continue, as well as activities on the Annex building, electrical switchgear building, and the Container Import Bay.

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design/Construction			
Prior Years	626,624	626,624	585,620
FY 2006	161,376	161,376	172,147
FY 2007	186,000	186,000	175,233
FY 2008	143,000	143,000	115,000
FY 2009	78,000	78,000	77,000
FY 2010	80,000	80,000	78,000
FY 2011	75,000	75,000	67,000
FY 2012	51,000	51,000	53,000
Out Years	347,000	347,000	425,000
Total, Design and Construction	1,748,000	1,748,000	1,748,000

6. Total Estimated Costs

	(dollars in thousands) Current Estimate	Previous Estimate
Construction		
Construction / Commissioning	203,540	105,289
Construction / Construction	531,090	263,531
Construction / Management Reserve/Contract Contingency/Fee	223,000	143,990
Construction / Procurement	284,650	148,719
Construction / Project Contingency	95,000	20,000
Construction / Project Transition Costs, Other Project Costs	37,000	10,000
Total, Construction	1,374,280	691,529
Preliminary and Final Design	373,720	369,211
Total, TEC	1,748,000	1,060,740

Other Project Costs

N/A

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
Total	933,000	115,000	77,000	78,000	67,000	53,000	425,000	1,748,000

8. Related Operations and Maintenance Funding Requirements

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
N/A	N/A	N/A	N/A	N/A

9. Required D&D Information

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

10. Acquisition Approach (formerly Method of Performance)

The following milestones are revised based on the December 2006 Performance Baseline. The Department has engaged in discussions with the Washington State Department of Ecology in regard to updating the regulatory milestones.

Low-Activity Waste Facility Milestones

Milestone Title	March 2003 Baseline	December 2006 Baseline
Start Construction	July 2002 **A**	July 10, 2002 **A**
Complete Design	September 2006	August 2008
Complete Construction	April 2008	February 2012
Initiate Cold Commissioning	August 2008	May 2013
Complete Cold Commissioning	December 2008	March 2014
Initiate Hot Commissioning	January 2011	June 2014
Complete Hot Commissioning	June 2011	September 2014
A = Actual Date		

Note: For the December 2006 Performance Baseline, the planned dates include 20 months of schedule contingency estimated to be needed for the overall project to achieve an 80 percent confidence level.

01-D-16B Analytical Laboratory

1. Significant Changes

The revised estimated dollars and schedule dates included with this sub-project Construction Project Data Sheet are based on the December 2006 Performance Baseline for the overall WTP Project of $12,263,000,000 and a completion date of November 2019.

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2007	4Q FY1998	4Q FY2007	4Q FY2002	3Q FY2008	N/A	N/A
FY 2008	4Q FY1998	4Q FY2009	4Q FY2002	1Q FY2011	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2007	267,140	0	0	267,140	N/A	N/A
FY 2008	676,000	0	0	676,000	676,000	N/A

4. Project Description, Justification, and Scope

The Analytical Laboratory is a vital production link that drives waste vitrification process control and waste form qualification for the main production facilities, i.e., Pretreatment, High-Level Waste and Low-Activity Waste facilities. The Laboratory will bring in nearly 10,000 waste samples per year with analytical turnaround times ranging from four to thirty-two hours. The Laboratory will incorporate features and capabilities necessary to ensure efficient operations including: (1) receipt/handling of Hanford Tank Farm samples for waste feed acceptance; (2) process control; (3) waste form qualification testing; (4) environmental and authorization basis compliance; and (5) limited technology testing. The Laboratory is approximately 240-feet wide, 318-feet long and 54-feet high. The first floor area supports eight main functions: (1) administrative areas; (2) 14 radiological laboratories which house fume hoods and related equipment to support low-activity sample analysis activities; (3) 14 hot cells that house equipment necessary for high-activity analysis activities; (4) maintenance and decontamination areas that house tools and equipment necessary to support facility maintenance and operations; (5) mechanical and utility areas house equipment that provide ventilation, electricity, laboratory gases, and water supplies; (6) below grade Radioactive Liquid Waste Disposal system cells and pits house vessels and equipment for handling effluents from the processes and operations of the lab; (7) two bulk storage tanks - one tank contains liquid nitrogen and the other holds liquid argon which supports lab operations; and

(8) pressurized helium bottle storage area and manifold which also supports lab operations. The partial second floor houses additional ventilation, and utility equipment.

Status as of the end of FY 2006: Construction of the Analytical Laboratory began in July 2003. The in-slab utilities (piping/drains/conduit) and the concrete basemat are complete. The concrete walls and concrete ceiling of the hot cell is complete. Structural steel for the building shell and the 17-foot elevation has been designed and forwarded to the manufacturer. Detailing and fabrication of the structural steel is ongoing, and 890 tons is scheduled to be delivered by the end of the fiscal year.

Planned FY 2007 Activities: By year-end, the Analytical Laboratory design will be essentially 96 percent complete. Continued construction includes detailing, fabrication, and erection of the structural steel for the facility. Installation of the building siding and roofing will be completed. Fire proofing and special protective coating applications, mechanical process and handling systems installation, and architectural finishes are expected to start. Modeling of piping, electrical and heating, ventilation and air conditioning will continue in order to support engineering, procurement and construction.

Proposed work for FY 2008: Engineering hours for completing final design and minor change order work and long-lead procurements will continue. Construction activities will continue with fire proofing, fire protection, and special coatings being completed, as well as partition walls and liner plate in the Hot Cell. Substantial progress on heating, ventilation and air conditioning installation, mechanical process and handling systems installations, and architectural finishes will be made, and bulk commodity installations will begin for electrical and piping.

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design/Construction			
Prior Years	117,448	117,448	116,790
FY 2006	44,552	44,552	25,966
FY 2007	59,000	59,000	53,244
FY 2008	45,000	45,000	43,000
FY 2009	29,000	29,000	50,000
FY 2010	40,000	40,000	42,000
FY 2011	20,000	20,000	17,000
FY 2012	39,000	39,000	37,000
Out Years	282,000	282,000	291,000
Total, Design and Construction	676,000	676,000	676,000

6. Total Estimated Costs

	(dollars in thousands) Current Estimate	Previous Estimate
Construction		
Construction / Commissioning	214,160	41,188
Construction / Construction	149,540	47,048
Construction / Management Reserve/Contract Contingency/Fee	95,000	44,164
Construction / Procurement	73,950	29,908
Construction / Project Contingency	38,000	10,000
Construction / Project Transition Costs, Other Project Costs	32,000	5,000
Total, Construction	602,650	177,308
Preliminary and Final Design	73,350	89,832
Total, TEC	676,000	267,140

Other Project Costs

N/A

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
Total	196,000	43,000	50,000	42,000	17,000	37,000	291,000	676,000

8. Related Operations and Maintenance Funding Requirements

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
N/A	N/A	N/A	N/A	N/A

9. Required D&D Information

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

10. Acquisition Approach (formerly Method of Performance)

The following milestones are revised based on the December 2006 Performance Baseline. The Department has engaged in discussions with the Washington State Department of Ecology in regard to updating the regulatory milestones.

Analytical Laboratory Facility Milestones

Milestone Title	March 2003 Baseline	December 2006 Baseline
Start Construction	July 2002 **A**	July 2003 **A**
Complete Design	January 2006	August 2009
Complete Construction	November 2007	October 2011
Initiate Equipment Setting & Cold Methods Evaluation (Phase I - LAW)	December 2007	May 2012
Complete Equipment Setting & Cold Methods Evaluation (Phase I - LAW)	August 2008	April 2013
Initiate Equipment Setting & Cold Methods Evaluation (Phase II - PT/HLW)	-	September 2016
Complete Equipment Setting & Cold Methods Evaluation (Phase II - PT/HLW)	-	November 2017
A = Actual Date		

Note: For the December 2006 New Performance Baseline, the planned dates include 20 months of schedule contingency estimated to be needed for the overall project to achieve an 80 percent confidence level.

01-D-16C Balance of Facilities

1. Significant Changes

The revised estimated dollars and schedule dates included with this sub-project Construction Project Data Sheet are based on the December 2006 Performance Baseline for the overall WTP Project of $12,263,000,000 and a completion date of November 2019.

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2007	4Q FY1998	4Q FY2007	4Q FY2002	3Q FY2008	N/A	N/A
FY 2008	4Q FY1998	4Q FY2009	4Q FY2002	2Q FY2012	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2007	596,741	0	0	596,741	N/A	N/A
FY 2008	1,137,000	0	0	1,137,000	1,137,000	N/A

4. Project Description, Justification, and Scope

The Balance of Facilities will be capable of providing cold chemicals, services, and utilities to support the required throughput of the main production facilities, i.e., Pretreatment, High-Level Waste Vitrification, Low-Activity Waste Vitrification, and the Analytical Laboratory. Utilities include systems steam, cooling water, process water, and electricity. Cold chemicals are those purchased for use in the Waste Treatment and Immobilization Plant and delivered and stored on site for application to the processing facilities. The Balance of Facilities infrastructure and facilities comprise 20 buildings in the following primary functional groups: power, steam, water, air, process support, waste facilities, and miscellaneous support buildings. The power group consists of three switchgear buildings and a diesel generator facility. The steam group consists of a steam plant and a fuel oil facility. The water group consists of cooling towers, water treatment facility, chiller/compressor facility, and the firewater facility. The air is made up of the chiller/compressor plant. The process support group consists of the glass former storage facility, wet chemical storage facility, and the anhydrous ammonia storage facility. The waste facilities group consists of the spend melter staging pad, failed melter storage facility, and the non-dangerous, non-radioactive effluent facility. And last, the miscellaneous support buildings group

includes the administration building, simulator facility, warehouse and site infrastructure (roads, grading, lights, sanitary waste, storm drains, etc.).

Status as of the end of FY 2006:

The following provides the status for the 20 support facilities and 2 common areas that comprise the scope of Balance of Facilities. The 'Common Scope' comprises mostly design work that is common to the facilities. 'Site Work' consists of the general earthwork and utilities across the site and between facilities, and is not associated with a particular facility.

Design and Construction Status of Balance of Facilities

Facility	Engineering % Complete	Construction % Complete	Scheduled Completion Date[1]
Common Scope	82	19	October 2014
Site Work	91	48	October 2014
Administrative Building[2]	100	100	July 2002--A
Maintenance Shop	100	100	October 2002--A
Warehouse Building	100	100	November 2002--A
Cooling Tower Facility	99	97	October 2007
Fire Water Pump House Facility	98	96	October 2007
Fuel Oil Facility	99	91	November 2007
Diesel Generators Facility[3]	54	0	March 2011
Glass Former Storage Facility	85	3	June 2011
Guard House Facility	100	100	July 2002--A
Chiller Compressor Plant	97	68	May 2008
Steam Plant Facility	99	98	August 2007
Wet Chemical Storage Facility[4]	58	0	May 2014
Water Treatment Building	97	65	November 2007
Non-Dangerous, Non-Radioactive Effluent Facility	81	76	July 2008
Switchgear Building	93	79	November 2010
Erected Tanks - Process/Potable	100	99	May 2007
Failed Melter Storage[5]	16	2	November 2010
BOF Switchgear Building	91	79	May 2008
Simulator Facility	96	85	November 2010
Anhydrous Ammonia	10	0	November 2008

Notes:
1. A = Actual Date Completed.
2. The Administration Building is a refurbishment of an existing facility (currently being used to house field design/construction oversight personnel), which is to be accomplished at the end of construction.
3. For the Diesel Generators Facility, the procurement for long-lead diesels will occur in FY 2007.
4. The Wet Chemical Storage Facility is next to the Pretreatment Facility. Construction will start after more progress is made on the Pretreatment Facility, to preclude interference.
5. The Failed Melter Storage is not needed until the end of the project.

Planned FY 2007 Activities: By year-end, engineering will be essentially 100 percent complete with design. This represents essential completion of design; however, some design will continue to accommodate evolving changes in the other facilities that Balance of Facilities supports. Construction on multiple facilities will continue, with completion anticipated on the following facilities: Water Cooling Tower, Fuel Oil Pump-house, Erected Tanks (process/potable water), and the Water Treatment Building. The concrete slab for the Glass Former Facility will be placed, and the Bins & Silos delivered and set in place. Installation of underground utilities and waste transfer lines that will connect to the facilities will continue.

Proposed FY 2008 Activities: Includes engineering hours for completing final design and minor change order work, with construction on multiple facilities continuing. Construction will be completed on the following facilities: Anhydrous Ammonia Facility; Steam Plant; Fire Water Pump-house; Non-Dangerous, Non-Radiocactive Effluent Facility; and the Chiller Compressor Plant. Installations will continue on Balance of Facilities piping, utilities, and the pipe rack structural steel.

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design/Construction			
Prior Years	330,648	330,648	330,080
FY 2006	64,352	64,352	41,610
FY 2007	57,000	57,000	51,810
FY 2008	72,000	72,000	67,500
FY 2009	21,000	21,000	51,000
FY 2010	50,000	50,000	59,000
FY 2011	75,000	75,000	78,500
FY 2012	98,000	98,000	99,500
Out Years	369,000	369,000	358,000
Total, Design and Construction	1,137,000	1,137,000	1,137,000

6. Total Estimated Costs

	(dollars in thousands) Current Estimate	Previous Estimate
Construction		
Construction / Commissioning	313,330	54,026
Construction / Construction	419,600	264,631
Construction / Management Reserve/Contract Contingency/Fee	118,000	94,624
Construction / Procurement	96,140	50,967
Construction / Project Contingency	59,000	10,000
Construction / Project Transition Costs, Other Project Costs	32,000	5,000
Total, Construction	1,038,070	479,248
Preliminary and Final Design	98,930	117,493
Total, TEC	1,137,000	596,741

Other Project Costs

N/A

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
Total	423,500	67,500	51,000	59,000	78,500	99,500	358,000	1,137,000

8. Related Operations and Maintenance Funding Requirements

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
N/A	N/A	N/A	N/A	N/A

9. Required D&D Information

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

10. Acquisition Approach (formerly Method of Performance)

The following milestones are revised based on the December 2006 Performance Baseline. The Department has engaged in discussions with the Washington State Department of Ecology in regard to updating the regulatory milestones.

Balance of Facilities Milestones

Milestone Title	March 2003 Baseline	December 2006 Baseline
Start Construction	July 2002 **A**	July 2002 **A**
Complete Design	September 2006	July 2009
Start of Component/System Testing	February 2008	December 2009
Complete Construction	April 2008	March 2012
Complete Component/System Testing (Phase I - LAW)	-	February 2013
Complete Component/System Testing (Phase II - PT/HLW)	-	September 2016
Complete Final Grading, Administrative and Support Building Refurbishment	June 2011	May 2019
A = Actual Date		

Note: For the December 2006 Performance Baseline, the planned dates include 20 months of schedule contingency estimated to be needed for the overall project to achieve an 80 percent confidence level.

01-D-16D High-Level Waste Facility

1. Significant Changes

The revised estimated dollars and schedule dates included with this sub-project Construction Project Data Sheet are based on the December 2006 Performance Baseline for the overall WTP Project of $12,263,000,000 and a completion date of November 2019.

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2007	4Q FY1998	4Q FY2007	4Q FY2002	3Q FY2008	N/A	N/A
FY 2008	4Q FY1998	4Q FY2010	4Q FY2002	2Q FY2017	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2007	1,512,664	0	0	1,512,664	N/A	N/A
FY 2008	3,308,000	0	0	3,308,000	3,308,000	N/A

4. Project Description, Justification, and Scope

The High-Level Waste Facility will receive the high-level waste fraction from the Pretreatment Facility. The High-Level Waste Facility contains two 3 metric ton per day melters for vitrifying the high-level waste fraction into glass. The vitrified waste will be ready for disposal at the national geologic repository.

Status as of the End of FY 2006: The basemat slabs, the walls to the main floor and most main floor slabs have been placed. Construction has placed 44,135 cubic yards of concrete, and has installed 9,320 tons of reinforcing steel, 697 tons of embeds and 480 tons of structural steel. Construction was curtailed to allow analysis of the facility system, structures and components against the Revised Ground Motion requirements. Engineering is continuing the analysis of the facility against the Revised Ground Motion. No changes are expected in the concrete portions and only minor changes are expected in the steel structure at the upper levels. Technical issues associated with hydrogen generation in piping and vessels are resolved with minor modifications to existing piping and components. Piping and instrumentation diagrams, required to complete the design of piping systems, have been completed for 24 of 25 systems.

Planned FY 2007 Activities: As a result of a change in construction strategy for the WTP Project, construction of the High-Level Waste Facility will remain curtailed during FY 2007. Engineering will continue with the design of the piping systems and issue piping for fabrication. Cable trays and power distribution systems design will continue. Facility structural designs for the upper levels will proceed to support material ordering for future construction. Previously procured major facility components will arrive on site. By the end of FY 2007, design will essentially be at 90 percent complete.

Proposed work for FY 2008: Construction of the High-Level Waste Facility will start to ramp-up in the first quarter. Engineering will complete civil design of elevation, second floor elevated slab and structural steel for the roof, continue piping design, and complete electrical and instrumentation cable layouts for areas on the fourth floor and roof. Major equipment procured will include mechanical handling cranes, shield doors, electrical transformers, switchgear and motor control centers, and heating, ventilation and air conditioning air handling units and fans. Construction will focus on concrete walls from main floor to second floor, and initiate elevated slab placements and structural steel installation on the second floor, piping installation in the basement corridors, and miscellaneous equipment sets.

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design/Construction			
Prior Years	800,036	800,036	704,700
FY 2006	102,964	102,964	121,991
FY 2007	177,000	177,000	176,309
FY 2008	177,000	177,000	211,000
FY 2009	195,000	195,000	193,000
FY 2010	175,000	175,000	174,500
FY 2011	180,000	180,000	172,500
FY 2012	182,000	182,000	182,000
Out Years	1,319,000	1,319,000	1,372,000
Total, Design and Construction	3,308,000	3,308,000	3,308,000

6. Total Estimated Costs

	(dollars in thousands) Current Estimate	Previous Estimate
Construction		
Construction / Commissioning	194,000	113,240
Construction / Construction	1,122,900	417,633
Construction / Management Reserve/Contract Contingency/Fee	602,000	251,888
Construction / Procurement	553,330	250,176
Construction / Project Contingency	301,000	30,000
Construction / Project Transition Costs, Other Project Costs	42,000	15,000
Total, Construction	2,815,230	1,077,937
Preliminary and Final Design	492,770	434,727
Total, TEC	3,308,000	1,512,664

Other Project Costs

N/A

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
Total	1,003,000	211,000	193,000	174,500	172,500	182,000	1,372,000	3,308,000

8. Related Operations and Maintenance Funding Requirements

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

(Related Funding requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
N/A	N/A	N/A	N/A	N/A

9. Required D&D Information

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

10. Acquisition Approach (formerly Method of Performance)

The following milestones are revised based on the December 2006 Performance Baseline. The Department has engaged in discussions with the Washington State Department of Ecology in regard to updating the regulatory milestones.

High-Level Waste Facility Milestones

Milestone Title	March 2003 Baseline	December 2006 Baseline
Start Construction	July 2002 **A**	July 2002 **A**
Complete Design	July 2007	August 2010
Complete Construction	April 2008	March 2017
Initiate Cold Commissioning	December 2008	June 2018
Complete Cold Commissioning	May 2009	October 2018
Initiate Hot Commissioning	April 2011	March 2019
Complete Hot Commissioning	June 2011	May 2019
A = Actual Date		

Note: For the December 2006 Performance Baseline, the planned dates include 20 months of schedule contingency estimated to be needed for the overall project to achieve an 80 percent confidence level.

01-D-16E Pretreatment Facility

1. Significant Changes

The revised estimated dollars and schedule dates included with this sub-project Construction Project Data Sheet are based on the December 2006 Performance Baseline for the overall WTP Project of $12,263,000,000 and a completion date of November 2019.

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2007	4Q FY1998	4Q FY2007	4Q FY2002	3Q FY2008	N/A	N/A
FY 2008	4Q FY1998	3Q FY2013	4Q FY2002	2Q FY2017	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2007	2,343,745	0	0	2,343,745	N/A	N/A
FY 2008	5,394,000	0	0	5,394,000	5,394,000	N/A

4. Project Description, Justification, and Scope

The Pretreatment Facility is a large multi-story reinforced concrete and structural steel structure that will separate radioactive tank waste into High-Activity Waste and Low-Activity Waste fractions and transfer the segregated waste to the High-Level Waste Facility and the Low-Activity Waste Facility for vitrification. The facility is expected to process an average daily rate of 6 metric tons of high-level waste and 80 metric tons of low-activity waste. The main pretreatment processes include filtration to separate the high curie solids from the low-activity liquids, evaporation to remove excess water, and ion exchange to remove cesium from the low-activity waste stream that is produced by filtration of the tank waste. The processing of the waste will be accomplished in black cells and a hot cell which are located in concrete structures in the center of the building. A hardened control room building and an annex building will be located adjacent to the Pretreatment Facility.

Status as of end of FY 2006: Advancing the engineering for the Pretreatment Facility was the main focus for FY 2006 since construction work on the facility was curtailed in December 2005. Overall, the design for the Pretreatment Facility was 67 percent complete by the end of the year. The revised seismic design criteria required engineering to revisit the design of piping, vessels, and the structures that had been accomplished in prior years. Engineering completed checking a third of the piping drawing that had been completed against the new criteria and found that there was little impact to the design, but about seven percent of the pipe hangers would require modification. The new seismic design criteria were provided to the process vessel fabricators, who initiated their evaluation of the vessels. A third of the concrete walls between the third floor and the fourth floor were checked and the design was found to be adequate. A number of technical issues were identified through a number of external reviews. The External Flowsheet Review Team identified a number of fundamental issues that have the potential of impacting the Pretreatment Facility. Issues related to the waste washing and leaching process, and the performance of the ultrafilters were identified. These presented a challenge for the Pretreatment staff, for which they spent significant efforts to prepare resolutions during the year. The possibility of multiple overblow of pulse jet mixers was also identified. Control systems and methods for detecting overblows were developed, along with a testing plan for determining the load that will result from a multiple overblow. Explosion or deflagration of accumulated hydrogen in piping and ancillary vessels was also found to be a credible technical issue in FY 2005. In FY 2006, Pretreatment engineering staff developed solutions for dealing with accumulated hydrogen throughout the facility. Piping and instrumentation diagrams were modified to reflect these solutions, and the changes were also added to the three-dimensional design model. Construction was limited to minor work on connecting the facility to underground waste transfer lines and demobilization of the facility.

Planned FY 2007 Activities: As a result of a change in construction strategy for the WTP Project, construction of the Pretreatment Facility will remain curtailed during FY 2007. Thus, the resolution of flowsheet and other technical issues will be the first priority for engineering during FY 2007. The testing required for supporting resolution of External Flowsheet Review Team and multiple overblow issues will be completed, and engineering will advance the design based upon the results from these tests. Checking of piping, vessel and structural design against the revised seismic design criteria will continue through the year. Fabrication of the vessels that are not currently on site will be completed. Any adjustments that are required to accommodate the revised seismic design criteria and other technical issues, such as hydrogen detonation in piping, will have been made to the vessels prior to shipment to the site. The piping emphasis will be on the black cell pipe design. By the end of FY 2007, design will essentially be at 80 percent complete.

Proposed FY 2008 Activities: Engineering will complete civil design of third floor walls and fourth floor elevated slabs, and continue with piping design in the black cells and hot cell. Resolution of technical issues that were identified by the External Flowsheet Review Team will be complete. Major equipment procured will include mechanical handling equipment, shield doors, vessels, and seismic upgrade kits for some vessels. The delivery of evaporators to the job site will be initiated during the period. Construction of the Pretreatment Facility will begin to ramp-up during the first quarter of FY 2008. Emphasis will be on concrete walls from third to fourth floors, elevated slabs on the third floor, piping installation in the black cells and hot cell, heating, ventilation and air conditioning ducting design and fabrication, fire protection piping, miscellaneous equipment sets, and initiation of installation of seismic upgrade kits in the vessels.

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design/Construction			
Prior Years	1,245,323	1,241,897	1,136,800
FY 2006	147,515	150,941	155,471
FY 2007	211,000	211,000	208,729
FY 2008	253,000	253,000	309,000
FY 2009	367,000	367,000	361,000
FY 2010	345,000	345,000	346,500
FY 2011	340,000	340,000	335,000
FY 2012	320,000	320,000	318,500
Out Years	2,165,162	2,165,162	2,223,000
Total, Design and Construction	5,394,000	5,394,000	5,394,000

6. Total Estimated Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Construction		
Construction / Commissioning	283,200	198,081
Construction / Construction	1,750,030	881,396
Construction / Management Reserve/Contract Contingency/Fee	1,240,000	240,334
Construction / Procurement	838,300	451,305
Construction / Project Contingency	521,000	30,000
Construction / Project Transition Costs, Other Project Costs	42,000	15,000
Total, Construction	4,674,530	1,816,116
Preliminary and Final Design	719,470	527,629
Total, TEC	5,394,000	2,343,745

Other Project Costs

N/A

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
Total	1,501,000	309,000	361,000	346,500	335,000	318,500	2,223,000	5,394,000

8. Related Operations and Maintenance Funding Requirements

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

(Related Funding requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
N/A	N/A	N/A	N/A	N/A

9. Required D&D Information

See the discussion in the 01-D-416, Waste Treatment and Immobilization Plant project level data sheet.

10. Acquisition Approach (formerly Method of Performance)

The following milestones are revised based on the December 2006 Performance Baseline. The Department has engaged in discussions with the Washington State Department of Ecology in regard to updating the regulatory milestones.

Pretreatment Facility Milestones

Milestone Title	March 2003 Baseline	December 2006 Baseline
Start Construction	July 2002 A	July 2002 A
Complete Design	July 2007	June 2013
Complete Construction	December 2008	March 2017
Initiate Cold Commissioning	January 2009	December 2017
Complete Cold Commissioning	September 2009	May 2018
Initiate Hot Commissioning	October 2009	December 2018
Complete Hot Commissioning	June 2011	March 2019
A = Actual Date		

Note: For the December 2006 Performance Baseline, the planned dates include 20 months of schedule contingency estimated to be needed for the overall project to achieve an 80 percent confidence level.

Savannah River

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Savannah River National Laboratory	49,207	43,300	39,300
Savannah River Operations Office	12,916	12,542	12,500
Savannah River Site	1,208,850	1,028,552	1,154,290
Total, Savannah River	1,270,973	1,084,394	1,206,090

Site Overview

The Savannah River Site is a key Department of Energy (DOE) industrial complex dedicated to the reduction of risks through safe stabilization, treatment, and disposition of legacy nuclear materials, spent nuclear fuel, and waste. Also, the National Nuclear Security Administration program, that supports the DOE national security and non-proliferation programs, and the EM program that addresses the reduction of risks through safe stabilization, treatment, and disposition of legacy nuclear materials, spent nuclear fuel, and waste.

Site Description

The Savannah River Site encompasses over 310 square miles with 1,000 facilities concentrated within only 10 percent of the total land area. As cleanup activities are completed, operations will be concentrated to the site's central core area. The land surrounding the central core area provides a protective buffer. All EM facilities and inactive waste units are being deactivated, decommissioned, and remediated. Facility decommissioning alternatives include demolition and in-situ disposal.

The Savannah River Site is divided into 18 site areas, according to the types of mission activities that occurred at each. All nuclear material will be stabilized and safely dispositioned. Groundwater will be addressed such that the Federal Safe Drinking Water Act maximum contaminant levels or alternate concentration levels will be achieved over time through source control, natural attenuation, and active cleanup (as needed).

Site Cleanup Strategy/Scope of Cleanup

Work scope is planned and executed at the Savannah River Site by treating each discrete cleanup program scope of work, as well as the total scope of work, as a project. Specifically, the scope, end state, cost, and schedule for each project is clearly defined and managed consistent with Departmental guidance for project management. The EM completion strategy provides a comprehensive risk-based approach to the EM cleanup project by disposition of radioactive liquid waste through vitrification of the high activity component at Defense Waste Processing Facility and disposal of the low-activity component through Saltstone; use existing Savannah River Site facilities to receive, store, and disposition aluminum-clad nuclear fuel; disposition excess plutonium using Savannah River Site facilities; disposition legacy transuranic waste to the Waste Isolation Pilot Plant; decommission all EM

facilities not required for continuing missions; remediate all waste sites; and use existing Savannah River Site waste treatment, storage, and disposal capabilities to efficiently and safely complete the EM cleanup project and support other Savannah River Site tenants.

The Savannah River Site cleanup strategy has three primary objectives: (1) Eliminate or minimize nuclear materials, spent nuclear fuel, and waste through safe stabilization, treatment, and/or disposition; (2) reduce the costs of continuing operations and surveillance and maintenance; and (3) decommission all EM-owned facilities, except those identified for transfer to another Program Secretarial Office, and remediate groundwater and contaminated soils, using an Area completion approach.

Site Completion (End-State)

Due to the revised Salt Waste Processing Facility schedule as well as extended Defense Waste Processing Facility operations caused by revised sludge volume estimates, end state for site completion has been extended from 2025 to 2031. By the end of FY 2031, subject to baseline validation and approval, inactive waste units will be remediated by employing an area-by-area completion strategy and any contaminated groundwater will be remediated, undergoing remediation, or monitored to ensure protection of human health and the environment. Units at which residual materials are left in place will be under institutional controls, comprised of access restrictions, inspections, maintenance, and monitoring. Concurrently with area completion, all EM facilities will be decommissioned.

Regulatory Framework

The Savannah River Site works closely with various oversight groups, environmental regulators, and stakeholders in accomplishing its work. The collaborative relationships, with these external parties and the cooperative nature of these relationships contribute to many cleanup accomplishments.

Savannah River and its contractors will continue to work proactively with the South Carolina Department of Health and Environmental Control, the Environmental Protection Agency, the Nuclear Regulatory Commission, the Defense Nuclear Facilities Safety Board, oversight groups, and stakeholders to facilitate the accomplishment of the environmental cleanup and risk reduction objectives at Savannah River Site. There are several key agreements that facilitate the cleanup of the Site. Subsequent to State initiated enforcement action, several key settlement agreements were entered into with the State of South Carolina, including Settlement Agreements 87-52-SW, 91-51-SW, 85-70-SW, 87-27-SW, as well as a Consent Decree through Federal Court. These enforceable agreements required Savannah River Site to submit closure plans and groundwater corrective action plans for several major land disposal units that operated after the effective date of the Resource Conservation and Recovery Act. The State of South Carolina is an Environmental Protection Agency authorized state allowing it to administer the Resource Conservation and Recovery Act for the Environmental Protection Agency. The State of South Carolina requires Savannah River Site to conduct these corrective actions through a Resource Conservation and Recovery Act Permit and that other Savannah River Site waste sites, i.e., Solid Waste Management Units and Areas of Concern, be investigated and remedial actions taken as needed.

In addition, the State of South Carolina has formally expressed its position that compliance with the requirements of the Federal Facility Agreement, including commitments and schedules within, constitutes compliance with the requirements of Resource Conservation and Recovery Act and the 1984

Hazardous and Solid Waste Amendments of the Solid Waste Disposal Act, as embodied in the Resource Conservation and Recovery Act Permit for corrective action of Solid Waste Management Units and Areas of Concern. Further, the State of South Carolina views Resource Conservation and Recovery Act Permit requirements for corrective action of Solid Waste Management Units and Areas of Concern, as always applicable and enforceable under the terms of the permit, but these are fulfilled by implementing the terms of the Federal Facility Agreement. Thus, the permit contains standing provisions requiring cleanup of Solid Waste Management Units / Areas of Concern. Under the Federal Facility Agreement, remedial decisions are reached for these units and the State of South Carolina subsequently modifies the permit consistent with the remedial action decision. In this manner, the state maintains enforcement authority but stands ready to implement the decisions reached under the Federal Facility Agreement. In this fashion, the Federal Facility Agreement and Resource Conservation and Recovery Act work in tandem, enabling the Federal Facility Agreement remedy to be administered and enforced as a condition of the Resource Conservation and Recovery Act Permit at any time and in the event, the terms of the Federal Facility Agreement become exhausted. Significant fines/penalties (including possible the Resource Conservation and Recovery Act criminal penalties) are possible for non-compliance.

The *Federal Facility Agreement* for the Savannah River Site - In August 1993, DOE - Savannah River, Environmental Protection Agency, and the South Carolina Department of Health, and Environmental Control, referred to as "the parties," reached agreement on the cleanup of Savannah River Site and began execution of cleanup in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act integrated through the Federal Facility Agreement. The Federal Facility Agreement governs environmental remediation and the closure of selected radioactive liquid waste tanks. The major purpose of the Federal Facility Agreement is to ensure that the environmental impacts associated with past and present activities are investigated and appropriate action is taken to protect human health and the environment. Individual waste units are able to be adjusted each year. This agreement is legally enforceable (with fines and penalties possible for noncompliance) and is required under Federal Regulation in that the Savannah River Site is listed on the Environmental Protection Agency National Priorities List.

The Savannah River Site Area Completion Strategy incorporates all of the known or potential sites of contaminant releases to the environment – operable units, site evaluation areas, and remnants of decommissioned facilities requiring further evaluation – into a single investigation and cleanup assessment. Any needed remedial actions may be performed early or may be done in one mobilization. Combining the investigations, assessments, and cleanup actions for several units saves time, reduces documentation, and lowers costs, and facilitates the EM completion of entire industrial areas, each contributing to the stepwise EM completion of the Savannah River Site.

A key compliance milestone for the next couple of years is listed below:

- Issue M-Area operable unit record of decision by – 3/31/2009

The Savannah River Site Treatment Plan - The Site Treatment Plan is a document that requires radioactive mixed waste to be treated to hazardous waste standards within an agreed-upon schedule. Radioactive liquid waste is an example of a radioactive mixed waste. The Site Treatment Plan is enforceable by a consent order signed by the Department of Health and Environmental Control and Savannah River. The Site Treatment Plan lays out the approaches and schedule milestones for treating and managing radioactive mixed wastes that are stored or generated at Savannah River Site. These

treatment approaches and milestones are determined to ensure Savannah River Site compliance with Resource Conservation Recovery Act land disposal restriction requirements. The Site Treatment Plan is required by the Federal Facility Compliance Act and is updated annually. This annual update includes an inventory of all mixed waste, status of all treatment residuals, implementation schedule, and projections of new mixed waste streams at Savannah River Site or those to be received from organizations external to Savannah River Site.

A key compliance milestone for the next couple of years is listed below:

- Remove remote-handled transuranic waste from Savannah River Site by – 1/1/2009

Federal Facility Compliance Act- This agreement defines requirements for preparing and submitting a site treatment plan for mixed low-level waste (radioactive waste mixed with hazardous chemicals) to the South Carolina Department of Health and Environmental Control, including options and schedules for treatment of identified waste.

Section 3116 of the Ronald W. Reagan National Defense Authorization Act - The Federal Facility Agreement defines the enforceable commitments for completion of closure of non-compliant tanks at Savannah River Site. Originally all tanks were to be closed in accordance with the waste incidental to reprocessing methodology in DOE Order 435.1. In October 2004, Congress passed the Ronald W. Reagan National Defense Authorization Act of FY 2005 (Public Law 108-375, 2004). Section 3116 of the National Defense Authorization Act allows the Secretary of Energy, in consultation with the Nuclear Regulatory Commission, to determine when waste from reprocessing of spent nuclear fuel is appropriate for onsite disposition as other than high-level waste when certain criteria are met. In order to meet criteria established in the statue, DOE must remove waste to the maximum extent practical and submit waste determinations to Nuclear Regulatory Commission for review. In addition to the Nuclear Regulatory Commission consultation, the Savannah River Site must obtain South Carolina Department of Health and Environmental Control and Environmental Protection Agency Region 4 approval on closure documentation required by the Industrial Waste Water Permit issued by the South Carolina Department of Health and Environmental Control prior to initiating tank closure activities.

Some of the key compliance milestones for the next couple of years are listed below:

- Begin operations of the Salt Waste Processing Facility by – 9/30/2011
- Close 24 non-compliant tanks by - 10/1/2022
- Maintain Defense Waste Processing Facility canister production sufficient to remove all High-Level Waste from tanks by – 1/1/2028

Nuclear Cooperation Agreements – Savannah River Site has received and expects to receive additional Foreign Research Reactor Spent Nuclear Fuel through FY 2019 that has restrictions regarding the use and/or recycle of the fuel. Generally these restrictions do not allow for the recycled fuel to be used for the production of, or use in nuclear weapons. These restrictions are often referred to as “Foreign Obligations”. These obligations originate from "agreements for cooperation" which are negotiated by the State Department with foreign countries that are recipients of US-origin research reactor fuel or for which such fuel passes through their boundaries. Certain of these agreements specify that the obligated material or substitute material must be placed under International Atomic Energy Agency safeguards.

These agreements are not expected to affect the disposition of the Foreign Research Reactor spent nuclear fuel.

Critical Project Uncertainties and Assumptions

Program-specific uncertainties that could have significant impacts to individual projects and may impact the overall cleanup scope, schedule, and costs have been identified:

- Loss of any major process facility for an extended period of time would impact cleanup and other Savannah River Site missions;
- Delays in the availability of Yucca Mountain would delay site completion and increase storage costs for high-level waste and spent nuclear fuel;
- Controlling sources of soil/groundwater contamination through sustained area-by-area cleanup/completion is critical to aquifer/stream protection and risk reduction and will allow for passive and natural groundwater remedies that are critical to reducing the cost of long term stewardship;
- Uncertainties within the radioactive liquid waste disposition program (i.e., the waste determination process under section 3116 of the FY 2005 National Defense Authorization Act) could delay tank closures;
- Uncertainties in the consolidation and disposition strategy for excess plutonium stored at sites by EM;
- Uncertainty in sludge inventory and characteristics in tank waste that could drive disposition costs and schedules in an adverse fashion;
- The Salt Waste Processing Facility and the 3013 construction project baselines (Critical Decision-2) have not yet been approved.

Interdependencies

Execution of the EM cleanup project at Savannah River Site involves numerous interfaces with other organizations both on and offsite. Since EM is the major Savannah River Site program, it provides landlord services to other organizations, primarily the National Nuclear Security Administration. Major interfaces are described below for both on and offsite entities. The EM role as landlord will end with the completion of work scope by the end of FY 2031, at which time landlord and interface responsibilities will transition to the National Nuclear Security Administration.

<u>National Nuclear Security Administration – Defense Programs – Tritium</u>
The National Nuclear Security Administration-Defense Programs mission includes maintaining technical expertise in tritium operations, production, and engineering to support the national nuclear weapons stockpile. The tritium program generates both liquid and solid low-level waste that is disposed by EM at Savannah River Site. This program does not have a forecast end date. The site Program Execution Plan assumes that no National Nuclear Security Administration- Defense Programs facilities will be transitioned to EM for decommissioning and soil and groundwater remediation.

National Nuclear Security Administration – Nuclear Nonproliferation – Plutonium Disposition
Savannah River Site has been selected as the location for the construction and operation of facilities to dispose of approximately 34 metric tons of surplus weapons-usable plutonium.

Three new facilities will be required to accomplish this plutonium disposition mission. One facility is the Pit Disassembly and Conversion Facility. The nuclear weapons are disassembled at the Pantex Plant in Texas. Plutonium pits from inside the nuclear weapons that are no longer needed for defense will be sent to the Savannah River Site's Pit Disassembly and Conversion Facility, which will disassemble the plutonium component of a nuclear weapon, and convert the resulting plutonium metal to a declassified oxide form suitable for the second facility, the Mixed Oxide Fuel Fabrication Facility. The Mixed Oxide Fuel Fabrication Facility will blend depleted uranium dioxide and plutonium dioxide, form the mixture into pellets, and load the pellets into fuel rods for use in commercial nuclear power plants. Approximately 34 metric tons of surplus plutonium will be used to fabricate this fuel.

The Mixed Oxide Fuel Fabrication Facility will be owned by DOE but designed, built, licensed, and operated by a private consortium (Duke, Cogema, and Stone & Webster companies). The facility will be licensed by the Nuclear Regulatory Commission and operated so that the facility will be available for inspection by the International Atomic Energy Agency. The third facility is the Waste Solidification Building that will treat the waste streams from both Pit Disassembly and Conversion Facility and Mixed Oxide Fuel Fabrication Facility.

The EM Program assumes that National Nuclear Security Administration will decommission their own facilities and will be responsible for soil and groundwater remediation and any new waste generated.

National Nuclear Security Administration – Nuclear Nonproliferation Program – Enriched Uranium Blend Down
The United States has declared a total of 174.3 metric tons of highly enriched uranium surplus to future weapons needs. One path for making this material unsuitable for nuclear weapons is through a dilution process, which makes this material suitable for productive use in commercial reactors. Of the 174.3 metric tons of highly enriched uranium, approximately 85 percent will be converted to commercial or research reactor fuel. The remaining highly enriched uranium will be disposed of as waste. Through the end of FY 2006, Savannah River Site has processed and blended approximately 14 metric tons of highly enriched uranium fuel and other material to low enriched uranium for shipment to a Tennessee Valley Authority vendor for processing and fabrication into commercial reactor fuel assemblies. Three more metric tons will be processed, blended and shipped in Fiscal Year 2007. In addition, through the end of Fiscal Year 2006, Savannah River Site shipped approximately 5 metric tons of highly enriched uranium aluminum alloy to a Tennessee Valley Authority vendor for processing and fabrication into commercial reactor fuel assemblies. The extended operation of the H-Canyon through Fiscal Year 2019 in accordance with the Enriched Uranium Disposition Project will disposition by processing blend down an additional 26 metric tons for transfer to the Tennessee Valley Authority.

Savannah River National Laboratory
The Savannah River National Laboratory is a DOE multi-program applied science laboratory. The Savannah River National Laboratory provides the expertise and the technology to help all DOE sites address the challenge of cleaning up of the environmental legacy from the Nation's nuclear weapons program and support the Energy initiatives of DOE. Savannah River National Laboratory also supports national, Homeland Security, and Energy Security objectives of our Nation. To support all these

missions, Savannah River National Laboratory conducts broad-based, multidisciplinary programs of scientific research and applied engineering directed toward applications for new and improved techniques, materials, systems, and capabilities to meet DOE and the Nation's needs. The Savannah River National Laboratory is indirectly funded by EM and the National Nuclear Security Administration. EM indirect funding was $49,207,000 in FY 2006, and is projected to be $43,300,000 in FY 2007, and is estimated to be $39,300,000 in FY 2008.

Office of Science – Savannah River Ecology Laboratory

The Savannah River Ecology Laboratory provides an independent evaluation of the ecological effects of Savannah River Site operations through a program of ecological research, education and outreach. This involves both basic and applied research with emphasis in three critical areas: 1) ecological risks and effects; 2) remediation and restoration; and 3) environmental characterization. This research supports Savannah River Site cleanup, stewardship, end state, and potential new missions. The University of Georgia manages the Savannah River Ecology Laboratory.

United States Forest Service – Savannah River Forest Station

The Savannah River Forest Station, implements a comprehensive program designed to sustain the health, productivity, and diversity of Savannah River Site natural resources that will meet regulatory requirements, protect site personnel and facilities, and address site-related natural resource issues that affect off-site stakeholders. Key elements include wildland fire protection, secondary road maintenance, site boundary management, soil and erosion control, forest products management, natural resources research, as well as wildlife and habitat management. The United States Forest Service also provides direct support to a number of site environmental cleanup projects, including maintaining cover systems placed on closed land disposal waste units and operating a groundwater corrective action/irrigation system required under the Resource Conservation and Recovery Act Permit. The United States Forest Service – Savannah River is an independent unit of the United States Forest Service.

Transuranic Waste Disposal

Transuranic waste resulting from nuclear material stabilization activities has been stored at Savannah River Site for years. Transuranic waste poses a significant risk due to waste characterization uncertainties and the potential for build-up of hazardous gases that could lead to an environmental release of contamination. Transuranic waste is being characterized and processed to ship to the Waste Isolation Pilot Plant. Shipments of transuranic waste drums began in FY 2001. The Waste Isolation Pilot Plant provides personnel at Savannah River Site who package material for shipment and provides certain equipment required for transuranic waste processing. Elimination of the transuranic waste inventory at Savannah River Site depends on the continued operation and acceptance of transuranic waste at the Waste Isolation Pilot Plant.

Hazardous and Mixed Waste Disposal

Hazardous waste is defined by the Environmental Protection Agency and requires management in accordance with specific regulatory mandates. Mixed low-level waste is a low-level radioactive waste, which also contains hazardous constituents, and is managed in accordance with DOE Order 435.1, Radioactive Waste Management, and hazardous waste regulations. The solid waste program receives, stores, and arranges offsite treatment or disposal for Savannah River Site - generated hazardous/mixed wastes. Examples of hazardous/mixed waste include materials such as lead, solvents, paints, and pesticides. N Area contains some of the interim hazardous waste storage facilities for the site, which involves three primary operations: receipt of waste from Savannah River Site generators, interim

storage, and shipment of the waste for treatment and disposal at a location other than Savannah River Site. Continued operation and cleanup of the Savannah River Site depends on the ability to ship hazardous waste to offsite vendors. Although the Nevada Test Site and the Hanford Site may be available in the future, there are presently no federal disposal facilities for treated, listed mixed waste.

Low-Level Waste Disposal

Low-level waste is radioactive waste that is not classified as radioactive liquid waste, transuranic waste, spent nuclear fuel or byproduct material and does not contain any hazardous waste. Typically, low-level waste at Savannah River Site is radioactively contaminated materials such as job-control waste, small and large equipment, plastic sheeting, gloves, soil, and suspect contaminated materials used within radioactive material management areas that cannot be proven to be free of radioactive contamination. Some low-level wastes generated at Savannah River Site are disposed of at other DOE locations (e.g., Nevada Test Site or Hanford) or commercial sites. Cleanup of the Savannah River Site depends on continued shipment of these materials to other sites for disposal.

Naval Reactor Waste

Classified waste, such as reactor components, is routinely received from Naval Reactors. These components are disposed of in E Area.

Tennessee Valley Authority

As previously mentioned, excess highly enriched uranium at Savannah River Site is being dispositioned by both dilution and shipment to the Tennessee Valley Authority vendors, Areva, and by direct shipment to Nuclear Fuel Services, respectively. Areva also provides natural uranium for the blending. Savannah River Site depends on Tennessee Valley Authority to provide and accept these materials to enable deinventory of H, L, and K Areas.

Idaho National Laboratory

Deinventory of H Canyon is dependent on transferring excess neptunium-237 to the Idaho National Laboratory for use in producing plutonium-238 (shipments are in progress). Additionally, spent nuclear fuel (containing enriched uranium) will be exchanged between Savannah River Site and Idaho National Laboratory. The aluminum based spent nuclear fuel (at Savannah River Site plus any received from Idaho National Laboratory) is planned to be stored in L-Basin awaiting shipment to the H-Canyon for processing and blend down to low enriched uranium in accordance with the Enriched Uranium Disposition Project (as previously discussed). The non-aluminum based spent nuclear fuel at Savannah River Site is planned to be shipped to Idaho National Laboratory to be consolidated with the non-aluminum based spent nuclear fuel already there.

Enriched Uranium Receipts from National Nuclear Security Administration Sites (Y-12 Oak Ridge, Los Alamos, Lawrence Livermore and others)

K-Area will accept enriched uranium materials for lag storage and subsequent shipment to the H-Canyon and HB-Line for processing and blend down to low enriched uranium in accordance with the Enriched Uranium Disposition Project (as previously discussed).

Oak Ridge Toxic Substances Control Act Incinerator
Savannah River Site sends waste to the Oak Ridge Toxic Substances Control Act Incinerator for thermal treatment. Although primarily available for treatment of radioactive polychlorinated biphenyl waste, the incinerator is also permitted for mixed low-level waste. Most recent shipments include F Canyon PUREX solvent.

Hanford, Los Alamos National Laboratory, and Lawrence Livermore National Laboratory Plutonium Receipts
DOE still has significant excess inventories of plutonium at three sites other than Savannah River Site: Hanford, Los Alamos National Laboratory, and Lawrence Livermore National Laboratory. The 2002 Performance Management Plan proposed consolidation of plutonium from across the DOE Complex at Savannah River Site to await disposition. At this time, DOE has not made a decision to consolidate any additional EM-owned plutonium at Savannah River Site; however, the Savannah River Site is prepared to support receipt of Fast Flux Test Facility material and additional DOE-STD-3013 containers from Hanford, Los Alamos National Laboratory, and Lawrence Livermore National Laboratory, should a consolidation decision be made.

Savannah River National Laboratory Support to Hanford Waste Treatment Plant
Savannah River National Laboratory has provided significant support to the Hanford Waste Treatment Plant Research and Technology Program. Primary areas of support have been in the areas of waste characterization, process and design confirmation, obtaining basic data to support design, and obtaining regulatory data to support environmental permitting and waste form qualification. Savannah River National Laboratory began supporting the Waste Treatment Plant in FY 2001 and is anticipated to continue support during design and construction of the Waste Treatment Plant.

Spent Nuclear Fuel
Savannah River Site receives, stores, and will ultimately disposition spent nuclear fuel from both domestic and foreign research reactors. This program requires extensive interface with reactor owners, and other DOE programs (e.g., National Nuclear Security Administration, Office of Civilian Radioactive Waste Management), other DOE field offices, and the Nuclear Regulatory Commission. Also approval from the Nuclear Regulatory Commission and the Department of Transportation to use the approved transportation corridor routes will have to be reaffirmed. Savannah River will be working with Idaho National Laboratory to plan the shipping schedule. Each shipment will have to be communicated to the Nuclear Regulatory Commission, the Department of Transportation and other Federal, State, and Local agencies along the route.

Plutonium Production Reactor Agreement – The Savannah River Site is party to an agreement with Russia to ensure that Savannah River Site Reactors are not used in the production of plutonium. Russian representatives visit the Savannah River Site generally once each year to inspect various seals at various reactor areas to ensure the seals are still intact. The Agreement is administered through the State Department.

International Atomic Energy Agency – The Department of Energy has placed approximately two metric tons of surplus plutonium under control of the International Atomic Energy Agency. The International Atomic Energy Agency inspects the surplus plutonium generally once per month either via an on-site inspection or remotely and also performs an annual inspection on-site. The surplus plutonium is

awaiting disposition (either as feed for mixed oxide fuel [pending construction], dissolution in the H-Canyon or vitrification via the Plutonium Vitrification Facility [pending construction]).

Contract Synopsis

The majority of cleanup scope falls within the management and operating contract (currently Washington Savannah River Company) which expired December 31, 2006. Negotiations are ongoing to extend the management and operating contract with Washington Savannah River for up to eighteen months. Savannah River Site is employing new strategies to achieve Departmental missions. The current approved acquisition strategy is to award two separate contracts. One contract will be for the management and operations of the Site and the other will be for the tank liquid waste project. The draft management and operating contract Request for Proposals has been made available for public comment. The draft tank liquid waste Request for Proposal is currently under internal Departmental review.

Cleanup Benefits

Savannah River Site is implementing a cleanup strategy that focuses on using a project approach to accomplish the EM cleanup. As of September 2006, 100 percent of the Savannah River Site's nuclear materials that were identified in the Defense Nuclear Facilities Safety Board Recommendation 94-1/2000-1 have been stabilized (54 milestones representing 143,518 items). Additionally, as of June 2006, Savannah River Site has received and stored the contents of 372 spent nuclear fuel casks (foreign and domestic), while at the same time completing deinventory of the Receiving Basin for Offsite Fuel. More than 2,132 vitrified waste canisters have been produced in conjunction with the removal of radioactive liquid waste from the storage tanks. Technical improvements have also permitted an increase in waste loading per canister. Shipments of transuranic waste to the Waste Isolation Pilot Plant have been increased, and other wastes are being sent offsite to disposition facilities. In the soils and groundwater project, 334 of the 515 waste sites have been completed or have Records of Decision in place. Over 200 facilities have been decommissioned. Relationships between Savannah River Site and its regulators have focused on additional completions through the deployment of new technologies and streamlining the regulatory documentation process.

Specific program benefits realized from the EM cleanup project are significant. For example, the non-compliant radioactive liquid waste tanks are the highest environmental and human health risks in the State of South Carolina according to the South Carolina Department of Health and Environmental Control. Most of the tanks with closure activities in FY 2008 have documented leaks. All leaks from the non-compliant tanks (tanks that do not meet Resource Conservation and Recovery Act standard for full secondary containment) have been to the annulus only with the exception of one Tank. Tank 16 leaked and overflowed the secondary containment in the annulus and resulted in about one hundred gallons spilled to the environment. This tank has been completely emptied but not closed and the annulus contains leaked high-level waste that is now solid. The leaks in these non-compliant tanks are managed in several ways and most are not active because material in the tanks is currently in solid form or levels in the tanks have been reduced below the leak sites. Removal of radioactive liquid waste will be completed by 2026. Upon completion, the facilities that supported these projects must be deactivated and decommissioned. In addition, the physical locations of the facilities must be closed under the Comprehensive Environmental Response, Compensation and Liability Act, or other governing permits and laws. These decontamination and decommissioning and environmental closure activities constitute the additional work scope from 2026 to 2031.The Federal Facility Agreement commitment is to close all

non-compliant tanks by FY 2022. H Canyon and HB Line will remain as the only operational chemical separations facilities after FY 2006. Savannah River Site has consolidated spent nuclear fuel from three storage basins to a single storage basin, all Savannah River Site 94-1/2001 commitments have been met, all Mk-16/Mk-22 fuel (approximately 16 metric tons) have been dissolved and are nearing disposition (at the end of FY 2007). Legacy transuranic waste is being shipped to the Waste Isolation Pilot Plant nearly three decades ahead of the original baseline, and the soil and groundwater project will be completed by FY 2031.

Funding is provided to the South Carolina Department of Health and Environmental Control for oversight and implementation of the Federal Facility Agreement and the Site Treatment Plan. Payments-in-Lieu-of-Taxes are provided for Aiken, Allendale, and Barnwell counties. Funding is also provided for the operation and maintenance of a public reading room for Savannah River Site documents to support stakeholder involvement.

Direct maintenance and repair at the Savannah River Site is estimated to be $117,000,000.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Savannah River Site			
2012 Completion Projects			
SR-0011B / NM Stabilization and Disposition-2012	250,924	232,468	31,000
SR-0040B / Nuclear Facility D&D - 2012	0	3,664	0
Subtotal, 2012 Completion Projects	250,924	236,132	31,000
2035 Completion Projects			
HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	13,751	0	0
SR-0011C / NM Stabilization and Disposition-2035	88,257	41,160	326,811
SR-0012 / SNF Stabilization and Disposition	7,561	22,668	31,133
SR-0013 / Solid Waste Stabilization and Disposition	159,367	85,276	61,528
SR-0030 / Soil and Water Remediation	82,325	103,150	75,191
SR-0040 / Nuclear Facility D&D	122,499	0	0
SR-0040C / Nuclear Facility D&D - 2035	0	12,542	2,908
SR-0100 / Non-Closure Mission Support	5,333	5,000	5,000
SR-0101 / Savannah River Community and Regulatory Support	7,583	7,542	7,500
Subtotal, 2035 Completion Projects	486,676	277,338	510,071
Tank Farm Activities			
SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035	533,373	570,924	665,019
Total, Savannah River Site	1,270,973	1,084,394	1,206,090
Total, Savannah River	1,270,973	1,084,394	1,206,090

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Savannah River					
Geographic Sites Eliminated (number of sites)	0	0	0	1	0%
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	919	919	919	919	100%
Enriched Uranium packaged for disposition (Number of Containers)	2,382	2,809	2,809	2,809	100%
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	479	490	490	490	100%
Depleted and Other Uranium packaged for disposition (Metric Tons)	8,704	8,755	8,755	23,182	38%
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	700	1,400	33,100	4%
Liquid Waste Tanks closed (Number of Tanks)	2	2	2	51	4%
High-Level Waste packaged for final disposition (Number of Containers)	2,214	2,400	2,586	5,862	44%
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2	2	2	39	5%
Transuranic Waste shipped for disposal (Cubic meters)	4,302	4,952	5,602	15,553	36%
Material Access Areas eliminated (Number of Material Access Areas)	2	2	2	3	67%
Nuclear Facility Completions (Number of Facilities)	10	13	13	191	7%
Radioactive Facility Completions (Number of Facilities)	8	9	9	42	21%
Industrial Facility Completions (Number of Facilities)	224	226	262	765	34%
Remediation Complete (Number of Release Sites)	325	344	358	516	69%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	86,888	90,444	93,224	140,442	66%

Detailed Justification

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
SR-0011B / NM Stabilization and Disposition-2012 (life-cycle estimate $3,705,460K)	**250,924**	**232,468**	**31,000**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS scope includes the design and construction of the 3013 Container Surveillance and Storage Capability.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

An analysis of the Department's Design Basis Threat criteria has led to the decision to shut down F-Area Material Storage and relocate the 3013 Container Surveillance and Storage Capability F-Area Material Storage project, 04-D-423, and the associated Project Engineering and Design, Various Locations, 04-D-414, sub-project 04-01, to the 105-K building, a Category 1 facility already being upgraded to meet 2005 Design Basis Threat criteria. The revised project will deliver the same capability planned for F-Area Material Storage, including container surveillance equipment that meets the DOE Standard 3013, as well as additional storage capability for the 3013 containers. This PBS includes an appropriation in FY 2006 of $18,415,000 for line item 04-D-414 for Project Engineering and Design, and for $2,935,000 to complete design of the 105-K facility in FY 2007. There was no appropriation in FY 2006 for the 04-D-423 Container Surveillance and Storage Capability in 105-K line item. The request is $21,300,000 in FY 2007 and $31,000,000 in FY 2008 for continued construction.

The end-state for this project consist of the operation of the 3013 Container Surveillance and Storage Capability being transferred to PBS SR-0011C at the time construction is completed.

In FY 2008 all activities in this PBS, except for the construction project, have been transferred to PBS SR-0011C.

In FY 2008, the following activities are planned:

- Continue construction for the 3013 Surveillance Capability Line Item.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed disposition of Neptunium solutions. (FY 2006)
- Complete design and initiate construction for 3013 Container Surveillance and Storage Capability Project. (May 2007)
- Continue construction for 3013 Surveillance Capability Line-Item. (September 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
SR-0040B / Nuclear Facility D&D - 2012 (life-cycle estimate $0K)	**0**	**3,664**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

In FY 2007 EM created this new PBS and transferred scope from SR-0040 to allow for more focused management for completing decommissioning of F-Area Material Storage in the near term as a new project. In FY 2008 EM has recombined this workscope with the remaining decontamination and decommissioning scope under PBS SR-0040C for clarity.

In FY 2008, the following activities are planned:

- No activity planned.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository (life-cycle estimate $0K)	**13,751**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS was created to manage the non-legacy spent nuclear fuel originating from non-DOE activities to facilitate potential transfer of these responsibilities to other non-EM programs. This transfer is no longer anticipated to occur. As a result, the work scope associated with this PBS at Idaho, Richland and Savannah River is transferred to PBS ID-0012B-D, RL-0012, and SR-0012, respectively.

In FY 2008, the following activities are planned:

- No activity planned.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
SR-0011C / NM Stabilization and Disposition-2035 (life-cycle estimate $3,778,127K)	**88,257**	**41,160**	**326,811**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The H Area facilities will continue to disposition enriched uranium materials (EM and the National Nuclear Security Administration) and the existing and projected inventory of aluminum-clad spent nuclear fuel through FY 2019. The remaining materials to be stabilized/dispositioned in H Area include: highly-enriched uranium solutions; miscellaneous fuels; plutonium residues; enriched uranium residues; aluminum-clad spent nuclear fuel, and other legacy materials identified by DOE. These facilities will be deactivated by the end of FY 2023. Funding for the Highly Enriched Uranium Blend Down program, which was previously funded by the National Nuclear Security Administration, will be included in this PBS. These facilities also have the capability to disposition up to approximately 2 metric tons of certain plutonium materials (compatible with Canyon processes and not suitable for the Mixed Oxide Fuel Fabrication Facility) through the liquid waste system.

The remaining F-Complex deactivation work involves completion of the cooling tower for F-Area Material Storage shutdown of major processing equipment; disposition of depleted uranium oxide.

This PBS scope also includes the Receiving Basin for Off-Site Fuels facility which has been de-inventoried, deactivated and placed in long-term surveillance, as well as operations of the 3013 Container Surveillance and Storage Capability.

Additional scope of this PBS is to operate K-Area as a storage and surveillance facility for stabilized special nuclear 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 Savannah River Site facilities will be operated in compliance with applicable laws, regulations, and DOE Orders. Legacy special nuclear material is protected from theft and sabotage, including upgrade of protective capabilities, as appropriate. The special nuclear material will be managed until final disposition facilities are available.

The K Reactor process area will be maintained in a safe and environmentally sound shutdown condition. The K-Area will continue to serve as a material storage facility for unirradiated highly enriched uranium, tritiated heavy water, and plutonium. The K-Area Material Storage Facility will also continue to serve as an International Atomic Energy Agency control protocols facility for plutonium oxide.

The capability to perform destructive and non-destructive surveillance in accordance with DOE Standard-3013 is being installed in K-Area, as a line-item project, 04-D-423, 3013 Container Surveillance and Storage Capability. This project is part of the scope and funding requirements of PBS SR-0011B, NM Stabilization and Disposition-2012. When completed in FY 2010, DOE STD-3013 surveillance and repackaging capability will be operated for management of legacy inventories within the K-Area Material

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Storage Facility. 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 for disposition by FY 2019.

Additionally, DOE is planning to ship the Fast Flux Test Facility green fuel from Hanford to the Savannah River Site.

EM is proceeding with the projects in K-Area to disposition a majority of the plutonium that cannot go into the mixed-oxide fuel process. After the special nuclear materials are dispositioned by 2020, the K Area will be deactivated, placing the facilities in a minimum surveillance and maintenance condition, pending transfer of the facilities to PBS SR-0040C, Nuclear Facility Decontamination and Decommissioning. In FY 2006, Congress appropriated $10,000,000 to conduct and prepare the alternatives and evaluation, and conceptual design for a plutonium vitrification disposition project. In FY 2007 EM will spend an additional $10,000,000 from available funds to complete conceptual design. Preliminary design is to start in FY 2008 with project completion in the FY 2013 time frame. Included in this PBS is a request of $15,000,000 for Project Engineering and Design, 08-D-414.

The end-states for this project consists of F and H Area facilities and Receiving Basin for Off-site Fuel deactivated, which would then be included in PBS SR-0040C, Nuclear Facility Decontamination and Decommissioning, for decommissioning. After decommissioning, these facilities will be transitioned to PBS SR-0030, Soil and Water Remediation for area closures.

In FY 2008, the following activities are planned:

- Attain operational acceptance and commence operations of K-Area interim surveillance of DOE-STD 3013 Containers.
- Initiate Plutonium Vitrification Disposition Project preliminary design.
- Perform surveillance of materials in storage in accordance with DOE-STD-3013 and the surveillance and monitoring plan.
- Support International Atomic Energy Agency inspections of materials in storage.
- Complete shipments of neptunium to the Idaho National Laboratory.
- Perform material shipments to support H-Area operations.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue H Canyon and HB-Line processing of legacy materials and aluminum-clad spent nuclear fuel identified by DOE; continue H Canyon support of the efforts to blend highly enriched uranium solutions to low enriched uranium; and package and ship the low enriched uranium to the Tennessee Valley Authority.
- Continue to disposition depleted uranium oxide from the Savannah River Site.
- Continue to monitor F-Canyon Complex facilities in a minimum surveillance and maintenance condition.
- Continue processing missions with four shift operations at H-Canyon/HB Line. All materials and aluminum-clad spent nuclear fuels will be dispositional consistent with the site cleanup strategy.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	919	919	919	919	100%
Enriched Uranium packaged for disposition (Number of Containers)	2,382	2,809	2,809	2,809	100%
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	479	490	490	490	100%
Depleted and Other Uranium packaged for disposition (Metric Tons)	8,704	8,755	8,755	23,182	38%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Initiated conceptual design of Plutonium Disposition Facility. (FY 2006)
- Continued 235-F special nuclear material program facility capability. (FY 2006)
- Continued K-Area special nuclear material program facility capability. (FY 2006)
- Downgraded 235-F deinventory and transferred to PBS SR-0040 for decontamination and decommissioning. (FY 2006)
- Complete operations of Metallurgical Building and turnover to PBS SR-0040 for decontamination and decommissioning. (November 2006)
- Complete 235-F deinventory and transfer to PBS SR-0040 for decontamination and decommissioning. (December 2006)
- Complete F-Area Materials Storage deinventory and transfer to PBS SR-0040 for deactivation and decommissioning. (June 2007)
- Complete shipments of neptunium to Idaho. (September 2007)
- Complete conceptual design of plutonium disposition process. (September 2007)
- Initiate preliminary design of the Plutonium Vitrification Disposition Facility. (September 2008)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
• Continue K-Area special nuclear material program facility capability. (September 2008) • Continue construction of the 3013 Container Surveillance and Storage Capability project. (September 2008) • Complete disposition of depleted uranium oxide. (September 2008)			
SR-0012 / SNF Stabilization and Disposition (life-cycle estimate $1,456,079K)	**7,561**	**22,668**	**31,133**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS covers the scope and funding for the legacy spent nuclear fuel originating from Atomic Energy Commission and DOE activities and non-legacy spent nuclear fuel, which is being transferred from PBS HQ-SNF- 0012X, Spent Nuclear Fuel Stabilization and Disposition-Storage Operations awaiting final disposition that includes funding for the receipt, storage, and preparation for diposition at Savannah River Site. All spent fuel activities at Savannah River are conducted in a single area and consolidated for storage in a single basin.

Preparations will be initiated in FY 2008 for the spent nuclear fuel exchange with Idaho National Laboratory. Aluminum-clad spent nuclear fuel will be shipped from Idaho National Laboratory to Savannah River Site and non-aluminum clad spent nuclear fuel will be shipped from Savannah River Site to the Idaho National Laboratory.

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. 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.

The end-state will be accomplished when all remaining Savannah River Site inventories of legacy spent nuclear fuel have been dispositioned, and the spent nuclear fuel facilities have been deactivated and turned over for final disposition. Activities include: receipt of legacy spent nuclear fuel in L-Disassembly Basin; cask unloading and preparation for underwater storage, cask loading and shipments of irradiated and non-irradiated spent nuclear fuel and miscellaneous 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. These activities fully support the

(dollars in thousands)

FY 2006	FY 2007	FY 2008

dispositioning of spent nuclear fuel and deactivating the spent nuclear fuel facilities by 2019. Additionally, this project provides for the safe receipt and storage of all non-legacy spent nuclear fuel sent to the Savannah River Site, and the safe disposition of the non-legacy spent nuclear fuel.

This PBS also includes a large inventory of heavy water (1,600 Metric Tons) that is stored in various areas that will be dispositioned by the end of FY 2020. Some of the heavy water is significantly tritiated. Disposition alternatives are being explored. All deactivation activities under this PBS are scheduled to be completed by FY 2022 when the facilities will be turned over to PBS SR-0040C, Nuclear Facility Decontamination and Decommissioning.

In FY 2008, the following activities are planned:

- Facility surveillance and maintenance activities, including sampling, radiation monitoring and nuclear safety systems maintenance to ensure compliance with Federal regulations and the facilities authorization basis.

- Spent Nuclear Fuel/Basin Operation Activities – continue operation of de-ionization systems and fuel handling (loading and unloading capability), spent nuclear fuel receipt scheduling and transportation coordination, safe storage of existing inventories, and maintaining the capability to receive fuel (at a rate capable of supporting program requirements).

- Begin spent nuclear fuel shipments to H-Canyon for processing.

- Maintain the spent nuclear fuel facility infrastructure and make necessary fire protection upgrades as required by the National Fire Protection Association code.

- Planning will be initiated for the exchange of spent nuclear fuel with the Idaho National Laboratory that could begin as early as the FY 2009/2010 time frame. Aluminum-clad spent nuclear fuel will be shipped from Idaho National Laboratory to Savannah River and non-aluminum-clad spent nuclear fuel will be shipped from Savannah River to the Idaho National Laboratory.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2	2	2	39	5%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Maintain L Area spent nuclear fuel receipt, storage, and shipping facilities in an operable condition capable of supporting planned program requirements. (September 2007/September 2008)
- Spent Nuclear Fuel Receipts - Receive Foreign Research Reactor Fuel, receive Domestic Research Reactor Fuel. (September 2007)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Spent Nuclear Fuel Receipts - Receive Foreign Research Reactor Fuel, receive Domestic Research Reactor Fuel. (September 2008)
- Begin preparation for the spent nuclear fuel exchange with Idaho National Laboratory. (September 2008)
- Provide safe storage and disposition of heavy water in L and K Areas. (September 2008)

SR-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate $1,886,373K)	**159,367**	**85,276**	**61,528**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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 for the Consolidated Incinerator Facility project, general “landlord” functions required to maintain Resource Conservation and Recovery Act permit conditions. 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 were eliminated in FY 2005, mixed low-level waste, and hazardous waste will be eliminated by the end of FY 2007. Drummed transuranic legacy waste will be eliminated by the end of FY 2009.

In addition, boxed/bulk transuranic legacy waste will be eliminated by FY 2013. Alternative disposal options for PUREX (i.e., Plutonium – Uranium Extraction) waste have been developed with treatment scheduled for FY 2007 thereby allowing the Consolidated Incinerator Facility to close. 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 2031.

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.

In FY 2008, the following activities are planned:

- Dispose of transuranic waste re-characterized as mixed low-level waste.
- Dispose of low-level waste and newly generated waste, including soil and groundwater and decontamination and decommissioning waste.
- Dispose of mixed low-level waste inventory and newly generated waste.
- Dispose of hazardous waste inventory and newly generated waste.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	4,302	4,952	5,602	15,553	36%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	86,888	90,444	93,224	140,442	66%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed disposal of legacy drummed transuranic waste at the Waste Isolation Pilot Plant. (FY 2006)
- Disposed of remainder legacy low-level waste/mixed low-level waste. (FY 2006)
- Eliminated all legacy low-level/hazardous waste/mixed waste. (FY 2006)
- Completed installation and start-up of Non-Destructive Examination and Non-Destructive Assay systems for boxed transuranic waste. (FY 2006)
- Complete Site Treatment Plan milestones for transuranic waste. (September 2007)
- Complete shipments of 3,000 Low Activity Transuranic Waste Drums to the Waste Isolation Pilot Plant. (September 2008)
- Continue treatment of newly generated hazardous/mixed waste within one year from generation date per Resource Conservation and Recovery Act regulations. (September 2008)
- Continue disposal of newly generated low-level waste within one year from generation date per DOE Order 435.1. (September 2008)
- Bring three additional transuranic waste storage facilities into Resource Conservation and Recovery Act compliance. (September 2008)

SR-0030 / Soil and Water Remediation (life-cycle estimate $2,613,749K)	**82,325**	**103,150**	**75,191**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Soil and Water Remediation PBS scope includes the remediation of Savannah River Site contaminated soils/waste sites to reduce risk and to protect groundwater aquifers/surface waters from the spread of contamination by addressing the sources of contamination using an Area Completion Approach. In conjunction with source control, existing contamination in vadose zones, groundwater and surface water/sediments are to be cleaned up, thereby reducing risk to the site worker, the public, and the environment by preventing/reducing/mitigating the spread of contamination to ensure that groundwater aquifers and surface waters are protected. A key component of the Savannah River Site approach is to ensure that the overall amount of contamination required to be cleaned up by DOE, is not allowed to spread uncontrolled into adjoining groundwater aquifers/near-by surface waters, further extending the amount of time and resources required for cleanup. For the 515 waste sites at the Savannah River Site, 324

(dollars in thousands)

FY 2006	FY 2007	FY 2008

were completed through FY 2006. For the remaining 191, particular attention is paid to waste sites with principal threat source materials that serve as continuing sources of contamination to the environment; or those with mobile contaminants that already have or have the potential to migrate to groundwater, surface water, or off of the 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.

The cleanup approach is to remove or immobilize substantial sources of contaminants and remediate contaminated groundwater using passive and natural remedies as low as possible. This supports the cleanup objectives of constructing final remedies for soil and groundwater by 2031. Waste sites and groundwater will be managed such that all enforceable milestones, reflecting DOE and regulator consensus on the pace and objectives of Savannah River Site cleanup program, are met. The Federal *Facility Agreement for the Savannah River Site* reflects cleanup prioritization as negotiated with the two primary regulatory oversight agencies, the United States Environmental Protection Agency-Region-4 and the South Carolina Department of Health and Environmental Control. All projects will use the streamlined regulatory Core Team basis process developed by DOE, the Environmental Protection Agency, and South Carolina to shorten schedules, maximize innovation, and reduce costs to achieve accelerated risk reduction. This project includes the Old Radioactive Waste Burial Ground and the Dynamic Underground Stripping project.

In FY 2008, the following activities are planned:

- Continue area completion and source control remediation activities in Areas P, R, C and A/M to reduce risk to workers/the public and eliminate/mitigate further migration of contaminants.

- Operate a Dynamic Underground Stripping steam system, 3 air strippers, 2 recirculation well systems, 3 Soil Vapor Extraction Systems, 3 Baroball systems, an Electrical Resistance Heating system, a phytoremediation system, 3 microblower systems; injection of base chemicals and microbial edible oils into the subsurface; a 40-acre expansion of the phytoremediation system; and, construction of a 5-acre soil cover and an extensive cap drainage system.

- Continue groundwater corrective actions in Areas A/M,F,H,T,C,D,E, and L(Mixed Waste Management Facility) for aquifer/stream protection to reduce risk to workers/public and protect/restore water resources.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	325	344	358	516	69%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
• Issued Final T Area Record of Decision. (FY 2006) • Start R Area Field Investigation. (September 2007) • Issue M Area Inactive Process Sewer Lines Record of Decision and Start Remedial Actions. (September 2007) • Define Nature and Extent of Contamination and Start Remedial Investigation and Evaluate need for Early Action(s) at R Area (including B-reactor and surrounding waste units and soil contamination). (September 2007) • Issue Record of Decision for A Burning/Rubble Pits, A Rubble Pit, Miscellaneous Chemical Basin/Metals Burning Pit Waste Units. (September 2007) • Continue Investigation of Nature and Extent of Contamination in P-Area and evaluate need for Early Action(s) at P-Area (including P-Reactor and surrounding waste units and soil contamination). (September 2007) • Issue L Area Southern Groundwater Operable Unit Record of Decision to address groundwater contamination and outcropping to surface water body. (September 2007) • Respond to Notice of Deficiencies/submit revised Corrective Action Plans for groundwater contamination at the Northeast, Northwest and Southeast Plumes of the Mixed Waste Management Facility (a closed landfill containing buried nuclear and hazardous wastes). (September 2007) • Submit Phase II Corrective Action Plan for M Area/Met Lab Southern Sector to address Groundwater Contamination and Protect Aquifer/Stream. (September 2007) • Submit Phase II Corrective Action Plan for F/H Areas to address groundwater contamination and outcropping to a nearby stream. (September 2007) • Continue groundwater corrective actions in Areas A/M, F, H, T, C, D, E, and L (Mixed Waste Management Facility) for aquifer/stream protection to reduce to workers/public and protect/restore water resources. (September 2007/September 2008) • Start Remedial Actions for L-Area Southern Groundwater Operable Unit to address groundwater contamination and outcropping to surface water body. (September 2008) • Continue defining nature and extent of contamination and evaluating need for Early Action(s) in Savannah River Flood Plain Swamp (a large area which all five site streams drain to and which contains contaminated sediments) Integrator Operable Unit (includes evaluation of hunter risk from game animal ingestion and potential early actions). (September 2008)			

SR-0040 / Nuclear Facility D&D (life-cycle estimate $1,326,787K)	**122,499**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

In FY 2007, EM created two new PBS's to allow for more focus on the workscope in the near term. The scope of this PBS was separated under SR-0040B in 2012 Completion Projects and SR-0040C in 2035 Completion Projects. The scope has been recombined under SR-0040C in FY 2008.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- No deactivation and decommissioning activities are planned.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

SR-0040C / Nuclear Facility D&D - 2035 (life-cycle estimate $2,985,524K)	**0**	**12,542**	**2,908**

This PBS can be found within the Defense Environmental Cleanup appropriation.

In FY 2007 EM created this new PBS and transferred scope from SR-0040 to allow for more focus on Workscope in the near-term. In FY 2008 the scope from SR-0040 and SR-0040B has been transferred to this PBS for clarity.

After forty years of producing nuclear materials for defense and non-defense uses, the Savannah River Site shifted its strategic direction and resources from nuclear materials production to cleanup. An integral part of the cleanup mission is decommissioning of facilities constructed in support of nuclear materials production. At the start of FY 2003, there were 1,013 major facilities to be decommissioned, or to be transitioned to a non-EM organization, as part of the EM cleanup project.

The vision for the Savannah River Site is that operations will be concentrated toward the center of the site to form a central core area with continuing non-EM missions. It is envisioned that this central core area will be surrounded by a buffer area, which will provide a safety and security zone between the central core area and the public.

There are two possible decommissioning end-state alternatives for the Savannah River Site facilities: demolition or in-situ disposal. For each facility, the end-state is determined by considering: physical condition at the time of decommissioning; structural factors affecting difficulty of removal or effectiveness of containment; proximity to public access areas, or surface or groundwater sources; client and stakeholder expectations; and extent of contamination and/or hazardous material and the degree to which they may pose a threat to the environment or the public.

Preliminary end-states have been identified for all the major facilities. All excess EM facilities within the buffer area will be demolished. A graded approach to the decommissioning process assures the appropriate stakeholder, Environmental Protection Agency and South Carolina Department of Health and Environmental Control involvement in decommissioning end state decisions. EM continues to incorporate opportunities to further accelerate risk reduction.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- Conduct minimum required surveillance and maintenance of reactor area facilities and other facilities that are managed by the project.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Nuclear Facility Completions (Number of Facilities)	10	13	13	191	7%
Radioactive Facility Completions (Number of Facilities)	8	9	9	42	21%
Industrial Facility Completions (Number of Facilities)	224	226	262	765	34%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Complete D&D of M Area Facilities. (November 2006/November 2007)
- Complete D&D of D Area Heavy Water Plant Facilities. (November 2006/November 2007)
- Conduct minimum required surveillance and maintenance of reactor area facilities and other facilities that are managed by the project. (September 2008)
- Close two tanks. (September 2008)

SR-0100 / Non-Closure Mission Support (life-cycle estimate $348,749K)	**5,333**	**5,000**	**5,000**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The purpose and scope of this project is to provide support that enables the Savannah River Site to perform its missions and cleanup objectives. Support activities include archaeological research, geological surveys, ecological research, natural resources management, forestry management, project management, Historically Black Colleges and Universities, and the DOE Summer Diversity Intern Program. Other activities include support and development of a long-term observation network to monitor water level, flow paths, and water quality. Critical support activities will continue through the EM planned completion date of 2031. Beginning in 2032, remaining support activities, for example, natural resource management will be transferred to either the Office of Legacy Management or another Program Secretarial Office.

In FY 2008, the following activities are planned:

- Forest Management involves a comprehensive management program to sustain the health, productivity and diversity of Savannah River Site's natural resources, a forest fire protection program, secondary road system maintenance, erosion control, soil restoration and exterior boundary maintenance.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Cultural Resources management involves technical expertise to meet Savannah River Site's cultural resources management regulatory requirements, review for the National Environmental Policy Act and Comprehensive Environmental Response, Compensation and Liabilities Act documents for National Historic Preservation Act negotiations.

- Geological Surveys and Natural Resource Management provides technical expertise needed to obtain State grading permits for new and modified EM projects through a streamlined regulatory process; and site specific soil survey and mapping information. Natural Resource management provides expedited animal control permits and assists Savannah River in game management/enforcement activities for the Savannah River Site.

- Grant programs are executed with southeast Historically Black Colleges and Universities focused on scientific research related to environmental issues.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Successfully managed Savannah River Site lands and natural resources in full compliance with Federal and state regulatory requirements. (FY 2006)
- Managed a comprehensive fire management program that successfully protects the Savannah River Site from both on-site and off-site wildland fires. (FY 2006)
- Maintained Savannah River Site secondary roads/bridges and perform site boundary maintenance. (FY 2006)
- Conducted atmospheric, water, terrestrial, and biological monitoring and provided independent oversight of the sampling activities. (FY 2006)
- Successfully manage Savannah River Site lands and natural resources in full compliance with Federal and state regulatory requirements. (September 2007/September 2008)
- Manage a comprehensive fire management program that successfully protects the Savannah River Site from both on-site and off-site wildland fires. (September 2007/September 2008)
- Maintain Savannah River Site secondary roads/bridges and perform site boundary maintenance. (September 2007/September 2008)
- Conduct atmospheric, water, terrestrial, and biological monitoring and provided independent oversight of the sampling activities. (September 2007/September 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
SR-0101 / Savannah River Community and Regulatory Support (life-cycle estimate $170,393K)	**7,583**	**7,542**	**7,500**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This project provides independent environmental monitoring and emergency management activities by the States of South Carolina and Georgia under either an Agreement- in-Principle or grant. Independent State monitoring and emergency management activities verify Savannah River Site reporting results and support public awareness for 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 Environmental Response, Compensation, and Liability Act/Resource Conservation and Recovery Act. Their reviews support the cleanup objectives of constructing final remedies for soil and groundwater by 2031. This project scope also provides for the operation and maintenance of a public reading room for Savannah River documents to support communication and stakeholder involvement, and Payments-In-Lieu-Of-Taxes for three South Carolina counties (Aiken, Allendale, and Barnwell). Support is provided to the Citizens Advisory Board to include facilitator, technical advisor, meeting rooms, and other logistical needs.

In FY 2008, the following activities are planned:

- Continue grants to regulatory agencies under the Federal Facility Agreement and Agreement- in-Principle (including emergency management activities).
- Continue Payment-in-Lieu-of-Taxes to Aiken, Allendale, and Barnwell counties.
- Continue support to the Citizens Advisory Board for advice and recommendations.
- Continue the operation and maintenance of a public reading room for Savannah River documents to support communication and stakeholder involvement.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Continued grants to regulatory agencies under the Federal Facility Agreement and Agreement-in-Principle (including emergency management activities). (FY 2006)
- Continued emergency planning and preparedness for the State of South Carolina from simulated or actual release of hazardous substances. (FY 2006)
- Continue grants to regulatory agencies under the Federal Facility Agreement and Agreement-in-Principle (including emergency management activities). (September 2007/September 2008)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue emergency planning and preparedness for the State of South Carolina from simulated or actual release of hazardous substances. (September 2007/September 2008)

SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035 (life-cycle estimate $17,540,408K)	**533,373**	**570,924**	**665,019**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS supports the mission of the tank waste program at the Savannah River Site, to safely and efficiently treat, stabilize, and dispose of approximately 37 million gallons of legacy radioactive waste currently stored in 49 underground storage tanks.

The Savannah River Site plans to: reduce the volume of tank waste by evaporation to ensure that storage tank space is available to receive additional legacy waste volume from ongoing nuclear material stabilization and waste processing activities; pre-treat the radioactive waste as sludge and salt waste; vitrify sludge and high curie/high actinide high-level waste at the Defense Waste Processing Facility into canisters and then store and ship the canisters to the Federal Repository for final disposal; treat and dispose the low-level tank waste as saltstone grout; treat and discharge evaporator overheads through the Effluent Treatment Project; empty and permanently close in place using grout all waste tanks and support systems; and ensure that risks to the environment and human health and safety from tank waste operations are eliminated or reduced to acceptable levels.

This project will construct a facility to treat large quantities of waste from reprocessing and other liquids generated by nuclear materials production operations at the Savannah River Site. Approximately 37 million gallons of this waste are being stored on an interim basis in 49 underground waste storage tanks.

To comply with state and federal regulatory agreements, all storage tanks must be empty by 2028. The Department started operating the Defense Waste Processing Facility in 1996 to vitrify high-level waste in a stable form and store it for eventual disposal in a geologic repository. The ability to safely process the salt component of the waste stored in underground storage tanks at Savannah River is a crucial prerequisite for completing high-level waste disposal. Therefore, this project will also design, construct, and operate the Salt Waste Processing Facility to safely separate the high-activity fraction from the low-activity fraction of the salt waste stored in underground tanks at Savannah River. The Department has selected caustic-side solvent extraction as the technology for separation of high-level cesium from the salt wastes. Salt Waste Processing Facility processing also includes a separation step to remove strontium, uranium, plutonium and neptunium from the waste by sorption onto granular monosodium titanate followed by filtration. Processing salt waste through the Salt Waste Processing Facility is planned to begin by 2011 to maintain adequate tank space required to support Defense Waste Processing Facility operations, expedite processing of liquid waste consistent with the current strategy, and ensure the site

(dollars in thousands)

FY 2006	FY 2007	FY 2008

meets its Federal Facilities Agreement commitments for waste tank disposition.

The end-state of this project will result in the permanent disposal of all the liquid tank waste currently stored at the Savannah River Site as well as all legacy tank waste from planned nuclear materials stabilization activities. It will also result in the permanent closure of the remaining 49 underground storage tanks (two of the original 51 tanks have already been closed in place in FY 1998 using grout).

In FY 2006, $6,905,000 was appropriated to complete construction of the Glass Waste Storage Building II, line item 04-D-408, of which, EM reprogrammed $5,000,000 for other activities at Savannah River.

For the Salt Waste Processing Facility, a total of, $34,990,000 was appropriated in FY 2006, $37,500,000 was requested in FY 2007, and $10,001,000 is being requested in FY 2008 for Project Engineering and Design, 03-D-414.

Additionally, the Salt Waste Processing Facility project was appropriated $495,000 ($20,000,000 was rescinded from FY 2005 project appropriation) in FY 2006, $25,700,000 was requested in FY 2007 and $131,000,000 is requested in FY 2008 to continue construction.

In response to the Defense Nuclear Facilities Safety Board concerns, the Department has increased the safety level of the Salt Waste Processing Facility confinement system from a Performance Category 2 to Performance Category 3. This confinement system change added 26 months to the project schedule, and requires re-design and additional engineering and construction efforts. Because of this delay, Savannah River has been developing an interim processing capability to assure that waste tanks space will be available to continue the Defense Waste Processing Facility operations. This capability includes another modular caustic-side solvent extraction unit and an actinide removal process step. An expense funded data sheet can be found in the PBS Sub-projects Appendix at the end of the EM Budget Request. In FY 2007, the request for the Interim Salt Waste Processing System was $30,995,000, and $3,550,000 is requested in FY 2008 for this project.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- Complete Tanks 18 and 19 additional waste removal activities.
- Complete Tank 4 heel waste removal activities.
- Complete Tank 5 and 6 waste removal and annulus cleaning activities.
- Initiate Tank 11 heel removal.
- Complete Tank 12 waste removal activities and initiate heel removal.
- Continue Tank 13 and 14 waste removal activities.
- Continue Tank 16 annulus cleaning.
- Complete F-Area Tank Farm Performance Assessment modeling.
- Submit Waste Determination to the Nuclear Regulatory Commission for Tanks 1 through 8, Tanks 18 and 19.
- Initiate H-Area Tank Farm Performance Assessment modeling.
- Submit Industrial Waste Water Permit closure documentation for Tanks 18, 19, and Tanks 1 through 8 to South Carolina Department of Health and Environmental Control.
- Prepare sludge batch 5 in support of continued High Level Waste vitrification.
- Continue operation of Defense Waste Processing Facility and vitrify 186 High Level Waste canisters.
- Continue operation of the Modular Caustic-Side Solvent Extraction Unit and the 96H Actinide Removal Process.
- Continue construction of decontaminated salt solution lag storage.
- Continue destruction of organics in Tank 48.
- Continue design and construction of the Salt Waste Processing Facility.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	700	1,400	33,100	4%
Liquid Waste Tanks closed (Number of Tanks)	2	2	2	51	4%
High-Level Waste packaged for final disposition (Number of Containers)	2,214	2,400	2,586	5,862	44%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed bulk waste removal of one additional waste tank. (FY 2006)
- Produced 250 canisters of vitrified high-level waste. (FY 2006)
- Commence operations of the Modular Caustic Side Solvent Extraction Unit. (September 2007)
- Prepare Sludge Batch 4. (September 2008)
- Operate Actinide Removal Facility. (September 2008)
- Produce 186 canisters of vitrified high-level waste. (September 2008)
- Continue design and construction of the Salt Waste Processing Facility. (FY 2006/September 2007/September 2008)

Total, Savannah River	**1,270,973**	**1,084,394**	**1,206,090**

Explanation of Funding Changes

FY 2008 vs. FY 2007 ($000)

Defense Environmental Cleanup

Savannah River Site

2012 Completion Projects

SR-0011B / NM Stabilization and Disposition-2012

- The decrease of is a result of the F-Area and H-Area activities in this PBS being transferred to SR-0011C. The remaining construction funding for the 3013 Container Surveillance and Storage Capability project will continue to be funded in this PBS. -201,468

	FY 2008 vs. FY 2007 ($000)
SR-0040B / Nuclear Facility D&D - 2012	
▪ The decrease reflects the transfer of all work scope to PBS SR-0040C.	-3,664
2035 Completion Projects	
SR-0011C / NM Stabilization and Disposition-2035	
▪ Increase is the result of the transfer from PBS SR-0011B for activities associated with F and H Areas, increase to support the operations of H-Canyon and plutonium consolidation (pending a consolidation decision), and for the Project Engineering and Design of the Plutonium Disposition Vitrification Project.	285,651
SR-0012 / SNF Stabilization and Disposition	
▪ Increase required to support the receipt of spent nuclear fuel shipments as scheduled and to support disposition of the spent nuclear fuel in H-Canyon.	8,465
SR-0013 / Solid Waste Stabilization and Disposition	
▪ Decrease is attributable to the reduced number of shipments to the Waste Isolation Pilot Plant of drummed legacy transuranic waste, as well as waste stream volume reductions.	-23,748
SR-0030 / Soil and Water Remediation	
▪ Funding decrease is the result of completing several high cost projects including the installation of a geo-synthetic cover at the Old Radioactive Waste Burial grounds.	-27,959
SR-0040C / Nuclear Facility D&D - 2035	
▪ The decrease reflects the deferral of decontamination and decommissioning scope due to higher priority cleanup workscope.	-9,634
SR-0100 / Non-Closure Mission Support	
▪ No Change.	0
SR-0101 / Savannah River Community and Regulatory Support	
▪ No significant change.	-42
Tank Farm Activities	

	FY 2008 vs. FY 2007 ($000)
SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035	
▪ Increase is due to the increase in bulk waste removal activities and increase for the construction of the Salt Waste Processing Facility project.	94,095
Total, Savannah River	**121,696**

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

1. Significant Changes

None

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2008 Budget Request	1Q FY2008	TBD	TBD	TBD	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY2008 Budget Request	430,000	70,000	0	500,000	TBD	500,000

The Total Project Cost is estimated to be in the range of $300,000,000 to $500,000,000.

4. Project Description, Justification, and Scope

This project data sheet summarizes the Office of Environmental Management (EM) requirements for architect-engineering services, preliminary design, and final design for the Plutonium Vitrification Disposition Facility at the Savannah River Site. 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.

08-01, Plutonium Vitrification Disposition Project, Savannah River Site, Aiken, South Carolina (SR-0011)

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 2008	TBD	TBD	TBD	TBD	TBD

EM has approximately 13 metric tons of plutonium in approximately 21 metric ton bulk materials without any defined disposition path. In order for Savannah River Site not to extend the Defense Waste Processing Facility operations and impact the site's critical path to closure, Savannah River Site is initiating a project to install a plutonium disposition capability in K-Area Complex to vitrify excess EM-owned plutonium. Although some of this material may be used as feed to the Mixed Oxide Fuel Facility planned for construction at Savannah River Site and the H-Canyon facilities, the preferred technology for plutonium that will not be dispositioned through Mixed Oxide fuel or H-Canyon is vitrification of plutonium in small cans of lanthanide glass (based on the Deputy Secretary's approval of Crirical Decision 1A in August 2006). These small cans of plutonium-bearing glass will be placed in the Defense Waste Processing Facility canisters, and surrounded with high-level waste glass. The Defense Waste Processing Facility canisters will be stored in the Glass Waste Storage Buildings at Savannah River Site and later transferred to a Geological Repository.

The proposed plutonium disposition capability will modify the existing Savannah River Site K-Area Complex building, and install equipment necessary for the vitrification process in that building. The process will consist of; 1) Material Receipt: a vault type room with a monorail/hoist, non-destructive assay equipment, and the necessary security features to minimize protective force personnel; 2) Oxidation: a glovebox with container openers, remote handling devices, furnace for oxidation, scales, and non-destructive assay equipment; 3) Feed Preparation: a glovebox with a can puncture device, can opener, remote handling equipment, scale, crusher to size reduce oxide powder, and non-destructive assay equipment; 4) Mixing/Milling: an attritor mill to mix the oxide with lanthanide borisilicate glass, shielding, scale, and non-destructive assay equipment; 5) Vitrification: a glovebox with cylindrical induction melters, video system, water cooling system, off-gas system, shielding, and High Efficiency Particulate filters; 6) Bagless Transfer: a glovebox with a port designed to allow non-contaminated transfer of material out of the glovebox, helium leak check equipment, non-destructive assay equipment, and a glovebox ventilation system; 7) Magazine Loading/Storage & Canister Load/Ship: a room with remote handling equipment to assemble cans into magazines and load magazines into Defense Waste Processing Facility canisters, storage racks, weigh station, and shielding; 8) Defense Waste Processing Facility modifications: additional shielding, modifications to canister handling equipment due to additional canister weight, and additional security features; 9) Non-nuclear Material Handling: a storage building to house raw materials, glass cans, Magazines, Canisters, etc.; 10) Waste Handling/Loading: an area to temporarily store low level and transuranic wastes, waste containers, and non-destructive assay equipment; 11) Balance of Plant: fire protection, electrical systems, radiological monitoring, laboratory analysis room, heating, ventilation, and air conditioning, central control room, safeguards and security, maintenance/electrical and instrumentation shops and emergency preparedness equipment.

The group of materials identified as "green fuel" has been included in the list of materials proposed for shipment and disposition at the Savannah River Site. It is expected that this material will not be packaged into DOE STD 3013 containers. This material, currently in fuel assemblies at the Hanford Site, may, under an alternative processing scheme, be shipped and stored in the current form. Should the material not be shipped in 3013 containers, this project will require additional scope to disassemble the Fast Flux Test Facility fuel and place fuel pins into cans.

The project is in the early stages of conceptual design and the Total Estimated Cost (Design and Construction) business decision estimate range is under development. The budget authority requested for FY2008 is for the initiation of preliminary design, melter proof of principal testing, dismantlement and removal, and selected long lead procurements (e.g.glove boxes and melters). This is a rough order of magnitude estimate based on scaling estimates of similar projects. The Total Estimated Cost for preliminary design, melter proof of principal testing, dismantlement and removal, and long-lead procurements will be refined during conceptual design and revised accordingly.

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

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

Compliance with Project Management Order

- Critical Decision 0: Approve Mission Need September 6, 2005
- Critical Decision 1A: Approve Alternative Selection - August 17, 2006
- Critical Decision 1: Approve Cost Range - December 2007
- Critical Decision 2A/3A: Approval of demolition and removal and special procurements 2nd - March 2008
- Critical Decision 2: Approve Performance Baseline - TBD
- Critical Decision 3: Approve Start of Construction - TBD
- Critical Decision 4: Approve Start of Operations - TBD

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design			
2008	15,000	15,000	15,000
2009	50,000	50,000	50,000
2010	23,000	23,000	23,000
Total, Design	88,000	88,000	88,000
Construction			
2009	67,000	67,000	67,000
2010	103,000	103,000	103,000
2011	121,500	121,500	121,500
2012	50,500	50,500	50,500
Total, Construction	342,000	342,000	342,000
Total, TEC	430,000	430,000	430,000

FY 2008 is based off a rough order magnitude estimate

6. Total Estimated Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Construction		
Construction / All Other Construction	342,000	N/A
Construction / DOE Contingency and Technical Programmatic Risk Assessment	0	N/A
Total, Construction	342,000	0
Preliminary and Final Design	88,000	N/A
Total, TEC	430,000	0

Other Project Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Conceptual Planning	20,000	N/A
Other Project Costs	50,000	N/A
Total, OPC	70,000	0

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC (Design)	0	15,000	50,000	23,000	0	0	0	88,000
TEC (Construction)	0	0	67,000	103,000	121,000	0	51,000	342,000
Conceptual Design	20,000	0	0	0	0	0	0	20,000
OPC Other than D&D	0	6,500	7,070	6,550	9,400	0	20,480	50,000
Total, Project Cost	20,000	21,500	124,070	132,550	130,400	0	71,480	500,000

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal year)	TBD
Expectd Useful Life (number of years)	TBD
Expected future start of D&D fpr new construction	TBD

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
Operations	TBD	N/A	TBD	N/A
Maintenance	TBD	N/A	TBD	N/A
Total, Related Funding	0	0	0	0

9. Required D&D Information

N/A

10. Acquisition Approach (formerly Method of Performance)

Design, construction, and procurement will 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.

05-D-405 Salt Waste Processing Facility (SWPF) Savannah River Site Aiken South Carolina

1. Significant Changes

None.

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2005	3Q FY2004	4Q FY2005	4Q FY2005	4Q FY2008	N/A	N/A
FY 2006	3Q FY2004	3Q FY2006	3Q FY2006	4Q FY2009	N/A	N/A
FY 2007	3Q FY2004	1Q FY2008	3Q FY2007	1Q FY2011	N/A	N/A
FY 2008	3Q FY2004	1Q FY2008	2Q FY2007	1Q FY2011	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2005	370,000	TBD	N/A	N/A or TBD	TBD	TBD
FY 2006	336,040	103,960	N/A	N/A or TBD	TBD	440,000
FY 2007	559,600	120,400	N/A	N/A or TBD	TBD	680,000
FY 2008	559,600	120,400	N/A	N/A or TBD	TBD	680,000

The Total Project Cost is estimated to be in the range of $375,000,000 to $680,000,000.

As part of the Office of Environmental Management's cleanup efforts, sites have established unique projects to perform decontamination and decommissioning. All site decontamination and decommissioning costs are captured in the decontamination and decommissioning Project Baseline Summary (SR-0040).
This project is pre-Critical Decision 2 and its cost and schedule baseline has not been validated. No construction funds will be used until the Performance Baseline has been validated.

FY 2006 includes $83,851,000 of Project Engineering andDesign costs appropriated under line item 03-D-414 and $103,960,000 of operations funded support costs ($440,000,000 preliminary estimate). FY 2007 and FY 2008 include $162,000,000 of Project Engineering and Design costs appropriated under

line item 03-D-414 and $120,400,000 of operations funded support costs ($680,000,000 preliminary estimate).

4. Project Description, Justification, and Scope

This project will construct a facility to treat large quantities of waste from reprocessing and other liquids generated by nuclear materials production operations at the Savannah River Site. Approximately 37,000,000 gallons of this waste is being stored on an interim basis in 49 underground waste storage tanks. Of the 37,000,000 gallons approximately 3,000,000 gallons are sludge waste and approximately 34,000,000 gallons are salt waste, consisting of 16,500,000 gallons of solid saltcake and 17,500,000 gallons of salt supernate. Waste volumes are subject to change because the supernate is evaporated to reduce its volume, sludge is being removed for processing and vitrification, and new waste is being transferred to the underground waste storage tanks. In addition, water required for salt cake removal from the tanks and processing is presently expected to result in approximately 84 million gallons of salt and supernatant solution to be processed. Continued, long-term storage of this liquid waste in underground tanks poses an environmental risk.

To comply with state and federal regulatory agreements, all non-compliant storage waste tanks must be empty by 2028. The Department built the Defense Waste Processing Facility to vitrify high-level waste in a stable form and store it for eventual disposal in a geologic repository. The ability to safely process the salt component of the high-level waste stored in underground storage tanks at the Savannah River Site is a crucial prerequisite for completing high-level waste disposal. Without a suitable method for salt management, the Department would not be able to place the high-level waste in a configuration acceptable for safe disposal.

This project will design, construct, and commission the Salt Waste Processing Facility to safely separate the high-activity fraction from the low-activity fraction of the high-level salt waste stored in underground tanks at the Savannah River Site. The Department has selected caustic-side solvent extraction as the preferred technology for separation of high-level cesium from the salt wastes. The Salt Waste Processing Facility processing also includes a separation step to remove strontium, uranium, plutonium and neptunium from the waste by sorption onto granular monosodium titanate followed by filtration.

The objectives of the Salt Waste Processing Facility are to demonstrate caustic-side solvent extraction and actinide removal technologies while meeting production processing rates required to meet the Savannah River Site cleanup goals. Presently, the waste processing nameplate capacity of the facility is a nominal 6 million gallons per year. The Salt Waste Processing Facility will consist of all buildings, equipment, and services required to provide a fully functional facility for processing salt waste. The Salt Waste Processing Facility will contain necessary process areas, service areas, chemical storage areas, and administrative areas. The process building will contain shielded processing cells and chemical processing equipment. In-cell tanks and components will be of a closed-cell design for ease of maintenance, replacement, and later decommissioning. The operating area will contain chemical feed pumps and tanks, hot and cold laboratories for testing samples, electrical and mechanical equipment areas, truck unloading area, and maintenance and decontamination areas. The chemical storage area will be located near the process building and will contain chemical storage tanks. Service and administrative spaces will be sized as required to accommodate the process facility.

A formal technical and programmatic risk assessment has been performed. The risk assessment concluded that the technical and programmatic risks are manageable. In 2003, an independent peer review was performed by the American Society of Mechanical Engineers/Institute for Regulatory Science. The resulting report stated: "The caustic-side solvent extraction technology (for cesium removal) and monosodium titanate/filtration technology (for removal of actinides and strontium) have reached the necessary technical maturity required for preliminary design for deployment at the Savannah River Site." Additional technology development needed to support backup technologies may also be conducted in the future if required for risk mitigation. From August to November 2006, an independent technical review was conducted of the Salt Waste Processing Facility 30 percent design. While the final report is pending, the team concluded that the Salt Waste Processing Facility design is at sufficient maturity to proceed with final design.

The Savannah River Site Federal Facilities Agreement and Site Treatment Plan require production of (on average) 200 high-level waste canisters per year at the Defense Waste Processing Facility. In order to minimize total canister production and avoid future shutdowns or slowdowns of the Defense Waste Processing Facility, a coupled feed (both sludge and salt) must be established and maintained. At this time, the Salt Waste Processing Facility is a critical-path to establishing the coupled feed.

The initial Salt Waste Processing Facility radiological confinement design developed by the Salt Waste Processing Facility contractor and validated by the Integrated Project Team was based on accident scenario assumptions and bounding analyses conducted per Department of Energy (DOE) Order 420.1A, Facility Safety, and its supporting standards.

In an August 27, 2004, letter and in Recommendation 2004-2, the Defense Nuclear Facilities Safety Board raised issues regarding the adequacy of DOE standards for design of the confinement features of DOE nuclear facilities, including the Salt Waste Processing Facility. Recommendation 2004-2, Active Confinement Systems, was accepted by DOE on March 18, 2005.

In response to the Defense Nuclear Facilities Safety Board concerns, the Department considered several options for assuring reliable confinement of the Salt Waste Processing Facility high-hazards materials in the event of an earthquake or other natural phenomena. From evaluation of these options, the Department has concluded that adopting a local, safety-related Performance category 3 within a Performance Category-3 building to be the most prudent course of action for the Salt Waste Processing Facility. Where safety analysis indicates confinement barriers are necessary for worker protection, the Salt Waste Processing Facility preliminary design will be revised to incorporate a Performance Category-3 designation for safety-related piping, process vessels, and other components that would provide a local confinement barrier. Portions of the facility housing safety-related Performance Category-3 local confinement barriers will also be designated as Performance Category-3 and designated to resist natural phenomena events. As a defense-in-depth measure, safety related active ventilation systems will be provided to protect workers from process upsets involving a significant release of radioactive material due to non-natural phenomena events (i.e., tank overflow or spills).

Establishing more stringent confinement design requirements in response to the Defense Nuclear Facilities Safety Board concerns has resulted in significant changes in the Salt Waste Processing Facilities scope, as well as associated increases in the project's cost and schedule. The rough order of magnitude impacts developed by the Salt Waste Processing Facility contractor as a result of these proposed changes forms the basis for the budget profile and funding scenarios presented in the FY 2008

project data sheets. The overall forecasted impact of the proposed changes to the project's total project cost and schedule resulting from implementing a Performance Category-3 confinement approach for the Salt Waste Processing Facility are an increase of $240,000,000 ($440,000,000 to $680,000,000).

Under the current scenario, processing salt waste through the Salt Waste Processing Facility will slip 26 months (from 2009 to 2011) which may have an impact on the site's ability to maintain adequate tank space required to support Defense Waste Processing Facility operations, expedite processing of high-level waste consistent with the current strategy, and ensure the site meets its Federal Facilities Agreement commitments for waste tank disposition. The project team is in the process of reviewing the schedule in an effort to identify potential areas for acceleration that would enable the Salt Waste Processing Facility to begin processing salt waste prior to the current 2011 estimate. The Salt Waste Processing Facility project is on the critical path for completion of the EM mission at the Savannah River Site.

This project is subject to DOE Order 413.3A, Program and Project Management for the Acquisition of Capital Assets. Accordingly baselines will be established at Critical Decision-2, after the associated external independent review.

Compliance with Project Management Order:

- Critical Decision 0: Approve Mission Need - June 2001
- Critical Decision 1: Approve Preliminary Baseline Range - August 2004 Independent Review of Contractor's Earned Value Management System - June 2005
- Critical Decision - 2/3a: Approve Performance Baseline/Start of Construction (Long Lead Procurement/Site Preparation/Limited Construction - February 2007
- Critical Decision - 3: Approve Start of Construction - December 2007
- Critical Decision - 4: Approve Start of Operations - September 2011

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design			
FY 2003	4,842	4,842	0
FY 2004	51,198	51,198	1,617
FY 2005	23,469	23,469	40,765
FY 2006	34,990	34,990	60,000
FY 2007	37,500	37,500	48,000
FY 2008	10,001	10,001	11,618
Total, Design	162,000	162,000	162,000
Construction			
FY 2005	5,792	5,792	0
FY 2006	495	495	0
FY 2007	25,700	25,700	31,987
FY 2008	131,000	131,000	131,000
FY 2009	131,000	131,000	131,000
FY 2010	103,613	103,613	103,613
Total, Construction	397,600	397,600	397,600
Total, TEC	559,600	559,600	559,600

Design funding is captured under Project Data Sheet 03-D-414, Environmental Management, Project Engineering and Design, Various Locations Long lead procurement requirements will be submitted as part of the Critical Decision-2/3a package in the 2Q 2007. FY 2005 construction funding reflects government-wide rescission of $208,000 (0.8 percent) and subsequent FY 2006 Congressionally directed $20,000,000 reduction. Original appropriation was $26,000,000. FY 2006 design and construction reflects a FY 2006 Congressionally directed reduction from $39,000,000 to $500,000 with subsequent rescission of 1 percent.

6. Total Estimated Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Construction		
Construction / All Other Construction	397,600	252,189
Preliminary and Final Design	162,000	83,851
Total, TEC	559,600	336,040

Other Project Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Other Project Costs	120,400	103,960

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC (Design)	102,382	48,000	11,618	0	0	0	0	162,000
TEC (Construction)	0	31,987	131,000	131,000	103,613	0	0	397,600
OPC Other than D&D	32,000	7,000	5,000	5,000	71,400	0	0	120,400
Total, Project Cost	134,382	86,987	147,618	136,000	175,013	0	0	680,000

8. Related Operations and Maintenance Funding Requirements

Start of Operation of Beneficial Occupancy (fiscal quarter)	4Q FY2011
Expected Useful Life (number of years)	10
Expected Future Start of D&D for New Construction (fiscal quarter)	N/A

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
Operations	44,000	44,000	TBD	TBD
Maintenance	TBD	TBD	TBD	TBD
Total, Related Funding	44,000	44,000	0	0

9. Required D&D Information

N/A

10. Acquisition Approach (formerly Method of Performance)

The project acquisition strategy included the use of two separate contractors to perform conceptual design, which reduced project risk. The use of two contractors enhanced technology deployment, optimized design and resulted in a significantly reduced cost estimate for project execution. Both contractors identified and managed technical and program risks through completion of conceptual design. Following completion of conceptual design, the Department selected one of the two contractors to perform preliminary and final design, construction, commissioning, and one year of operations. Design services were obtained through a competed contract with an Engineering, Procurement, and Construction contractor. The negotiated contract is a Cost-Plus-Incentive Fee arrangement, which also includes construction and commissioning services. Management and Operating contractor staff will be involved in areas concerning high-level waste system interfaces, feed and product specification, security, etc.

04-D-423 Container Surveillance and Storage Capability in 105-K Savannah River Site Aiken South Carolina (SR-0011B)

1. Significant Changes

None

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2005 Budget Request	2Q FY2004	4Q FY2005	1Q FY2005	2Q FY2007	N/A	N/A
FY 2006 Budget Request	TBD	TBD	TBD	TBD	N/A	N/A
FY 2007 Budget Request	2Q FY2006	1Q FY2008	4Q FY2006	3Q FY2009	N/A	N/A
FY 2007 Congressional Notification	2Q FY2006	1Q FY2008	3Q FY2007	4Q FY2010	N/A	N/A
FY 2008 Budget Request	2Q FY2006	1Q FY2008	3Q FY2007	4Q FY2010	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2005 Budget Request	45,750	27,870	0	73,620	N/A	N/A
FY 2006 Budget Request	N/A	N/A	N/A	N/A or TBD	N/A	N/A
FY 2007 Budget Request	86,250	11,000	0	97,250	TBD	97,250
FY 2007 Congressional Notification	128,161	14,733	0	142,894	TBD	142,894
FY 2008 Budget Request	128,161	14,733	0	142,894	TBD	142,894

The Total Project Cost is estimated to be in the range of $95,000,000 to $113,000,000.

FY 2005 Budget Request includes the 3013 Container Surveillance and Storage Capability in F-Area Material Storage project only.

FY 2007 Budget Request includes the 3013 Container Surveillance and Storage Capability in 105-K project only.
FY 2007 Congressional Notification and FY 2008 budget request includes both the F-Area Material Storage and 105-K projects. Total Project Costs includes both Preliminary Engineering Design costs funded by 04-D-414 ($28,491,000). Total Project Costs does not include any cost for 2004 or 2005 Design Basis Threat upgrades. All costs related to Design Basis Threat are captured in the Safeguards and Security budget.

4. 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. Fiscal Year 2007 Budget Authority will be used to complete design and continue construction.

The storage and non-destructive surveillance capability will be met via installation of the infrastructure necessary for K-Area to routinely unload shipping packages and handle the 3013 containers. Additionally, the project will install the capability to perform multiple non-intrusive inspections of the 3013 storage containers and their contents to detect conditions adverse to safe long-term storage, such as excessive pressurization, corrosion, and oxidation.

The scope includes equipment to perform visual inspection and digital photography of the 3013 outer container, digital radiography of the 3013 container and contents; container leak detection, weight check, and impurity analysis. The plutonium stabilization and packaging portion of the project installs a glove box line, with attendant support services, to provide a limited capability (i.e., not "production" capacity) to open and remove the contents of 3013s, stabilize the material via a furnace, and then repackage in a new 3013 container.

The project was originally scheduled to be located in the F-Area Material Storage building. However, the project, as previously planned, would have incurred extraordinary capital and operating increases for security upgrades in order to comply with the latest Design Basis Threat Criteria. Because modifications to the 105-K building at the Savannah River Site had already been planned to meet the 2004 Design Basis Threat criteria, in April 2005, the Department directed that the project be relocated to the 105-K building. The revised project will deliver the same capability planned for the F-Area Material Storage. The Digital Radiography machine modification, completed utilizing F-Area Material Storage Container Surveillance and Storage Capability appropriation, and is being placed in service in the interim non-destructive surveillance program to be installed in the 105-K slug vault room.

The project is subject to DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets; accordingly, baselines for Total Estimated Cost will be established at the completion of preliminary design (Critical Decision 2) and after the associated external independent reviews. The project has completed conceptual design and is awaiting approval to start preliminary design funded by Project Engineering and Design (04-D-414). Accordingly, the Total Estimated Cost Estimates are preliminary and based on conceptual design. Funds for construction activities will not be obligated until a project baseline (cost and schedule) has been established.

Current schedules:

- Critical Decision 1 Start of Preliminary Design March 23,2006
- Critical Decision 2 Approve project performance baseline January 2008
- Critical Decision 3(a) Approval to begin demolition and removal and long lead procurements January 2007
- Critical Decision 3(b) Approval to start construction 3Q FY 2007
- Critical Decision 4 Approval of Operations 4Q FY 2010

The current high range schedules are based on the approval of Critical Decision 1 and the Acquisition Strategy and subject to change with Critical Decision 2, Project Performance Baseline.

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design			
FY 2004 (F-Area Material Storage)	13,223	13,223	3,371
FY 2005 (F-Area Material Storage)	0	0	3,563
FY 2006 (105-K)	18,415	18,415	10,000
FY 2007 (105-K)	2,935	2,935	17,639
Total, Design	34,573	34,573	34,573
Construction			
FY 2004 (F-Area Material Storage)	11,213	11,213	0
FY 2005 (F-Area Material Storage)	20,475	17,475	13,534
FY 2006 (105-K)	0	3,000	16,156
FY 2007 (105-K)	21,300	21,300	23,000
FY 2008 (105-K)	31,000	31,000	31,000
FY 2009 (105-K)	9,600	9,600	9,898
Total, Construction	93,588	93,588	93,588
Total, TEC	128,161	128,161	128,161

Design: The original FY 2005 appropriation was $3,000,000, which was reduced $23,985 due to a government-wide rescission. The Project was further reduced $2,976,015 from FY 2005 appropriation plus $3,105,000 from the FY 2004 appropriation to provide for Congressionally directed activities pursuant to the FY 2005 Emergency Supplemental Appropriations Act.

Construction: the original FY 2005 appropriation was $20,640,000, which was reduced by $165,000 due to government-wide rescission. The Project was further reduced by $10,141,000 from the FY 2005 appropriation and by $9,592,000 from the FY 2004 appropriation to provide for Congressionally directed activities pursuant to the FY 2005 Emergency Supplemental Appropriations Act. Also, in FY

2006 $7,334,000 was used as a source for a reprogramming. FY 2006 obligations include $3,000,000 carryover funds from the 3013 Container Surveillance and Storage Capability in the F-Area Material Storage project.

6. Total Estimated Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Construction		
Construction / All Other Construction	75,860	47,700
Construction / DOE Contingency and Technical Programmatic Risk Assessment	17,728	17,200
Total, Construction	93,588	64,900
Preliminary and Final Design	34,573	21,350
Total, TEC	128,161	86,250

Total Estimated Costs: Includes costs for both the F-Area Materials Storage and the 105-K building projects.

Other Project Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Conceptual Planning	5,390	2,400
Start-up	1,200	1,200
Other Project Costs	8,143	7,400
Total, OPC	14,733	11,000

Total Other Project Costs: Includes costs for both the F-Area Materials Storage and the 105-K building projects.

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC (Design)	34,573	0	0	0	0	0	0	34,573
TEC (Construction)	52,988	31,000	9,600	0	0	0	0	93,588
Conceptual Planning	5,390	0	0	0	0	0	0	5,390
OPC Other than D&D	9,343	0	0	0	0	0	0	9,343
Total, Project Cost	102,294	31,000	9,600	0	0	0	0	142,894

Total Estimated Costs (Construction): Includes costs for both the F-Area Materials Storage and the 105-K building projects.

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter)	1Q 2011
Expected Useful Life (number of years)	9
Expected Future Start of D&D for new construction (fiscal quarter)	1Q 2020

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
Operations	1,126	TBD	1,205	TBD
Maintenance	0	TBD	0	TBD
Total, Related Funding	1,126	0	1,205	0

9. Required D&D Information

Area of new construction	N/A
Area of existing facility(ies) being replaced	N/A
Area of any additional space that will require D&D to meet the "one-for-one" requirement	N/A

As part of the Office of Environmental Management's cleanup efforts, sites have established unique projects to perform Decontamination and Decommissioning. An estimated 2,200,000 square feet of buildings will have been removed from the Savannah River Site's inventory from FY 2003 to FY 2006.

10. Acquisition Approach (formerly 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 413.3A, Program and Project Management for the Acquisition of Capital Assets. Funds for construction activities will not be obligated until a project baseline (cost and schedule) has been established by the Office of Environmental Management and validated by the Office of Engineering and Construction Management, in accordance with DOE Order 413.3A.

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

1. Significant Changes

None.

2. Design, Construction, and D&D Schedule

(Fiscal Quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2005	2Q FY2004	1Q FY2006	4Q FY2005	4Q FY2008	N/A	N/A
FY 2006	3Q FY2004	3Q FY2006	3Q FY2006	4Q FY2009	N/A	N/A
FY 2007	3Q FY2004	1Q FY2008	3Q FY2007	1Q FY2011	N/A	N/A
FY 2008	3Q FY2004	1Q FY2008	2Q FY2007	1Q FY2011	N/A	N/A

3. Baseline and Validation Status

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2005	370,000	TBD	N/A	N/A or TBD	TBD	TBD
FY 2006	336,040	103,960	N/A	N/A or TBD	TBD	440,000
FY 2007	559,600	120,400	N/A	N/A or TBD	TBD	680,000
FY 2008	559,600	120,400	N/A	N/A or TBD	TBD	680,000

The Total Project Cost is estimated to be $375,000,000 to $680,000,000.

As part of the Office of Environmental Management's cleanup efforts, sites have established unique projects to perform decontamination and decommissioning. All site decontamination amd decommissioning costs are captured in the Project Baseline Summary (SR-0040).

03-01, Salt Waste Processing Facility, Savannh River Site, Aiken, South Carolina (SR-0014C)

The Salt Waste Processing Facility project is pre-Critical Decision-2 and its cost and schedule baseline has not been validated. No construction funds will be used until the Performance Baseline has been validated.

FY 2006 includes $83,851,000 of Project Engineering and Design costs appropriated under line item 03-D-414 and $103,960,000 of operations funded support costs ($440M preliminary estimate).

FY 2007 and FY 2008 include $162,000,000 of Project Engineering and Design costs appropriated under line item 03-D-414 and $120,400,000 of operations funded support costs ($680M preliminary estimate).

4. Project Description, Justification, and Scope

The Salt Waste Processing Facility project will construct a facility to treat large quantities of waste from reprocessing and other liquids generated by nuclear materials production operations at the Savannah River Site. Approximately 37,000,000 gallons of this waste is being stored on an interim basis in 49 underground waste storage tanks. Of the 37,000,000 gallons approximately 3,000,000 gallons are sludge waste and approximately 34,000,000 gallons are salt waste, consisting of 16,500,000 gallons of solid saltcake and 17,500,000 gallons of salt supernate. Waste volumes are subject to change because the supernate is evaporated to reduce its volume, sludge is being removed for processing and vitrification, and new waste is being transferred to the high-level waste tanks. In addition, water required for salt cake removal from the tanks and processing is presently expected to result in approximately 84,000,000 gallons of salt and supernatant solution to be processed. Continued, long-term storage of this liquid waste in underground tanks poses an environmental risk.

To comply with state and federal regulatory agreements, all non-compliant storage waste tanks must be empty by 2028. The Department built the Defense Waste Processing Facility to vitrify high-level waste in a stable form and store it for eventual disposal in a geologic repository. The ability to safely process the salt component of the high-level waste stored in underground storage tanks at the Savannah River Site is a crucial prerequisite for completing high-level waste disposal. Without a suitable method for salt management, the Department would not be able to place the high-level waste in a configuration acceptable for safe disposal.

This project will design, construct, and commission the Salt Waste Processing Facility to safely separate the high-activity fraction from the low-activity fraction of the high-level salt waste stored in underground tanks at the Savannah River Site. The Department has selected Caustic-Side Solvent Extraction as the preferred technology for separation of high-level cesium from the salt wastes. The processing also includes a separation step to remove strontium, uranium, plutonium and neptunium from the waste by sorption onto granular monosodium titanate followed by filtration.

The objectives of the Salt Waste Processing Facility are to demonstrate Caustic-Side Solvent Extraction and actinide removal technologies while meeting production processing rates required to meet Savannah River Site accelerated cleanup goals. Presently, the waste processing nameplate capacity of the facility is a nominal 6 million gallons per year. The Salt Waste Processing Facility will consist of all buildings, equipment, and services required to provide a fully functional facility for processing salt waste. The Salt Waste Processing Facility will contain necessary process areas, service areas, chemical storage areas, and administrative areas. The process building will contain shielded processing cells and chemical processing equipment. In-cell tanks and components will be of a closed-cell design for ease of maintenance, replacement, and later decommissioning. The operating area will contain chemical feed pumps and tanks, hot and cold laboratories for testing samples, electrical and mechanical equipment areas, truck unloading area, and maintenance and decontamination areas. The chemical storage area will be located near the process building and will contain chemical storage tanks. Service and administrative spaces will be sized as required to accommodate the process facility.

A formal technical and programmatic risk assessment has been performed. The risk assessment concluded that the technical and programmatic risks are manageable. In 2003, an independent peer review was performed by the American Society of Mechanical Engineers/Institute for Regulatory Science. The resulting report stated: "The Caustic-Side Solvent Extraction technology (for cesium removal) and monosodium titanate/filtration technology (for removal of actinides and strontium) have reached the necessary technical maturity required for preliminary design for deployment at the Savannah River Site." Additional technology development needed to support backup technologies may also be conducted in the future if required for risk mitigation. From August to November 2006, an independent technical review was conducted of the Salt Waste Processing Facility 30 percent design. While the final report is pending, the team concluded that the Salt Waste Processing Facility design is at sufficient maturity to proceed with final design.

The Savannah River Site Federal Facilities Agreement and Site Treatment Plan require production of (on average) 200 high-level waste canisters per year at the Defense Waste Processing Facility. In order to minimize total canister production and avoid future shutdowns or slowdowns of the Defense Waste Processing Facility, a coupled feed (both sludge and salt) must be established and maintained. At this time, the Salt Waste Processing Facility is critical-path to establishing the coupled feed.

The initial Salt Waste Processing Facility radiological confinement design developed by the Salt Waste Processing Facility contractor and validated by the Integrated Project Team was based on accident scenario assumptions and bounding analyses conducted per Department of Energy (DOE) Order 420.1A, Facility Safety, and its supporting standards.

In an August 27, 2004, letter and in Recommendation 2004-2, the Defense Nuclear Facilities Safety Board raised issues regarding the adequacy of DOE standards for design of the confinement features of DOE nuclear facilities, including the Salt Waste Processing Facility. Recommendation 2004-2, Active Confinement Systems, was accepted by DOE on March 18, 2005.

In response to the Defense Nuclear Facilities Safety Board concerns, the Department considered several options for assuring reliable confinement of the Salt Waste Processing Facility high-hazards materials in the event of an earthquake or other natural phenomena. From evaluation of these options, the Department has concluded that adopting a local, safety-related Performance category within a Performance Category-3 building to be the most prudent course of action for the Salt Waste Processing Facility. Where safety analysis indicates confinement barriers are necessary for worker protection, the Salt Waste Processing Facility Preliminary Design will be revised to incorporate a Performance Category-3 designation for safety-related piping, process vessels, and other components that would provide a local confinement barrier. Portions of the facility housing safety-related Performance Category-3 local confinement barriers will also be designated as Performance Category-3 and designated to resist natural phenomena events. As a defense-in-depth measure, safety related active ventilation systems will be provided to protect workers from process upsets involving a significant release of radioactive material due to non-natural phenomena events (i.e., tank overflow or spills).

Establishing more stringent confinement design requirements in response to the Defense Nuclear Facilities Safety Board concerns has resulted in significant changes in the Salt Waste Processing Facility scope, as well as associated increases in the project's cost and schedule. The rough order of magnitude impacts developed by the Salt Waste Processing Facility contractor as a result of these proposed changes

forms the basis for the budget profile and funding scenarios presented in the FY 2008 project data sheets. The overall forecasted impact of the proposed changes to the project's total project cost and schedule resulting from implementing a Performance Category-3 confinement approach for the Salt Waste Processing Facility are an increase of $240,000,000 ($440,000,000 to $680,000,000).

Under the current scenario, processing salt waste through the Salt Waste Processing Facility will slip 26 months (from 2009 to 2011) which may have an impact on the site's ability to maintain adequate tank space required to support Defense Waste Processing Facility operations, expedite processing of high level waste consistent with the current strategy, and ensure the site meets its Federal Facilities Agreement commitments for waste tank disposition. The project team is in the process of reviewing the schedule in an effort to identify potential areas for acceleration which would enable the Salt Waste Processing Facility to begin processing salt waste prior to the current 2011 estimate. The Salt Waste Processing Facility project is on the critical path for completion of the EM mission at Savannah River Site.

This project is subject to DOE Order 413.3A, Program and Project Management for the Acquisition of Capital Assets. Accordingly baselines for Total Project Cost will be established at Critical Decision-2, after the associated external independent review.

Compliance with Project Management Order:

- Critical Decision - 0: Approve Mission Need - June 2001
- Critical Decision - 1: Approve Preliminary Baseline Range Independent Review of Contractor's Earned Value Management System - June 2005
- Critical Decision - 2/3a: Approve Performance Baseline/Start of Construction (Long Lead Procurement/Site Preparation/Limited Construction - February 2007
- Critical Decision - 3: Approve Start of Construction - December 2007
- Critical Decision - 4: Approve Start of Operations - September 2011

5. Financial Schedule

	(dollars in thousands)		
	Appropriations	Obligations	Costs
Design/Construction by Fiscal Year			
Design			
FY 2003	4,842	4,842	0
FY 2004	51,198	51,198	1,617
FY 2005	23,469	23,469	40,765
FY 2006	34,990	34,990	60,000
FY 2007	37,500	37,500	48,000
FY 2008	10,001	10,001	11,618
Total, Design	162,000	162,000	162,000
Construction			
FY 2005	5,792	5,792	0
FY 2006	495	495	0
FY 2007	25,700	25,700	31,987
FY 2008	131,000	131,000	131,000
FY 2009	131,000	131,000	131,000
FY 2010	103,613	103,613	103,613
Total, Construction	397,600	397,600	397,600
Total, TEC	559,600	559,600	559,600

[1]Design funding is captured under Project Data Sheet 03-D-414, Environmental Management, Project Engineering and Design, Various Locations.

[2]Long lead procurement requirements will be submitted as part of the Critical Decision-2/3A package in the 2Q FY 2007.

[3]FY 2005 construction reflects government-wide rescission of $208,000 (0.8 percent) and a subsequent FY 2006 Congressionally directed $20,000,000 reduction. Original appropriation was $26,000,000. FY 2006 design and construction funding reflects rescission of 1 percent.

6. Total Estimated Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Construction		
Construction / All Other Construction	397,600	397,600
Preliminary and Final Design	162,000	162,000
Total, TEC	559,600	559,600

Other Project Costs

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Other Project Costs	120,400	120,400

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC (Design)	102,382	48,000	11,618	0	0	0	0	162,000
TEC (Construction)	0	31,987	131,000	131,000	103,613	0	0	397,600
OPC Other than D&D	32,000	7,000	5,000	5,000	71,400	0	0	120,400
Total, Project Cost	134,382	86,987	147,618	136,000	175,013	0	0	680,000

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal year)	4Q FY2011
Expected Useful Life (number of years)	10
Expected Future Start of D&D for New Construction (fiscal quarter)	N/A

(Related Funding Requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
Operations	44,000	44,000	TBD	TBD
Maintenance	TBD	TBD	TBD	TBD
Total, Related Funding	44,000	44,000	0	0

9. Required D&D Information

N/A

10. Acquisition Approach (formerly Method of Performance)

The project acquisition strategy included the use of two separate contractors to perform conceptual design, which reduced project risk. The use of two contractors enhanced technology deployment, optimized design and resulted in a significantly reduced cost estimate for project execution. Both contractors identified and managed technical and program risks through completion of conceptual design. Following completion of conceptual design, the Department selected one of the two contractors to perform preliminary and final design, construction, commissioning, and one year of operations. Design services were obtained through a competed contract with an Engineering, Procurement, and Construction contractor. The negotiated contract is a Cost-Plus-Incentive Fee arrangement, which also includes construction and commissioning services. Management and Operating contractor staff will be involved in areas concerning high level waste system interfaces, feed and product specification, security, etc.

Closure Sites

Funding by Site and Location

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Closure Sites			
Ashtabula	15,841	295	295
Closure Sites Administration and Program Support	0	0	1,200
Closure Sites Administration	0	25,896	11,834
Columbus	26,834	0	0
Fernald	349,844	258,877	0
Headquarters	244	0	0
Miamisburg	170,578	34,869	30,308
Rocky Flats	514,709	1,000	0
Total, Closure Sites	1,078,050	320,937	43,637

Sites included in the Closure Activities are: Ashtabula, Columbus, Fernald, Mound, and Rocky Flats projects.

These sites have or will have completed physical completion by FY 2008. Closure Activities, after physical completion, include final contract fee payments for project physical completion, and work scope to cover any potential "gap" between EM acceptance of the contractor's declaration of physical completion and the date EM transfers site custodianship to Legacy Management or other entity. Regulatory expenses for which EM retains financial responsibility, and which will be completed in FY 2007, include Operable Unit 5 at Fernald, and Rocky Flats final filing of the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision. The post-closure administration and litigation liability activities are also included in this budget and managed by the Consolidated Business Center.

Ashtabula

Site Overview

The mission of the Ashtabula Closure Project was to safely remediate the privately-owned RMI Titanium Company Extrusion Plant (formerly known as Reactive Metals, Inc.) to allow the Ohio Department of Health and Ohio Environmental Protection Agency to release the site back to the RMI Titanium Company.

The site contractor declared physical completion in November 2006, and DOE accepted the declaration in December 2006. The Ashtabula Closure Project consisted of remediation of facilities, disposition of equipment, and remediation of affected land areas and groundwater. Facility decommissioning was primarily accomplished by demolition and disposal of debris in off-site disposal facilities. Contaminated soil, asphalt, and concrete were shipped to a low-level waste disposal site for burial. Groundwater remediation was accomplished through source-term removal to on-site release limits. At the end of the

project, 35 facilities were demolished or free-released. Approximately 42,000 m^3 of low-level and mixed low-level waste consisting of soil, concrete, and asphalt was remediated as part of the cleanup effort. All legacy waste and all equipment formerly used during production were shipped for disposal to commercial licensed disposal facilities.

Site Description

The Ashtabula Closure Project was located one mile south of Lake Erie approximately 50 miles northeast of Cleveland, Ohio.

Site Cleanup Strategy/Scope of Cleanup

The site of the former Reactive Metals, Inc. extrusion plant was remediated per a Nuclear Regulatory Commission approved, Ohio Department of Health adopted, Decommissioning Plan. Completion will allow the Ohio Department of Health to release the site to the owner, the RMI Titanium Company and terminate their radioactive materials license.

The scope of the Ashtabula Closure Project included environmental restoration for three release sites contaminated by Weapons Program activities from 1962 to 1988. The three release sites were: Buildings and Equipment; Solid Waste Management Unit soil and groundwater; Non-Solid Waste Management Unit soil. The Buildings and Equipment release site was accomplished principally by demolition or free-release of 35 site buildings and disposal of remediation waste, including equipment, as low-level waste. The Solid Waste Management Unit release site was accomplished by bioremediation followed by soil excavation, and shipment of the remaining radioactively contaminated soil to a disposal site. Remediation of the non-Solid Waste Management Unit soils, including soil beneath site facilities, was accomplished principally by excavation and shipment to a disposal site. Non-Solid Waste Management Unit soils were estimated at 27,000 tons. Bulk waste shipment of all remediation waste, including contaminated soil, will be primarily via railroad gondola cars. Interim support facilities were provided during remediation.

Site Completion (End State)

With the exception of Area C-West, owned by the City of Ashtabula, all land involved with the Ashtabula Closure Project is owned by the RMI Titanium Company. Upon Ohio Department of Health regulatory release of the site license, following completion of remediation activities, the property will be returned to the site owner. All property was remediated for "Free and Unrestricted Use." The Department of Energy accepted completion of the site in December 2006. The Ohio Department of Health terminated the site license in the January 2007, thus achieving project end state.

The Records Management function will transition to Legacy Management beginning in FY 2008. Groundwater monitoring and analysis is no longer necessary following project completion and responsibility for the site will be returned to its owner.

Regulatory Framework

The Site Treatment Plan provided information pertaining to treatment and disposal of Ashtabula Closure Project Mixed Waste to meet the requirements of the Federal Facility Compliance Act. The scope and

planned actions necessary to remove the Extrusion Plant Site from service, remediate the site, and release the site for unrestricted use (termination of the RMI Titanium Company's Nuclear Regulatory Commission license) is being conducted per the requirements of Title 10 Code of Federal Regulations Part 40.

Critical Site Uncertainties and Assumptions

None - final site remediation was accomplished on schedule in December 2006.

Interdependencies

None.

Contract Synopsis

RMI Titanium Company, the site owner, was responsible for performing site cleanup activities through 2003. In December 2003, DOE chose to terminate the contract with the RMI Titanium Company to support comprehensive evaluation of the work to be performed and how it could most efficiently be accomplished. DOE chose to complete Ashtabula Closure Project remediation through a competitively bid cost plus incentive fee task order awarded under the EM Indefinite Delivery/Indefinite Quantity contract (small business). The new closure contract was awarded in September 2005.

Cleanup Benefits

Work associated with final remediation and completion of DOE's responsibilities at the Ashtabula Closure Project was completed in December 2006 and the site was remediated to satisfy provisions of the Ohio Department of Health Decommissioning Plan. The site was released back to the RMI Titanium Company in January 2007.

Columbus

Site Overview

The Columbus Closure Project, formerly known as the Battelle Columbus Laboratories Decommissioning Project, is a radioactive decontamination project at facilities owned by the Battelle Memorial Institute in central Ohio. The project initially addressed 15 buildings and associated grounds at two separate research facilities. Cleanup of Battelle's King Avenue site was completed in 2000, and the remaining activities are focused on Battelle's former nuclear sciences research park in rural Madison County, Ohio at the West Jefferson North site.

The end-state for the site was defined in a series of contractual agreements between the Department and Battelle. This end-state is also embodied in a Decommissioning Plan prepared by Battelle Memorial Institute and approved by the U.S. Nuclear Regulatory Commission, the principal regulatory authority for the cleanup (Battelle Memorial Institute, 1993). The Decommissioning Plan described the project's technical basis for release of buildings, materials and grounds.

Completion of the West Jefferson site accelerated cleanup consisted 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 was 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 which was achieved. All future use decisions will be made by the site owner, Battelle.

Site Description

The Battelle West Jefferson facility is located approximately 10 miles west of Columbus, Ohio.

Site Cleanup Strategy/Scope of Cleanup

The West Jefferson facility was remediated per a Nuclear Regulatory Commission approved decommissioning plan which allowed the Nuclear Regulatory Commission license currently held by Battelle to be terminated upon completion. The scope of the Columbus Closure Project was to remove radioactive materials and contamination to levels that will allow future use of Battelle buildings and grounds without radiological restrictions, as defined in project procedures and Nuclear Regulatory Commission requirements. DOE and Battelle mutually agreed that demolition of buildings JN-1, JN-2, and JN-3 is a cost-effective way of meeting their responsibilities for these three buildings.

Site Completion (End State)

Physical completion of the Columbus Closure Project was achieved in June 2006. DOE and Battelle agreed that the pre-conditions for termination of the Nuclear Regulatory Commission license was met in December 2006, and NRC license termination and final project completion was achieved in January 2007.

As a general end-state, areas where buildings have been demolished or contaminated materials excavated, have been backfilled, compacted to a degree that enables future construction, and covered with grass. Known contamination was removed in accordance with project release criteria. Exceptions, such as decontaminating or excavating areas to below release criteria or partially excavating areas above release criteria were made on a case-by-case basis by mutual agreement between DOE and Battelle.

Regulatory Framework

The Site Treatment Plan provided details of the planned treatment and disposal of Columbus Closure Project Mixed Waste to meet the requirements of the Resource Conservation and Recovery Act Federal Facility Compliance Act.

Critical Site Uncertainties and Assumptions

Physical completion of the Columbus Closure project was reached in June 2006.

Interdependencies

None.

Contract Synopsis

Between FY 1987 and FY 2003, Battelle performed as the prime contractor for the cleanup, and contributed a 10 percent cost share. In FY 2003, DOE chose to complete the remediation through a competitively bid cost plus incentive fee contract. The new closure contract awarded in FY 2004 mandates adherence to the approved Decommissioning Plan, the established release criteria, and the end-state for the site. Additionally, DOE is responsible for facilitating off-site disposition of transuranic waste.

Cleanup Benefits

The site was remediated to support Nuclear Regulatory Commission license termination for Battelle, the site owner.

Fernald

Site Overview

In 1952 Fernald began its uranium production mission as the Feed Materials Production Center in support of the nation's weapons program. During 37 years of operation, 462 million pounds of pure uranium metal products were produced for use in the production reactors at DOE's Hanford and Savannah River facilities. When operations ceased in 1989, there were 31 million pounds of uranium product present on site, 2.5 billion pounds of waste, and 2.75 million cubic yards of contaminated soil and debris. In addition, a 223-acre portion of the underlying Great Miami Aquifer was found to be affected by uranium at levels above drinking water standards.

In 1992 the site was renamed the Fernald Environmental Management Project and the mission was formally changed to environmental restoration under the Comprehensive Environmental Response, Compensation, and Liability Act. To facilitate restoration, the Comprehensive Environmental Response, Compensation, and Liability Act work scope for the 1,050-acre facility was divided into five operable units: the waste pits (Operable Unit 1); other waste units (Operable Unit 2); the Production Area facilities and legacy-waste inventories (Operable Unit 3); Silos 1 through 4 (Operable Unit 4); and contaminated environmental media, including soil, sediment, and groundwater (Operable Unit 5). Since 1992, Comprehensive Environmental Response, Compensation, and Liability Act remedial investigations and feasibility studies have been completed for each of the operable units, and final Records of Decision to establish cleanup levels and document the cleanup remedies have been signed for each by DOE, United States Environmental Protection Agency, and Ohio Environmental Protection Agency.

The contractor declared physical completion at Fernald in October 2006. The DOE has completed their physical acceptance review, and final acceptance occurred in January 2007.

Site Description

The Fernald Closure Project environmental restoration site encompasses 1,050 acres in southwestern Ohio, which is divided into five operable units: the waste pits (Operable Unit 1); other waste units (Operable Unit 2); the Production Area facilities and legacy waste inventories (Operable Unit 3); Silos 1 through 4 (Operable Unit 4); and contaminated environmental media, including soil, sediment and groundwater (Operable Unit 5).

Site Cleanup Strategy/Scope of Cleanup

The Fernald wastes included process-generated waste (the most radioactive and/or hazardous waste on-site) from multiple sources. These multiple sources include Silos 1 and 2 that contain radium-bearing residues from the uranium extraction of pitch-blend ores, Silo 3 that contains radium-bearing cold metal oxides, and the waste pits that contain low-level radioactive waste. In addition to these sources, millions of cubic feet of containerized waste material from the uranium metals production. The strategy to remediate these sources included characterization, treatment, packaging, transportation, and final disposition. Following the completion of these activities, all process-generated waste and related structures are dispositioned/demolished.

Ultimately, approximately 975 acres of the 1,050-acre property will be restored to beneficial use as an undeveloped park, and approximately 75 acres will be dedicated to the footprint of the On-Site Disposal Facility. Contaminated portions of the aquifer will be restored to beneficial use as a drinking water supply, and long-term stewardship actions will be put in place consistent with the final land use.

Site Completion (End State)

The contractor declared physical completion in October 2006, and project end-state was achieved in January 2007. The final remedial actions included: facility decontamination and dismantlement; on-site disposal of the majority of contaminated soil and decontamination and dismantlement debris; off-site disposal of the contents of the two K-65 Silos (Silos 1 and 2), Silo 3, waste pit material, nuclear product inventory, low-level waste, mixed waste, and limited quantities of soil and decontamination and dismantlement debris not meeting on-site waste acceptance criteria; and treatment of contaminated groundwater to restore the Great Miami Aquifer.

Regulatory Framework

In 1986 DOE/U.S. Environmental Protection Agency and the Ohio Environmental Protection Agency signed the Comprehensive Environmental Response, Compensation, and Liability Act Federal Facility Agreement. It was further agreed that DOE would undertake particular activities to bring Fernald Closure Project into compliance with the Clean Air Act and Resource Conservation and Recovery Act.

Critical Site Uncertainties and Assumptions

DOE's plan for Fernald silos residues (wastes) is as follows. Silo 1 and 2 waste is at Waste Control Specialists, LLC, Texas for storage pending ultimate disposal. Silo 3 waste was shipped to Energy Solutions (formerly known as Envirocare,) Utah for disposal.

There is a $206,000,000 1986 Natural Resources Damages lawsuit claiming that DOE damaged the groundwater. The site has completed remediation activities per Comprehensive Environmental Response, Compensation, and Liability Act requirements. A trial date was set for June 2006. The judge in the case postponed the trial date indefinitely and encouraged the parties to settle. This issue should be resolved before FY 2008.

Interdependencies

In FY 2007 the site will transfer to the Office of Legacy Management for long-term monitoring and maintenance.

Contract Synopsis

Fluor Fernald is the prime contractor comprised of four teaming partners: Fluor Daniel, Inc, Jacobs Engineering, Duratek, and Nuclear Fuel Services. In November 2000, the Department of Energy and Fluor Fernald entered into a closure contract that incentivized Fluor Fernald to reduce the cost and schedule of the Fernald site cleanup.

FY 2007 is the last year of the Fluor Fernald contract. Fluor Fernald declared physical completion on October 29, 2006, with final contract fee and post-closure liabilities due in FY 2007 following DOE acceptance.

Cleanup Benefits

Work associated with final remediation and completion of the Fernald site was completed in January 2007. Ultimately, approximately 975 acres of the 1,050-acre property will be restored to beneficial use as an undeveloped park, and approximately 75 acres will be dedicated to the footprint of the On-Site Disposal Facility. Contaminated portions of the aquifer will be restored to beneficial use as a drinking water supply, and long-term stewardship actions will be put in place consistent with the final land use. Upon acceptance of the physical completion by DOE, the site was transferred to the Office of Legacy Management for long-term monitoring and maintenance in FY 2007.

Mound

Site Overview

In June 2002, DOE, the Ohio Environmental Protection Agency and the United States Environmental Protection Agency signed a letter of intent formalizing an agreement with DOE to accelerate the Miamisburg Closure Project cleanup. The primary goal addressed in the agreement signed by DOE and the regulators was to accelerate cleanup activities such that the site could achieve closure by 2006. On December 5, 2002, DOE awarded a new Cost plus Incentive Fee Miamisburg Closure Project Closure Contract that had a target completion date of March 31, 2006 (the current amended target completion date is September 30, 2006, while the actual date of physical completion was July 31, 2006).

Site Description

The Miamisburg Mound plant was built in the late 1940s to support research and development, testing, and production activities for DOE's defense nuclear weapons complex and energy research programs. The plant's mission involved production of components, which contained plutonium-238, polonium-210, tritium, and large quantities of high explosives. This mission continued until 1994, when these activities were transferred to other DOE facilities.

The Miamisburg Closure Project site is located in Miamisburg, Ohio, 10 miles southwest of Dayton and 31 miles north of Cincinnati.

Site Cleanup Strategy/Scope of Cleanup

Solid waste stabilization and disposition activities include the collection, storage, and disposition of waste, primarily waste generated from contaminated soil cleanup and waste from the decontamination and demolition of site buildings. Soil and building contamination was dominated by residual spread of thorium and plutonium. However, other radionuclides such as radium, actinium and cesium were found in lesser amounts. Solid waste stabilization and disposition activities at the Miamisburg Closure Project involved the management of low-level waste, low-level mixed 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. Transuranic waste was shipped to the Savannah River Site pursuant to an agreement between the Department of Energy and the State of South Carolina. All legacy transuranic waste was dispositioned by the end of FY 2003. The site contractor declared physical completion in July 2006, and final site remediation is projected in 2007.

Site Completion (End State)

The site contractor declared physical completion of the Miamisburg Closure Project in July 2006, and DOE is completing their physical acceptance review. DOE is projecting physical acceptance in second quarter FY 2007. The DOE Office of Legacy Management accepted custodianship of the site in October 2006, and will assume full operational responsibility for the site in FY 2008 following completion and acceptance of the following DOE Office of Environmental Management work scope:

- Operable Unit 1 (Historic Landfill) meets the requirements under Comprehensive Environmental Response, Compensation, and Liability Act and has been accepted by the U.S. Environmental Protection Agency and Ohio Environmental Protection Agency. However, Congress subsequently has directed exhumation of Operable Unit 1 at a cost not to exceed $30,000,000. Subsequently, a competitive procurement took place in FY 2006 and the EM Consolidated Business Center awarded an Indefinite Delivery/Indefinite Quantity contract in October 2006. The scope of work is expected to complete in FY 2007.

- Potential Release Site 441 (rail load out area) was scheduled for completion in FY 2006, but was delayed to allow support for rail shipment of material exhumed from Operable Unit 1. This scope is included in the Indefinite Delivery/Indefinite Quantity contract for the Operable Unit 1 exhumation and is planned to complete in FY 2007.

- DOE will complete the Record of Decision for Parcel 6/7/8 before declaring EM completion by FY 2008.

Regulatory Framework

In 1993 DOE/U.S. Environmental Protection Agency and the Ohio Environmental Protection Agency signed the Federal Facility Agreement.

Critical Site Uncertainties and Assumptions

As a result of Congressional action in FY 2006, additional environmental closeout activities associated with Operable Unit 1 are being developed. Implementation of the Operable Unit 1 environmental closeout will continue into FY 2007, and will delay final site closure.

Interdependencies

Off-site shipment of Operable Unit 1 waste will continue without obstruction.

Contract Synopsis

The DOE cost-plus-incentive-fee closure contract with CH2M Hill Mound, Inc. achieved contract physical completion in July 2006, and will be completed in early 2007. The contract provided significant incentive to the contractor to complete closure early while maintaining high safety standards, reducing risk, saving the taxpayer money through various means (mortgage reduction, process efficiencies, implementation of new technologies, etc.), and remaining in compliance with all regulatory and enforceable milestones.

The new Indefinite Delivery/Indefinite Quantity contract with Accelerated Remediation Company (ARC) for the Operable Unit 1 and Potential Release Site 441 was awarded in October 2006, and is planned to complete in December 2007.

Cleanup Benefits

Closure and turnover of 24 buildings and 306 acres to the Miamisburg Mound Community Improvement Corporation are expected to occur in 2007. When site cleanup and transfer occurs, the long-term stewardship mission at Miamisburg Closure Project will be transferred to DOE's Office of Legacy Management in FY 2008.

Rocky Flats

Site Overview

The mission of the Rocky Flats Field Office is to oversee the cleanup and closure of the Rocky Flats Environmental Technology Site. This mission encompasses the management of the site waste and special nuclear materials and their removal from the site; the deactivation, decommissioning and demolition of the site facilities; and cleanup, closure and conversion of the site to beneficial use in a manner that is safe, environmentally and socially responsible, physically secure, and cost-effective.

Site Description

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 established the Rocky Flats Plant in 1951with 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 the end of 2005, all site facilities were demolished; all waste removed, and contamination reduced to regulatory agreed upon levels. The site will transition to a National Wildlife Refuge under a Memorandum of Understanding with the U.S. Department of Interior. In FY 2007, the long-term stewardship mission at the site has been transferred to the Office of Legacy Management.

Site Cleanup Strategy/Scope of Cleanup

All cleanup activities at the Rocky Flats Site were completed in FY 2006. In FY 2007, the final Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision will be filed completing the regulatory activities at the Site. Contract close out will be addressed on an accelerated pace and regulatory closeout activities will dominate site activities.

Site Completion (End State)

The final Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision will be filed completing the regulatory activities at the site. Contract close out will be addressed on an accelerated pace and regulatory closeout activities will dominate site activities.

Regulatory Framework

In 1996 DOE, U.S. Environmental Protection Agency and Colorado Department of Public Health and Environment signed the Rocky Flats Cleanup Agreement.

Critical Site Uncertainties and Assumptions

Project completion at the Rocky Flats Site occurred in FY 2006.

Interdependencies

The site will transition to a National Wildlife Refuge managed by the U.S. Department of Interior. The long-term stewardship mission at the site has been transferred to the Office of Legacy Management.

Contract Synopsis

On February 1, 2000, Kaiser-Hill Company, LLC and the Rocky Flats Field office signed the Rocky Flats Closure Contract. This is a cost plus incentive fee contract which incentivized Kaiser-Hill to reduce the cost and schedule of the Rocky Flats site cleanup.

Cleanup Benefits

The site will transition to a National Wildlife Refuge.

Consolidated Business Center

The EM Consolidated Business Center will assume responsibility for completing final contract closeout, financial support for former contract worker compensation claims, litigation support and closeout, and support for Energy Employees Occupational Illness Compensation Program Act records processing for the former Defense facility closure projects beginning in FY 2007. Activities of this nature previously performed at the Ashtabula, Columbus, Fernald, Mound, and Rocky Flats closure projects will transition to the Consolidated Business Center in FY 2007. This will allow for the complete closure of the EM offices previously managing these sites.

The Consolidated Business Center also assumed responsibility for these activities at EM non-defense sites in 2006. These activities, primarily contract closeout, litigation and litigation support, had been previously performed by the former Oakland Operations Office, the former Albuquerque Operations Office, or other DOE offices on an “as available” basis. The EM non-defense facility closure project offices are not staffed to manage these activities, which are generally intermittent in nature and can be more consistently and effectively managed from a central location. The Consolidated Business Center is currently supporting active non-defense litigation on one former Uranium Mill Tailing Remediation Act site, as well as supporting the determination of Department responsibility at the former General Electric Vallecitos site.

Centralization of support for these activities, both defense and non-defense, enhances and focuses the management of these activities, as well as support the final closure of the Departmental offices at the former closure sites.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Closure Sites			
CBC-0100-FN / CBC Post Closure Administration - Fernald	0	8,696	2,609
CBC-0100-MD / CBC Post Closure Administration - Mound	0	11,200	3,075
CBC-0100-RF / CBC Post Closure Administration - Rocky Flats	0	6,000	6,150
OH-AB-0030 / Soil and Water Remediation-Ashtabula	15,841	295	295
OH-CL-0040 / Nuclear Facility D&D-West Jefferson	26,834	0	0
OH-FN-0013 / Solid Waste Stabilization and Disposition-Fernald	51,458	0	0
OH-FN-0030 / Soil and Water Remediation-Fernald	231,665	258,500	0
OH-FN-0050 / Non-Nuclear Facility D&D-Fernald	65,853	0	0
OH-FN-0101 / Fernald Community and Regulatory Support	868	377	0
OH-MB-0013 / Solid Waste Stabilization and Disposition-Miamisburg	65,374	0	0
OH-MB-0030 / Soil and Water Remediation-Miamisburg	65,245	4,519	5,108
OH-MB-0031 / Soil and Water Remediation-OU-1	30,000	0	0
OH-MB-0040 / Nuclear Facility D&D-Miamisburg	9,167	0	0
OH-MB-0100 / Miamisburg Post-Closure Administration	0	30,350	25,200
OH-MB-0101 / Miamisburg Community and Regulatory Support	792	0	0
RF-0013 / Solid Waste Stabilization and Disposition	15,004	0	0
RF-0030 / Soil and Water Remediation	436,983	1,000	0
RF-0040 / Nuclear Facility D&D-North Side Facility Closures	38,694	0	0
RF-0041 / Nuclear Facility D&D-South Side Facility Closures	1,045	0	0
RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities	22,476	0	0
RF-0101 / Rocky Flats Community and Regulatory Support	507	0	0
Subtotal, Closure Sites	1,077,806	320,937	42,437
Program Support			
CBC-RF-0102 / Rocky Flats Future Use	244	0	0
Subtotal, Program Support	244	0	0
Total, Defense Environmental Cleanup	1,078,050	320,937	42,437

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Non-Defense Environmental Cleanup			
Small Sites			
CBC-ND-0100 / CBC - Non-Defense Post Closure Administration and Program Support	0	0	1,200
Subtotal, Small Sites	0	0	1,200
Total, Non-Defense Environmental Cleanup	0	0	1,200
Total, Closure Sites	1,078,050	320,937	43,637

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Closure Sites					
Geographic Sites Eliminated (number of sites)	1	6	6	6	100%
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	1,895	1,895	1,895	1,895	100%
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	103,901	103,901	103,901	103,901	100%
Transuranic Waste shipped for disposal (Cubic meters)	15,036	15,036	15,036	15,036	100%
Material Access Areas eliminated (Number of Material Access Areas)	7	7	7	7	100%
Nuclear Facility Completions (Number of Facilities)	15	15	15	15	100%
Radioactive Facility Completions (Number of Facilities)	134	134	134	134	100%
Industrial Facility Completions (Number of Facilities)	437	437	437	437	100%
Remediation Complete (Number of Release Sites)	544	549	549	549	100%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	613,324	613,324	613,324	613,324	100%

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
OH-AB-0030 / Soil and Water Remediation-Ashtabula (life-cycle estimate $147,054K)	**15,841**	**295**	**295**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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

Completion will allow the Ohio Department of Health to release the site for unrestricted use and facilitate license termination for the owner, RMI Titanium Company. The physical completion of the project was completed in November 2006 and DOE accepted in December 2006. Final project closeout will complete in early 2007.

As of September 2006, 25 facilities were demolished, resulting in the disposition of nearly 600,000 m^3 of radioactive remediation generated waste.

The validated lifecycle Total Project Cost is $147,000,000 with a scheduled completion date of December 31, 2006.

In FY 2008, the following activities are planned:

- Remediation of the Ashtabula Closure Project was completed in December 2006. Regulatory closure took place in January 2007. FY 2008 funding will support contract closeout, records management, and potential continuation of groundwater monitoring if required.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	104	104	104	104	100%
Radioactive Facility Completions (Number of Facilities)	26	26	26	26	100%
Industrial Facility Completions (Number of Facilities)	3	3	3	3	100%
Remediation Complete (Number of Release Sites)	0	3	3	3	100%

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed implementation of the Ashtabula Decommissioning Plan. (December 2006)
- Obtain Ohio Environmental Protection Agency and Ohio Department of Health concurrence to cease groundwater sampling and analysis activities. (January 2007)

CBC-ND-0100 / CBC - Non-Defense Post Closure Administration and Program Support (life-cycle estimate $0K)	**0**	**0**	**1,200**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

Post-Closure Administration PBS provides funding support for post-closure contract liabilities, such as ongoing site litigation support, litigation settlements, contract closeout, and workers' compensation for non-defense sites (i.e., Laboratory for Energy-Related Health Research, General Atomics, Title II Uranium Mill Tailing Remediation Act site, etc.). Program management support provides funding support for development of defense waste determinations, acquisition strategies, independent cost estimates, and other program management support documentation for projects within the EM Non-Defense appropriation (General Electric Vallecitos, General Atomics, Title II Uranium Mill Tailing Remediation Act, Brookhaven National Laboratory, Argonne National Laboratory, Stanford Linear Accelerator Center, and Moab.

In FY 2008, the following activities are planned:

- Litigation support is currently being provided for determination of Departmental responsibility associated with the former General Electric Vallecitos facility in California. In addition, the Consolidated Business Center is currently involved in active litigation support associated with the former MK Ferguson contract. This is an ongoing litigation action that the Department has been informally supporting for some years, previously managed by the National Nuclear Security Administration Service Center. Litigation support activities may also be necessary to support EM activities at the remaining non-defense sites as they complete.
- Contract closeout activities will be performed on EM contracts previously managed by the former Oakland and Albuquerque Operations offices.
- Provide program support activities necessary to support development of potential new remediation projects (GE Vallecitos, and General Atomics), and program management support for ongoing Non-Defense projects.

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Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

(dollars in thousands)

FY 2006	FY 2007	FY 2008

CBC-0100-FN / CBC Post Closure Administration - Fernald (life-cycle estimate $16,383K) **0** **8,696** **2,609**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This Post-Closure Administration PBS provides funding for the Fernald Closure Project in support of level of effort activities such as regulatory support, Human Resource Management, Budget and Financial support and administration of Freedom of Information and Privacy Act programs at the closure site. In addition, the funding provides specific support of ongoing litigation and payment of settlements; management and administration of DOE prime contracts for assigned sites/projects; and close out of former management, operating, closure, and DOE prime contracts. This funding also covers the payment of estimated workers compensation payments. All costs for these activities prior to site closure are included in the individual site project PBS. Post-closure liabilities will initiate in FY 2007 with the completion of the site closure and extend through the estimated lifetime of the contract closeout, resolution of all site litigation activities, and the final closeout of workmen's compensation claims.

In FY 2008, the following activities are planned:

- Fund liabilities associated with the end of the Fernald Project prime contract, including contract closeout, litigation support and settlements and workmen's compensation.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

CBC-0100-MD / CBC Post Closure Administration - Mound (life-cycle estimate $18,740K) **0** **11,200** **3,075**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This Post-Closure Administration PBS provides funding for the Mound Closure Project in support of level of effort activities such as regulatory support, Human Resource Management, Budget and Financial support and administration of Freedom of Information and Privacy Act programs at the closure site. In addition, the funding provides specific support of ongoing litigation and payment of settlements; management and administration of DOE prime contracts for assigned sites/projects; and close out of former management, operating, closure, and DOE prime contracts. This funding also covers the payment of estimated workers compensation payments. All costs for these activities prior to site closure are included in the individual site project PBS. Post-closure liabilities will initiate in FY 2007 with the completion of the site closure and extend through the estimated lifetime of the contract closeout, resolution

(dollars in thousands)

FY 2006	FY 2007	FY 2008

of all site litigation activities, and the final closeout of workmen's compensation claims.

In FY 2008, the following activities are planned:

- Fund liabilities associated with the end of the Mound Project prime contract, including contract closeout, litigation support and settlements and workman's compensation.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

CBC-0100-RF / CBC Post Closure Administration - Rocky Flats (life-cycle estimate $33,617K) **0** **6,000** **6,150**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The scope of this PBS is to provide site litigation support 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 Rocky Flats site closure contractor, which is covered under PBS RF-0030.

The Rocky Flats Closure Project achieved site closure in FY 2006. However, residual liability for ongoing litigation will continue until all litigation involving the Department of Energy or former Rocky Flats contractors is resolved. The EM Consolidated Business Center has assumed responsibility for the litigation associated with the Rocky Flats Site. The projected end-date for this activity is estimated through 2070.

In FY 2008, the following activities are planned:

- Continue support for ongoing litigation and potential workmen's compensation claims.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

OH-CL-0040 / Nuclear Facility D&D-West Jefferson (life-cycle estimate $170,241K) **26,834** **0** **0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Completion of the West Jefferson site cleanup consists of 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). External areas to be cleaned include filter beds and buried utilities; waste management activities include packaging, transportation, and disposal of transuranic waste, low-level waste and contaminated soils and debris; and surveillance and maintenance requirements will decrease as site hazards are eliminated or reduced.

The end-state objective is to safely remediate facilities by the end of FY 2006 to levels of residual contamination allowing future use of the site without radiological restrictions. Battelle, the site owner, will make all future use decisions.

The contractor achieved physical completion in June 2006.

In FY 2008, the following activities are planned:

- Project activities were completed in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Nuclear Facility Completions (Number of Facilities)	1	1	1	1	100%
Radioactive Facility Completions (Number of Facilities)	14	14	14	14	100%
Remediation Complete (Number of Release Sites)	2	2	2	2	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed independent verification characterization activities to support site release from DOE back to Battelle. (FY 2006)
- Completed demobilization of equipment and infrastructure associated with site remediation. (FY 2006)
- Facilitated termination of Nuclear Regulatory Commission license for Battelle, the site owner, completing DOE/EM's responsibilities at West Jefferson. (FY 2006)

OH-FN-0013 / Solid Waste Stabilization and Disposition-Fernald (life-cycle estimate $1,478,092K)	**51,458**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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 and soil and debris that do not meet the waste acceptance criteria for the on-site disposal facility. This project's scope includes characterization, treatment, packaging, transportation, interim storage as required and final disposition of the most radioactive and/or hazardous wastes. Disposition of this waste represents the critical path to achieve closure of the Fernald site.

Final remediation of these waste streams will be implemented through design and construction of treatment and retrieval facilities; use of off-site treatment facilities; facility operations; packaging and transportation of treated wastes; and final disposal as required. 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 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.

Liquid mixed waste (428,441 gallons) was shipped to the Toxic Substances Control Act incinerator; 994 m^3 of mixed waste was shipped off-site for treatment and disposal; 4,958 MTU of nuclear product was sold or shipped to Portsmouth for storage; and 46,638 m^3 of remediation waste was shipped to the Nevada Test Site leaving approximately 60,583 m^3 for off-site disposition.

As of September 2006, Fernald had excavated and loaded 925,707 tons of waste pit material into railcars, and had shipped 144 unit trains (920,228) tons of waste to Energy Solutions (formerly known as Envirocare) for disposition. Completed activities for Silo 3 include retrieving, treating, packaging and shipping the waste off-site. All of the Silo 1 and 2 waste has been shipped to Waste Control Specialists, LLC in Texas for interim storage until a final disposal site is determined.

In FY 2008, the following activities are planned:

- Project activities were completed September 30, 2006; waste remains in off-site interim storage. Interim storage costs are funded under PBS OH-FN-0030 in FY 2007.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	7,085	7,085	7,085	7,085	100%

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008

Remediation Complete (Number of Release Sites)	4	4	4	4	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed container loading of Silos 1 and 2 material. (FY 2006)

OH-FN-0030 / Soil and Water Remediation-Fernald (life-cycle estimate $1,539,826K)	**231,665**	**258,500**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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.

The Advanced Waste Water Treatment Facility will be reduced to a condensed facility referred to as the Converted Advanced Waste Water Treatment Facility which will continue to process site waste water. The Converted Advanced Waste Water Treatment Facility will be transferred to Legacy Management as well as its operations associated with long-term stewardship activities.

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 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 into the On-Site Disposal Facility by October 2006. Upon EM acceptance of the contractor’s physical completion declaration, the Office of Legacy Management will assume operational responsibility for the Fernald Closure Project. The Office of Legacy Management will assume responsibility for ongoing operation of the aquifer long-term response action and all other monitoring maintenance and surveillance at the Fernald Closure Project at the time of transfer. Therefore, the Office of Legacy Management will be responsible for regulatory completion of Operable Unit 5 (environmental media, including groundwater, surface water and soil not included in Operable Units 1-4) once the aquifer restoration has been completed. EM will maintain financial responsibility for regulatory completion of Operable Unit 5.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Educational outreach and maintenance of an on-site information facility are being employed as a form of community-based institutional controls.

As of October 2006, Fernald has completed 100 percent of the contractually required remediation work. The PBS remains open for contract closeout which goes through March 31, 2007.

In FY 2008, the following activities are planned:

- The contractor declared physical completion at Fernald in October 2006. The DOE has completed their physical acceptance review, and final acceptance occurred in January 2007.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	0	2	2	2	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Area 7 Silos general area excavation. (FY 2006)
- Transferred operations of the Converted Advanced Waste Water Treatment Facility to the Office of Legacy Management. (October 2006)
- Completed remaining Release sites. (October 2006)

OH-FN-0050 / Non-Nuclear Facility D&D-Fernald (life-cycle estimate $187,512K)	**65,853**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Non-Nuclear Facilities Decontamination and Dismantlement Project is responsible for: the decontamination and dismantlement of 29 Radiological Facility complexes and one Industrial Facility Complex (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 decontamination and decommissioning of the Advanced Waste Water Treatment Facility is included in this PBS and scheduled for completion in FY 2006. This will ultimately reduce the Advanced Waste Water Treatment Facility footprint by 90 percent. The balance will be a reduced Advanced Waste Water Treatment Facility referred to as the Converted Advanced Waste Water Treatment Facility.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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.

As of September 30, 2006, Fernald completed dismantlement of 29 out of 29 Radiological Facility Complexes and one Industrial Facility Complex.

In FY 2008, the following activities are planned:

- Project activities were completed September 30, 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Radioactive Facility Completions (Number of Facilities)	29	29	29	29	100%
Industrial Facility Completions (Number of Facilities)	1	1	1	1	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Operable Unit 1 complex demolition. (FY 2006)
- Completed decontamination and dismantlement of miscellaneous structures (Phase 11). (FY 2006)

OH-FN-0101 / Fernald Community and Regulatory Support (life-cycle estimate $14,123K)	**868**	**377**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The scope of work in the Community and Regulatory Support Project includes support for the Fernald Citizens Advisory Board, Ohio Environmental Protection Agency, Payment-in-Lieu-of-Taxes and regulatory compliance for cultural resources. The Fernald Citizens Advisory Board is a group of volunteer Fernald area residents who provide advice and recommendations to EM Management on the remediation activities and future use of the Fernald property. This project provides for a technical facilitator, graphics, administration, and logistical support to operate the Fernald Citizens Advisory Board. It also provides for similar activities to support the oversight role of the Ohio Environmental Protection Agency.

In FY 2008, the following activities are planned:

- Project activities will be complete in FY 2007.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Permitted the Fernald Citizens Advisory Board to provide advice and recommendations about site remediation and help in the planning for long-term stewardship. (FY 2006)
- Provide support for Ohio Environmental Protection Agency and Payment in Lieu of Taxes. (September 2007)

CBC-RF-0102 / Rocky Flats Future Use (life-cycle estimate $2,669K) **244** **0** **0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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 DOE and the Department of Interior, development of a Comprehensive Conservation Plan by the Department of Interior, and a report to Congress by DOE on the establishment of a Rocky Flats Museum.

The Department of Energy and the Department of Interior are working to finalize the draft Memorandum of Understanding for transferring administrative control of the site from DOE to the Department of Interior. The Department of Interior has developed a Comprehensive Conservation Plan for management of the refuge. The Department of Energy will provide an annual report to Congress on the funding required to implement the Rocky Flats Refuge Act. The Department, in consultation with the city of Arvada, other local communities, and the Colorado State Historical Society is planning to provide a report to Congress with the FY 2008 Congressional Request, 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 Site to the Department of Interior currently planned for early 2007.

In FY 2008, the following activities are planned:

- Provide the Annual Report on funding the Rocky Flats Wildlife Refuge Act to Congress in February 2007, in concert with the FY 2008 Congressional Budget Request. FY 2006 funding is utilized to support development of the report.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete

(dollars in thousands)

FY 2006	FY 2007	FY 2008

No metrics associated with this PBS
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Provided Annual Report to Congress on funding the Rocky Flats Wildlife Refuge Act. (December 2006/February 2007)

OH-MB-0013 / Solid Waste Stabilization and Disposition-Miamisburg (life-cycle estimate $287,982K) **65,374** **0** **0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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, waste treatment. All legacy nuclear materials and chemical and radioactive waste streams have been dispositioned. The site operated six facilities and a rail staging area to manage waste streams, which are dispositioned when generated. Newly discovered transuranic waste has been shipped to the Savannah River Site pursuant to an agreement between the Department of Energy and the State of South Carolina.

The end-state for this project is the disposition of all waste streams to approved disposal sites by September 30, 2006.

As of September 30, 2006, with the project complete, 385,009 m^3 (169.4 percent) had been shipped against the total estimated life-cycle volume of 227,237 m^3 for all waste streams, including legacy low-level and mixed low-level waste and remediation generated wastes.

In FY 2008, the following activities are planned:

- No activities are planned.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,947	3,947	3,947	3,947	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed the shipment of 191 cubic meters of remediation waste to Envirocare. (FY 2006)
- Disposed of remaining soils. (FY 2006)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
OH-MB-0030 / Soil and Water Remediation-Miamisburg (life-cycle estimate $182,250K)	**65,245**	**4,519**	**5,108**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This project remediates contaminants that were 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 volatile organic compound 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); achievement of operating properly and successfully determinations on all Comprehensive Environmental Response, Compensation and Liability Act remedies other than institutional controls; completion of all Comprehensive Environmental Response, Compensation documentation required to achieve EM Completion and DOE site closure, including U. S. Environmental Protection Agency approval to transfer all properties that comprise the 306 acres originally owned by DOE; and transfer of all properties to the Miamisburg Mound Community Improvement Corporation that have been declared excess to DOE's needs in FY 2007. Responsibility for long-term stewardship and post-closure pension and post-retirement benefits will transfer to the Office of Legacy Management.

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.

As of September 30, 2006, 100 percent of the original lifecycle estimates of Potential Release Sites (178 of 178) have completed. Parcels 6, 7, 8 Phase 1A, Phase 1B, and Phase 1C have not been transferred to the Miamisburg Mound Community Improvement Corporation pending resolution of a Federal Facility Agreement Dispute between the Department of Energy and the Ohio Environmental Protection Agency concerning sewer lines.

In FY 2008, the following activities are planned:

- The site contractor declared physical completion of the Miamisburg Closure Project in July 2006, and DOE is completing their physical acceptance review. DOE is projecting physical acceptance in second quarter FY 2007. The DOE Office of Legacy Management accepted custodianship of the site in October 2006, and will assume full operational responsibility for the site in FY 2008 following completion and acceptance of all DOE Office of Environmental Management work scope.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Provide level of effort post-closure support provided by the Ohio Environmental Protection Agency and Payment-in-Lieu-of-Tax payments made to Montgomery County, Ohio.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	177	177	177	177	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Potential Release Site 76 excavation and verification. (FY 2006)
- Completed the excavation and verification of Potential Release Site 131 (Soil beneath Buildings R, SW, and B Slab). (FY 2006)
- Transferred at least 100 acres of Parcel 6/7/8 to the Miamisburg Mound Community Improvement Corporation. (FY 2006)

OH-MB-0031 / Soil and Water Remediation-OU-1 (life-cycle estimate $0K)	**30,000**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The purpose of the project is to safely remove as much residual contamination as possible within the funding profile leaving the Mound Operable Unit 1 area in a more viable configuration for industrial reuse. The Operable Unit 1 selected response action is an excavation-based response action. The Operable Unit 1 Project consists of two distinct projects: the Operable Unit 1 Project and the Potential Release Site 441 Project. The Contractor is responsible for completing the necessary waste management and disposal of the contaminated soils, provide verification samples and reports, backfill the excavation, and accomplish site restoration of the Operable Unit 1 Project Area to acceptable standards.

The primary concern within the Operable Unit 1 area consists of residual contamination within a Site Sanitary Landfill that sits on top of an older Historic Waste Disposal Area. The wastes in the Historic Waste Disposal area include radioactive materials and hazardous waste, and other wastes described in the statement of work. The DOE has established the following waste removal priorities: 1) Thorium and Polonium Contaminated Waste Area (Potential Release Site 11); 2) Volatile Organic Compounds “Hot Spot” Area; 3) Other Historic Waste Area; 4) Dayton Unit Trench; and 5) Site Sanitary Landfill Waste.

The goal of the Potential Release Site 441 (rail load out area) Project is to be compliant with the requirements defined by the Comprehensive Environmental Response, Compensation and Liability Act as implemented by the Mound 2000 Work Plan and associated site cleanup objectives. Funding for the Potential Release Site 441 Project scope of work is provided separately from the funding appropriated by Congress for the Operable Unit 1 Project scope of work. At the end of September 2006, proposals were

(dollars in thousands)

FY 2006	FY 2007	FY 2008

reviewed, and the EM Consolidated Business Center awarded an Indefinite Delivery/Indefinite Quantity contract in October 2006.

Upon completion of this additional remediation work, the current Record of Decision for Operable Unit 1 will be amended and the final parcel of land, Parcel 9, will be offered to the Miamisburg Mound Community Improvement Corporation for transfer.

In FY 2008, the following activities are planned:

- This project is scheduled to be completed in FY 2007.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	1	1	1	1	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Awarded Indefinite Delivery/Indefinite Quantity Tank Order for Operable Unit 1. (October 2006)
- Commenced Field Work for Operable Unit 1. (November 2006)
- Complete Remedy for Operable Unit 1. (September 2007)

OH-MB-0040 / Nuclear Facility D&D-Miamisburg (life-cycle estimate $494,255K)	**9,167**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Nuclear Facility Decontamination and Decommissioning 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 balances were 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.

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 in FY 2006.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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 2007. At the end of March 2006, 134 facilities were demolished or transferred to the Miamisburg Mound Community Improvement Corporation, leaving 1 facility to be ready for transfer to the Miamisburg Mound Community Improvement Corporation. Of the total 135 facilities, 19 were radiological contaminated and most of the remaining facilities had some industrial contamination, all of which require decontamination and decommissioning. One of the transition buildings (Building T) required extensive decommissioning and decontamination before transfer. At this time, all facilities at the Miamisburg Closure Project have been either physically demolished or transferred or readied for transfer with the exception of Building T to the Miamisburg Mound Community Improvement Corporation. At the end of September 2006, all structures required to be demolished had been. Of the 24 structures to be transferred to Miamisburg Mound Community Improvement Corporation, one had been demolished, one had been retained for use by Department of Energy Legacy Management, four had been transferred, and 18 had been leased or ready to be leased to the Miamisburg Mound Community Improvement Corporation. These 18 buildings will be transferred upon transfer of the land upon which they are located.

In FY 2008, the following activities are planned:

- No nuclear facility deactivation, decontamination, decommissioning, or demolition activities are planned after FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Nuclear Facility Completions (Number of Facilities)	8	8	8	8	100%
Radioactive Facility Completions (Number of Facilities)	11	11	11	11	100%
Industrial Facility Completions (Number of Facilities)	116	116	116	116	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed the demolition of Buildings R/SW and Building 58 (includes slab and underground line removal). (FY 2006)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
OH-MB-0100 / Miamisburg Post-Closure Administration (life-cycle estimate $861,644K)	**0**	**30,350**	**25,200**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS supports Post-Closure Contract liabilities, such as pension, retiree medical and life insurance. This scope is defined under Financial Accounting Standard 87 (Employers' Accounting for Pension), Financial Accounting Standard 106 (Employers' Accounting for Post-Retirement Benefits Other Than Pension), and estimated workers' compensation. Post-closure liabilities will initiate in FY 2007 with the completion of the Miamisburg Closure Project contract and extend through the estimated lifetime of current site workers and their beneficiaries.

In FY 2008, the following activities are planned:

- Administration of post-closure contract liabilities (pension, retiree medical, and life insurance) that are defined under Financial Accounting Standard 87 (Employers' Accounting for Pension), Financial Accounting Standard 106 (Employers' Accounting for Post-Retirement Benefits Other Than Pension), and estimated worker's compensation.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

OH-MB-0101 / Miamisburg Community and Regulatory Support (life-cycle estimate $8,902K)	**792**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS scope contains all costs associated with the Comprehensive Environmental Response, Compensation, and Liability Act Cost Recovery Grant to the Ohio Environmental Protection Agency for oversight of site remediation activities. This project scope also includes Payment-in-Lieu-of-Taxes to Montgomery County, Ohio, for all properties that have not been transferred to the Miamisburg Mound Community Improvement Corporation.

After physical completion in FY 2006, DOE will still have remaining work to finalize the Record of Decision for Parcel 6/7/8 and to convey all remaining excess real property to the Miamisburg Mound Community Improvement Corporation. That work will require continued Cost Recovery Grant payments to the Ohio Environmental Protection Agency, and continued Payment-in-Lieu-of-Taxes in FY 2007. Such costs will be covered in PBS OH-MB-0030.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- All obligations under PBS OH-MB-0101 ceased at the end of FY 2006. Post-Closure level of effort support provided by the Ohio Environmental Protection Agency and (Payment- in-Lieu-of-Taxes payments made to Montgomery County, Ohio) will be reported under OH-MB-0030 in FY 2008.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

RF-0013 / Solid Waste Stabilization and Disposition
(life-cycle estimate $890,839K) **15,004** **0** **0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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

Low-level and mixed low-level waste will be disposed at both commercial and DOE facilities. As of September 2005, 374,984 m^3 of low-level and mixed low-level waste was shipped for disposal and 14,468 m^3 of the transuranic waste was 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.

In FY 2008, the following activities are planned:

- Activity is complete in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	15,036	15,036	15,036	15,036	100%

(dollars in thousands)

	FY 2006	FY 2007	FY 2008

Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	602,188	602,188	602,188	602,188	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed site deinventory of legacy low-level/mixed low-level waste to off-site disposal. (FY 2006)

RF-0030 / Soil and Water Remediation (life-cycle estimate $2,065,409K)	**436,983**	**1,000**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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 when individual sites require no further action; 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. Payment of contract conditional target incentive fee, as well as pension and retiree medical/life insurance payments is also included in this PBS. All physical remediation was completed in CY 2006. Final regulatory closeout will complete in FY 2007.

In FY 2008, the following activities are planned:

- Regulatory closeout activities are to be completed in FY 2007.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
Remediation Complete (Number of Release Sites)	360	360	360	360	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed remediation of remaining release site. (FY 2006)
- File final Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision. (September 2007)

RF-0040 / Nuclear Facility D&D-North Side Facility Closures (life-cycle estimate $1,926,047K)	**38,694**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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

Building stabilization includes: 1) removing a building from operation, 2) placing the building in a safe and stable condition that eliminates or mitigates hazards, and 3) ensuring adequate protection to the workers and the environment. Building deactivation involves 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-specific Rocky Flats Cleanup Agreement decision document specifies otherwise).

As of September 2005, the site had eliminated all Nuclear Facilities, Industrial Facilities, and Radioactive Facilities. The demolition ended in early FY 2006.

In FY 2008, the following activities are planned:

- Activity is complete in FY 2006.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Material Access Areas eliminated (Number of Material Access Areas)	6	6	6	6	100%
Nuclear Facility Completions (Number of Facilities)	6	6	6	6	100%
Radioactive Facility Completions (Number of Facilities)	22	22	22	22	100%
Industrial Facility Completions (Number of Facilities)	141	141	141	141	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed decontamination and decommissioning of remaining radioactive, nuclear, and industrial facilities. (FY 2006)

RF-0041 / Nuclear Facility D&D-South Side Facility Closures (life-cycle estimate $746,448K)	**1,045**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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 include: 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-specific Rocky Flats Cleanup Agreement decision document specifies otherwise).

As of September 2005, the site had completed removal of all Industrial Facilities and Radioactive Facilities. The final scope of this PBS was completed in FY 2006.

In FY 2008, the following activities are planned:

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Activity is complete in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	1	100%
Radioactive Facility Completions (Number of Facilities)	32	32	32	32	100%
Industrial Facility Completions (Number of Facilities)	176	176	176	176	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed decontamination and decommissioning of remaining radioactive and industrial facilities. (FY 2006)

RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities (life-cycle estimate $2,854,598K) **22,476** **0** **0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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 2008, the following activities are planned:

- Activity is complete in FY 2006. Post closure pension and post retirement benefits are transferred to the Office of Legacy Management for support beginning in FY 2007. Post closure contract closeout, workmen’s compensation and litigation support is transferred to the Consolidated Business Center (CBC-0100-RF).

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Supported site litigation activities and former site management and operations, and existing site contractor contract closeouts. (FY 2006)					

RF-0101 / Rocky Flats Community and Regulatory Support (life-cycle estimate $36,425K) **507** **0** **0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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.

In FY 2008, the following activities are planned:

- Activity is complete in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Provided educational and financial assistance up to the agreed upon level of support. Supported 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). (FY 2006)					

Total, Closure Sites **1,078,050** **320,937** **43,637**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Closure Sites	
Closure Sites Administration	
CBC-0100-FN / CBC Post Closure Administration - Fernald	
▪ Decrease is due to reduction in planned contract closeout costs, litigation support, and worker's compensation claims associated with the Fernald closure contract.	-6,087
CBC-0100-MD / CBC Post Closure Administration - Mound	
▪ Decrease is due to reduction in planned contract closeout costs, litigation support, and worker's compensation claims associated with the Miamisburg closure contract.	-8,125
CBC-0100-RF / CBC Post Closure Administration - Rocky Flats	
▪ No significant change.	150
Fernald	
OH-FN-0030 / Soil and Water Remediation-Fernald	
▪ Decrease reflects final contract fee payment, the subsequent transfer to the Office of Legacy Management, and contract closeout.	-258,500
OH-FN-0101 / Fernald Community and Regulatory Support	
▪ Decrease in funding is due to site closure. Activity terminated.	-377
Miamisburg	
OH-MB-0030 / Soil and Water Remediation-Miamisburg	
▪ Increase reflects projected increase in funding requirements for former contract worker pension and post-retirement benefits contributions.	589
OH-MB-0100 / Miamisburg Post-Closure Administration	
▪ Decrease is due to transfer of the activity to PBS CBC-0100-MD.	-5,150

	FY 2008 vs. FY 2007 ($000)
Rocky Flats	
RF-0030 / Soil and Water Remediation	
▪ Decrease is due to planned regulatory completion of the project in FY 2007.	-1,000
Non-Defense Environmental Cleanup	
Small Sites	
Closure Sites Administration and Program Support	
CBC-ND-0100 / CBC - Non-Defense Post Closure Administration and Program Support	
▪ Increase is due to the establishment of a post-closure administration PBS for Uranium Mill Tailing Remediation Act and other non-defense post-closure contract liabilities.	1,200
Total, Closure Sites	**-277,300**

NNSA Sites

Funding by Site and Location

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
NNSA Sites			
California Site Support	545	370	370
Kansas City Plant	4,481	0	0
Lawrence Livermore National Laboratory	29,283	11,580	8,680
Los Alamos National Laboratory	141,277	91,627	141,372
Nevada Off-Sites	2,818	0	0
Nevada	84,177	79,668	81,106
NNSA Service Center	8,221	26,122	29,096
Pantex	19,458	23,726	12,411
Sandia National Laboratories	9,672	0	0
Total, NNSA Sites	299,932	233,093	273,035

The Department's Office of Environmental Management is responsible for the safe and efficient cleanup of the environmental legacy at the following National Nuclear Security Administration Sites: Kansas City Plant, Lawrence Livermore National Laboratory-Livermore Site and Site 300, Los Alamos National Laboratory, Nevada Site Office, Pantex Plant, Sandia National Laboratories, and the Separations Process Research Unit. Completion of Kansas City Plant and Lawrence Livermore National Laboratory Main Site occurred in FY 2006. Long-term stewardship for these two sites will be funded under the National Nuclear Security Administration beginning in FY 2007. Two other sites, Lawrence Livermore National Laboratory Site 300 and Pantex Plant, are scheduled for completion in FY 2008. Following are descriptions of the environmental management activities at the National Nuclear Security Administration sites.

Kansas City Plant

Site Overview

Kansas City Plant continues to have a National Nuclear Security Administration mission to manufacture non-nuclear components for defense purposes. However, there is legacy contamination that resulted from hazardous materials being released to the environment from the 1940's to the 1980's. The Environmental Restoration program at the Kansas City Plant is regulated by the State of Missouri under a Resource Conservation and Recovery Act Post Closure Permit. Environmental restoration activities will be complete at the end of FY 2006 under a cleanup approach in which 43 release sites or areas found to be a threat to human health and the environment will have been addressed. Sites with limited risks are managed through institutional controls. Pump and treat activities for contaminated groundwater and maintenance of institutional controls will continue indefinitely. Contaminated soil was remediated based on risk.

Site Description

The Kansas City Plant facility occupies 136 acres of the 300-acre Bannister federal complex in Kansas City, Missouri. This reservation is bounded on the east by the Blue River, on the south by Bannister Road and the Indian Creek, on the west by Troost Avenue, and on the north by federal and city property. The area around the facility is primarily residential with some light industry, giving the facility predominance in the immediate community.

Site Cleanup Strategy/Scope of Cleanup

The mission of the environmental restoration program at Kansas City Plant is to evaluate and remediate potentially contaminated areas found to be a threat to human health and the environment. Using a risk-based approach, sites with limited risks are managed through institutional controls, contaminated soil is excavated and disposed, and contaminated groundwater is treated prior to being discharged. Monitoring and treatment of the contaminated groundwater will continue in order to meet Post Closure Permit requirements.

The remaining environmental restoration scope at the site includes treating approximately 28 million gallons of contaminated groundwater annually, completing the last release site (95th Terrace), reducing infiltration of legacy polychlorinated biphenyls/solvent contamination in the storm sewers, and continuing/maintaining monitoring programs for surface water and groundwater.

Site Completion (End State)

The Kansas City Plant has completed all EM cleanup project activities by the end of September 2006. The Resource Conservation and Recovery Act Post Closure permit lists 43 release sites, all of which have been addressed and either undergone remediation, been deemed suitable for institutional controls, or have been determined to require no further action.

Short Term Projects:

95th Terrace Project – The Corrective Measures Study was approved by the regulator. The agreed upon remedy involved engineered and institutional controls and monitoring as well as a Bioaccumulation Study in FY2005, FY 2008, and FY 2013. The Statement of Basis was approved by the regulator in September 2006 following a 45-day public review comment period.

Infiltration of Legacy Polychlorinated Biphenyls Contamination into Storm Sewers – The effluent discharge limit for Polychlorinated Biphenyls was lowered from 1.0 ppb to 0.5 ppb in November 2002. The Consent Judgment is being negotiated between the Kansas City Plant and the State to address numerous exceedences since the limit was lowered. Corrective actions will be a part of the finalized Judgment.

Longer Term Projects:

Long Term Stewardship – Since all environmental restoration work is scheduled for completion in FY 2006 at the Kansas City Plant, all associated Long-term Stewardship work will be funded by the National Nuclear Security Administration beginning in FY 2007. Long-term Stewardship activities

include program management, and oversight and administration of completed environmental restoration projects as well as the operation and maintenance of a groundwater treatment and monitoring system.

Regulatory Framework

The Kansas City Plant was issued a Resource Conservation and Recovery Act Part B Post Closure Permit in October 1999. This permit addresses the post closure care of three closed Resource Conservation and Recovery Act regulated land disposal units. It also addresses the continuing implementation of Resource Conservation and Recovery Act corrective action requirements, including site-wide groundwater monitoring and remediation. Monitoring of surface water shall also occur for volatile organics and polychlorinated biphenyls.

Consent Judgment

The Sierra Club filed a citizen suit notification letter on February 17, 2003, regarding polychlorinated biphenyls discharges from the Kansas City Plant. The Missouri Department of National Resources and the Kansas City Plant initiated discussions on a settlement agreement to address this issue. The Consent Judgment addresses efforts to achieve compliance with the polychlorinated biphenyls discharge limit of 0.5 parts per billion. It is anticipated that the Consent Judgment will be issued in 2007. The Consent Judgment will likely require a Fate and Transport Study but this does not affect the Kansas City Plant site completion.

Critical Project Uncertainties and Assumptions

There were no adverse public comments arising from issuance of the Resource Conservation and Recovery Act Statement of Basis for the 95th Terrace Site. A final remedy decision from the Missouri Department of Natural Resources was issued on September 29, 2006.

Interdependencies

Long-term Stewardship will be funded beginning in FY 2007 by the National Nuclear Security Administration after completion of environmental cleanup activities by EM in FY 2006.

Contract Synopsis

The Kansas City Plant is operated by Honeywell, Federal Manufacturing and Technologies, a Management and Operating contractor.

Cleanup Benefits

Near Term

Cleanup by the end of FY 2006 was made possible by changing the remediation strategy for the 95th Terrace project. The regulator, Missouri Department of National Resources, approved the recommended remedy with the addition of a bioaccumulation study.

Lawrence Livermore National Laboratory

Site Overview

Lawrence Livermore National Laboratory is a National Nuclear Security Administration multi-disciplinary research and development center focusing on weapons development and stewardship and homeland security. The Environmental Management program includes the completion of disposition of legacy waste by the end of calendar year 2005; transfer of the Newly Generated Waste Program to National Nuclear Security Administration in FY 2006; completion of the Lawrence Livermore National Laboratory Main Site remedial activity build-out in FY 2006 and transition to long-term stewardship in FY 2007; and completion of the Lawrence Livermore National Laboratory Site 300 remedial activity build-out in FY 2008 and transition to long-term stewardship in FY 2009. Starting in FY 2007, the National Nuclear Security Administration will be responsible for long-term stewardship for the Lawrence Livermore National Laboratory Main Site.

The only Environmental Management program remaining at Lawrence Livermore National Laboratory is the completion of the Site 300 Environmental Restoration Project. In FY 2008 the cleanup activities at Site 300 consist of the build-out of treatment systems and implementation of all other selected remedial actions associated with the completion of the Environmental Management program. Starting in FY 2009, the National Nuclear Security Administration will be responsible for Long-Term Stewardship of the Lawrence Livermore National Laboratory Site 300.

Site Description

Lawrence Livermore National Laboratory Main Site

Lawrence Livermore National Laboratory Main Site is an 800-acre highly developed area of industrial facilities, laboratories, and office buildings in the eastern part of Alameda County, adjacent to Livermore, California. The site does both nuclear and non-nuclear research and development. The surrounding area is a combination of suburban development and rural land usage. There is soil and groundwater contamination on-site and limited groundwater contamination off-site.

Lawrence Livermore National Laboratory Site 300

Site 300 is an 8,000-acre site located about 15 miles east of Livermore, California with limited development primarily used for explosive hydrodynamic testing and analysis of weapons components. The surrounding area is sparsely populated rural agricultural. There is soil and groundwater contamination on-site and limited groundwater contamination off-site.

Site Cleanup Strategy/Scope of Cleanup

The cleanup strategy is a risk-based and regulatory compliant approach that focuses first on those contaminant plumes and sources that are the greatest contributors to risk. The overall goal is to ensure that risks to the public and workers are controlled, followed by work to cleanup soil and groundwater

using a risk-based methodology. Having established the risk-based prioritization for the work, a number of substantive changes to work practices that facilitate work execution were implemented.

Site Completion (End State)

At completion, all required groundwater and /or soil vapor extraction and treatment facilities will be constructed and fully operational. Groundwater monitoring and risk and hazard management will continue. Legacy waste will have been disposed offsite and the Newly Generated Waste program will be transferred to National Nuclear Security Administration. Starting in FY 2007, the National Nuclear Security Administration will be responsible for long-term stewardship for the Lawrence Livermore National Laboratory Main Site. The EM program includes completion of the Lawrence Livermore National Laboratory Main Site remedial activity build-out in FY 2006 and transition to long-term stewardship in FY 2007; and completion of the Lawrence Livermore National Laboratory Site 300 remedial activity build-out in FY 2008 and transition to Long-Term Stewardship in FY 2009.

Site 300 Remediation - Past operations at the Lawrence Livermore National Laboratory Site 300 resulted in the release and subsequent migration of contaminants into the soil and groundwater. The major contaminants are volatile organic compounds, tritium, depleted uranium, perchlorate, nitrate, and high explosive compounds. To date, the project has completed construction, installation, and operation of twenty (20) treatment systems through the end of FY 2006.

Near-Term Projects:

Legacy Waste Project - The project was initiated in FY 2003 to focus efforts on the elimination of the legacy low-level waste, mixed low-level waste, transuranic waste, and mixed transuranic waste inventory having disposition pathways at Lawrence Livermore National Laboratory. The project scope was completed in November 2005 and all legacy waste has been disposed in federal and/or commercial facilities.

Lawrence Livermore National Laboratory Main Site Completion - Past operations at the Lawrence Livermore National Laboratory Main Site resulted in the release and subsequent migration of contaminants into the soil and groundwater. The major contaminants are volatile organic compounds, primarily trichloroethylene. The project scope was completed in FY 2006.

Longer Term Projects:

Site 300 Completion - Soil and groundwater contamination will be characterized and cleanup levels for these contaminants will be codified in a Record of Decision in FY 2008. The treatment systems and monitoring network will be completed and operational by the end of FY 2008.

Regulatory Framework

The Environmental restoration activities at Lawrence Livermore National Laboratory are governed by two site-specific Comprehensive Environmental Response, Compensation and Liability Act Federal Facility Agreements for the Lawrence Livermore National Laboratory Main Site and Site 300. The Livermore Site Federal Facility Agreement was signed in 1988. Subsequently, a Record of Decision

was signed in 1992 mandating the cleanup of the site groundwater to Safe Drinking Water Act maximum contaminant levels.

The environmental restoration activities at Lawrence Livermore National Laboratory Site 300 are governed by a site-specific Comprehensive Environmental Response, Compensation and Liability Act, Federal Facility Agreement, signed in 1992. Subsequently, an interim Record of Decision was signed in 2001 to evaluate the practicality of applying the State "Non-degradation Policy" to the cleanup of soil and groundwater at Site 300. Based on this evaluation of cleanup efficacy, a final Record of Decision will be entered into in 2008.

Critical Site Uncertainties and Assumptions

At Site 300, the major uncertainty is the final negotiation of ground water cleanup standards. The baseline assumes that the State and Environmental Protection Agency will agree to similar ground water cleanup standards negotiated for the Lawrence Livermore National Laboratory Main Site, as well as accept monitored natural attenuation for the cleanup of several on-site plumes. These ground water cleanup standards will be codified in the Site-Wide Final Record of Decision scheduled for FY 2008.

Interdependencies

For the duration of the legacy waste project and the ongoing newly generated waste program, Lawrence Livermore National Laboratory is dependent on Government Furnished Services and Items support from the National Nuclear Security Administration Service Center for business services in developing and implementing contract mechanisms for complex-wide disposal contracts with Envirocare and contracting mechanisms to access commercial treatment, storage, and disposal facilities for treatment and disposal services. Lawrence Livermore National Laboratory does not have onsite disposal capability, and therefore relies on Waste Isolation Pilot Plant for transuranic waste disposal and Nevada Test Site for low-level waste disposal.

Contract Synopsis

The cleanup work is currently managed by the Lawrence Livermore National Laboratory Management and Operating contractor (the University of California). Both cleanup and waste disposition performance are measured in the contract.

The current contract with the University of California for operation of Lawrence Livermore National Laboratory expires September 30, 2007.

Cleanup Benefits

The funding for Lawrence Livermore National Laboratory has yielded cleanup accomplishments, including final disposition of legacy waste inventories in CY 2005 and the construction of all groundwater treatment facilities at the Lawrence Livermore National Laboratory Main Site in 2006, resulting in Environmental Management completion of these two projects.

Site 300 final ground water cleanup levels will be negotiated and included in the Site-Wide Final Record of Decision scheduled for FY 2008. All ground water and soil vapor extraction and treatment facilities will be constructed and operational by the end of FY 2008.

Los Alamos National Laboratory

Site Overview

Since its inception in 1943 as part of the Manhattan Project, the primary mission of the Los Alamos National Laboratory has been nuclear weapons research and development. In achieving this mission, the Laboratory released hazardous and radioactive materials to the environment through outfalls, stack releases, and material disposal areas. Mixed low-level waste and transuranic waste have been staged in preparation for off-site disposition. Since 1989, the Environmental Management Program at Los Alamos National Laboratory has been comprised of activities to address the characterization and cleanup of environmental media (i.e., soil and groundwater), the disposition of legacy waste, and the decontamination and decommissioning of nuclear facilities that are in the path of environmental sites in need of characterization and remediation.

Site Description

Los Alamos National Laboratory is located in north-central New Mexico, in Los Alamos County, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe. The site is approximately 40 square miles and is situated on the Pajarito Plateau, which consists of a series of finger-like mesas separated by deep east-west-oriented canyons cut by streams. The surrounding land is largely undeveloped and large tracts of land North, West, and South of Los Alamos National Laboratory are held by other Federal agencies. In addition, there are four Native American Pueblos that border Los Alamos National Laboratory. There are four distinct geographical areas associated with the cleanup of Los Alamos National Laboratory:

Townsite - This area includes potential release sites associated with the Manhattan Project and early Cold-War-era Los Alamos National Laboratory operations and support. These sites are found on property currently owned by private citizens and local governments.

Technical Area-21 -This area includes evaluation and implementation of corrective measures for: material disposal areas A, B, T, U and V; the former process waste lines; and a broad category of environmental sites, referred to as the Delta Prime Site Aggregate, which served the process facilities in Delta Prime West and Delta Prime East including the Tritium Systems Test Assembly decontamination and decommissioning facility. Aggregates are areas defined in the consent order and are roughly a geographic area sized between a large watershed and a very small Solid Waste Management Unit (e.g., Upper Mortandad Aggregate Area).

Technical Area-54 - Former and active waste disposal areas for the Los Alamos National Laboratory are located at Technical Area-54, and the scope of work includes decontamination and decommissioning and the cleanup of several major material disposal areas (G, H, and L).

Watersheds – Sites scheduled for investigations and cleanup that are not covered within the three areas discussed above are included within Watersheds. There are eight watersheds across the Laboratory that

collectively drains all run-off from the Los Alamos National Laboratory to the Rio Grande. There are more than 650 sites within these eight Watersheds still requiring investigations and remediation.

Site Cleanup Strategy/Scope of Cleanup

Los Alamos National Laboratory has developed a plan for cleanup of EM legacy waste sites at Los Alamos. This plan integrates the retrieval and disposition of legacy transuranic waste, decommissioning and decontamination of excess facilities at Technical Area 21 and Technical Area 54 and final remedy and site completion at 760 remaining Solid Waste Management Units by the end of 2015. The Los Alamos National Laboratory conducts assessments and corrective actions at contaminated sites to reduce unacceptable human health and ecological risks, and to reduce the inventory of legacy transuranic waste. The environmental restoration strategy is risk-based and complies with regulatory requirements to provide for future land use scenarios. The transuranic waste disposition strategy is to characterize, package, and ship waste to Waste Isolation Pilot Plant.

Site Completion (End State)

The end state for Environmental Management work is: (1) protection and monitoring of the regional aquifer, (2) cleanup of sites at Los Alamos National Laboratory and surrounding areas to levels appropriate for the intended land use, (3) disposal of all legacy transuranic waste and mixed low-level waste from Los Alamos National Laboratory, and (4) installment of all long-term surveillance and monitoring systems. The estimated end date for cleanup operations is currently 2015.

Near-Term Projects:

Material Disposal Area H – This is an inactive 0.3-acre site used historically (1960 to 1986) for the disposal of classified solid-form waste. It consists of nine 60-feet deep shafts. The largest component of the inventory, 57 percent, is metal, both radioactive and non-radioactive (24 percent depleted uranium and 33 percent other metals). The Los Alamos National Laboratory has submitted an assessment of potential alternatives for cleanup. The New Mexico Environment Department is currently evaluating these alternatives and has the responsibility for selecting a final remedy. A date for final completion will be established at that time. Delays in the remedy selection will extend this project completion beyond the original Consent Order completion date of September, 2006.

Airport Remediation –There are two on-going projects at the Los Alamos County Airport (former Technical Area 73). The Airport Landfill consists of a historic sanitary landfill covering approximately 11 acres. An asphalt cover is being constructed and will be finished by January 2007. A remedy completion report is due to New Mexico Environment Department by March 30, 2007. The Ash Pile project is for removal and disposal of ash and ash-like waste deposited on the steep side slope of Pueblo Canyon and characterization of surrounding Solid Waste Management Units. This project will be completed by January 31, 2007.

Cañon de Valle/260 Outfall - The Cañon de Valle/260 outfall includes the characterization and remediation at 140 Solid Waste Management Units/Areas of Concern located within Technical Areas-14, -15, and -16. These Solid Waste Management Units/Areas of Concern are expected to remain as industrial sites under DOE control for the foreseeable future. Notification of final remedy for the 260 outfall was given by New Mexico Environment Department in October 2006. Construction of corrective measures is scheduled to begin in FY 2007.

Mixed Low-Level Waste - Five legacy canisters contaminated with tritium have been put into storage-for-decay and will be sent for treatment and disposal in the future once their tritium component has decayed to levels within the PermaFix waste acceptance criteria limits (5–50 yr) or when additional options become available. Other mixed low level waste including shock-sensitive items were dispositioned in FY 2005.

Longer-Term Projects:

Technical Area-21 - This project will characterize and remediate, if necessary, all Solid Waste Management Units and Areas of Concern in the vicinity of Technical Area-21, including characterization and probable capping of three material disposal areas and likely remediation of two additional material disposal areas just outside of the fence of Technical Area-21. This work has infrastructure issues associated with Los Alamos National Laboratory unoccupied buildings in Delta Prime East. This project is scheduled for FY 2007 – FY 2013 with the Consent Order completion milestone in FY 2013.

Corrective Actions - This project includes all investigations and subsequent remediation of potential release sites intermixed with active Los Alamos National Laboratory operations. The investigation and cleanup activities for these Solid Waste Management Units (numbering approximately 550) will be coordinated with managers for active mission projects to ensure no disruption of operations. This project includes Solid Waste Management Units in eight watersheds and 20 aggregates. The Consent Order requires completion of corrective action at material disposal area C by October 31, 2009, and investigation and remediation of all other Solid Waste Management Units in the aggregate by 2015.

Watershed Integration - The watershed integration work includes investigation and clean up of the Canyons, the Facility-Wide Groundwater Monitoring Project, and the Federal Facilities Compliance Agreement and Administrative Order. The integration of these work components is intended to facilitate efficiencies in the collection of environmental data, management of related data, reporting of data, and the utilization of combined data in support of site decisions, not only for ground and surface water, but for other projects such as corrective measures at material disposal areas. Work conducted for the canyons and site-wide monitoring aggregates are driven by the Consent Order, whereas the Facilities Compliance Agreement and Administrative Order requirements (pending issuance of an individual permit) are separate from the Consent Order. Routine groundwater monitoring conducted in 2005 led to the identification of chromium contamination in regional groundwater at monitoring well R-28 located in Mortandad Canyon. Chromium concentrations at that well are approximately 400 μg/L (ppb) exceeding the New Mexico Environment Department and Environmental Protection Agency standards of 50 μg/L and 100 μg/L, respectively. The Laboratory has prepared and is implementing an “Interim Measures Work Plan” pursuant to a requirement from the New Mexico Environment Department. Objectives of the Interim Measure Work Plan is to determine the primary source(s) of chromium contamination and the nature of operations associated with releases, characterize the present-day spatial distribution of chromium and related constituents, collect data to evaluate the geochemical and physical/hydrologic processes that govern chromium transport; and collect and evaluate data to help guide subsequent investigations and remedy selection. The initial phase of fieldwork was completed in September 2006 and a final report issued in early November 2006 detailing recommended corrective actions. The fieldwork is expected to be complete in FY 2007. An investigation report and a work plan for the next phase (which may include corrective action) will follow.

Technical Area-54 Closure - This area includes evaluation and implementation of corrective measures for material disposal areas G, H, and L. The corrective measures are presumed to be the installation and monitoring of engineered covers and installation and operation of a soil vacuum extraction system at material disposal area L. This area also includes the demolition of the waste staging and characterization buildings at Area L and Area G to facilitate the implementation of the final covers. This work includes the closure of former and active radioactive waste disposal areas for Los Alamos National Laboratory. Consent Order schedule for completion of this project is 2015.

Transuranic Waste - Transuranic waste in drums and standard waste boxes at the Los Alamos National Laboratory must be characterized, certified, and shipped in accordance with the Carlsbad Field Office procedures. DOE-Los Alamos Site Office and DOE- Carlsbad Field Office signed a memorandum of agreement in April 2005 specifying that the Carlsbad Field Office's Central Characterization Project will characterize, certify, and ship Los Alamos National Laboratory transuranic waste to Waste Isolation Pilot Plant.

Pit 9 Transuranic Waste - The Pit 9 transuranic waste retrieval project mission is to retrieve the transuranic waste stored in Pit 9 and place it in an inspectable storage configuration by April 2011.

Trenches A–D - Trenches A–D contain 363 casks that contain two 30-gallon drums, a total of 721 drums. This project will include the retrieval of the casks from the trenches and placement of the waste in inspectable storage configuration by October 2011.

Remote Handled Transuranic Waste - The remote handled retrieval project mission is to retrieve the transuranic waste from 33 lined shafts, canisters and torpedoes and place it in inspectable storage configuration (if required) by July 2010. This project also includes site stabilization and removal of any contaminated soils resulting from any breeched containers.

Regulatory Framework

The primary regulatory driver for the Environmental Management Projects at Los Alamos National Laboratory is the March 1, 2005, Compliance Order on Consent. The Consent Order, signed by the New Mexico Environment Department, Los Alamos National Laboratory and DOE, provides the primary requirements for the Los Alamos National Laboratory Environmental Restoration Project, and establishes an enforceable schedule and milestones for corrective actions.

Other drivers include the 1995 Federal Facilities Compliance Agreement, Public Law 105–119, 10 Code of Federal Regulations, Part 830, Nuclear Safety Management, a hazardous waste facility permit for storage and treatment, Federal Facility Compliance Order, the Atomic Energy Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, and the Clean Air Act.

Critical Site Uncertainties and Assumptions

The New Mexico Environment Department will select remedies for the material disposal areas that have similar cost and schedule magnitude as those presumptive remedies that have been built into the plan. Some of the material disposal areas are on or near land transfer parcels; their proximity to the town-site

increases the risk that the presumptive remedy will not be selected, potentially increasing cost and schedule for completion of some of the material disposal areas.

Monitored natural attenuation for groundwater will be accepted as the remedy rather than active remediation processes that can be more expensive and longer in duration. Regulators will approve cleanup levels for individual sites that correspond to the intended land use, thereby leaving in place contaminants whose presence does not pose unacceptable health and environmental risk.

The condition of the waste stored below grade will be no worse than that experienced in the previous Transuranic Waste Inspectable Storage Project retrieval project. Adverse conditions could have negative impacts on the cost and schedule.

Interdependencies

For the legacy project, Los Alamos National Laboratory is dependent on Government Furnished Services and Items and support from the Carlsbad Field Office in the area of characterization, packaging, and transportation of transuranic waste to Waste Isolation Pilot Plant.

Contract Synopsis

A new contract was awarded in December 2005 to Los Alamos National Security, LLC, who assumed responsibility on June 1, 2006. This contract is a management and operating cost-reimbursable contract with performance-based provisions. Individual tasks are executed through management and operating issued procurements. Acquisition planning and execution is conducted throughout the life of the Los Alamos National Laboratory Environmental Management Program by the management and operating contractor. The management and operating contractor awards subcontracts to provide significant flexibility to achieve cleanup in the most cost-effective manner. The near-term (current contract period) performance baseline has been prepared. A corrective action plan to address the findings is in preparation. The contractor submitted the baseline to DOE in June 2006 and the National Nuclear Security Administration and EM submitted it to OECM for an External Independent Review in August 2006. The External Independent Review was completed in early November 2006.

Cleanup Benefits

The Environmental Management Projects at Los Alamos National Laboratory support the DOE's mission by addressing legacy waste, legacy waste sites, and groundwater protection consistent with the Consent Order. Regulatory closure of Los Alamos National Laboratory legacy waste sites and completion of the Los Alamos National Laboratory Environmental Restoration Projects support the DOE goal of accelerating cleanup at Los Alamos National Laboratory.

Nevada Test Site

Site Overview

The Nevada Test Site was the primary location for conducting nuclear tests and was established to conduct tests of both nuclear and conventional explosives in connection with the research and development of nuclear weapons. Field testing was primarily conducted at the Nevada Test Site;

however, some storage and transportation experiments were conducted on the Nevada Test and Training Range, formerly known as the Nellis Air Force Range. Atmospheric nuclear weapons tests were initiated in 1951. Portions of the Nevada Test Site and the Nevada Test and Training Range, including the Tonopah Test Range, were used for chemical explosion tests of plutonium- and uranium-bearing materials. Nuclear tests conducted at the Nevada Test Site after July 1962 were underground. Other locations (known as "Nevada Offsites") within the continental United States were used for testing based on the purpose of the test or geologic formation. These offsites were transferred to the Office of Legacy Management in FY 2007. For most of the sites, no work remains other than that associated with long-term stewardship. Where additional cleanup is needed, it is minor in scope and within the capabilities of Legacy Management to complete.

Site Description

The Nevada Test Site is located approximately 65 miles northwest of Las Vegas, Nevada and occupies approximately 1,375 square miles. The Nevada Test Site is surrounded by approximately 4,500 square miles of federally owned and Department of Defense controlled land. The Nevada Test Site is surrounded by the Nevada Test and Training Range on the north, east, and west, and land managed by the U.S. Department of the Interior, Bureau of Land Management on the south and southwest. The Nevada Test and Training Range, which includes Tonopah Test Range, is used for military training; the Bureau of Land Management lands are used for grazing, mining, and recreation. The Nevada Test Site is in a remote and arid region with approximately 75 percent of its perimeter surrounded by federal installations with strictly controlled access, and 25 percent adjacent to public lands that are open to public entry.

Site Cleanup Strategy/Scope of Cleanup

The EM program at the Nevada Test Site (including the Nevada Test and Training Range) consists of two primary projects, environmental restoration and waste management. The environmental restoration project mission is to assess and perform appropriate corrective actions at 878 former underground test locations, 113 surface or near surface soil contamination locations, and more than 1,000 other industrial-type sites. The waste management project supports the closure of DOE sites across the United States by maintaining the capability to dispose low-level waste and mixed low-level waste. The Nevada Test Site is designated as a regional disposal site for low-level waste and a secondary disposal site for mixed low-level waste generated as the result of cleanup activities across the DOE Complex. Additionally, the waste management project is responsible for the storage, treatment, and disposition of legacy on-site transuranic and mixed transuranic waste.

The environmental restoration project scope addresses surface and shallow subsurface radiological soil contamination on the Nevada Test Site and Nevada Test and Training Range. Contamination at these sites is the result of historic nuclear detonations, safety experiments, storage/transportation related tests, nuclear reactor development and experiments, nuclear rocket engine tests, and hydronuclear experiments. The industrial-type sites restoration addresses facility decontamination and decommissioning, various historical infrastructure remediation efforts (e.g., septic systems, mud pits, storage tanks, disposal sites, etc.), and conventional weapons clean up including unexploded ordinance. The underground test area remediation involves geologic and hydrologic characterization, contaminated

groundwater transport modeling, contaminant boundary definition and establishment of a monitoring system, to protect against the inadvertent use of contaminated groundwater.

The waste management project provides indispensable, efficient, cost-effective low-level waste and mixed low-level waste disposal capability to meet the needs of other DOE sites. Also under the Nevada Site Office waste management project, the scope for legacy on-site transuranic and mixed transuranic waste and material includes storage, treatment (as needed), and disposal/disposition.

Site Completion (End State)

The long-term end state vision for the Nevada Test Site is to restore the environment to an extent that will allow the continuation of the national security mission. This vision includes the removal of the contamination that poses an unacceptable risk to workers conducting planned site operations in support of the Nevada Site Office mission and characterizing/stabilizing the remainder of contamination to ensure effluent levels do not spread to the surrounding environment and pose an unacceptable risk. The end date for clean up activities is FY 2027.

The end state for the Nevada Site Office subsurface contamination for the underground test area sub-project will be achieved with the completion of a modeled contaminant boundary, a negotiated compliance boundary, monitoring well network(s), and successful five year "proof of concept" monitoring.

For the end state for surface and shallow subsurface radiological contamination associated with the soils sub-project, Nevada Site Office envisions sites on the Nevada Test and Training Range to have engineered controls developed (e.g., fences and postings) and use restrictions established to prevent inadvertent contact with remaining contamination (primarily for protection of U.S. military personnel). Remaining close-in-place sites on the Nevada Test Site will be inspected and monitored as necessary.

The end state for the Nevada Site Office industrial sites sub-project envisions applicable corrective actions completed for all 1,000 plus sites. Most sites will be available for unrestricted surface use while others will be stabilized for restricted use appropriate to the risk posed by residual contamination. For those sites where contamination remains in place, appropriate long-term remedial action activities will be in place, including monitoring, cap inspections, and use restrictions as applicable. Closure of the industrial sites sub-project is expected to be completed in FY 2012.

The end state for the Nevada Site Office transuranic/mixed transuranic waste activities will be the elimination of the legacy transuranic/mixed transuranic waste and material from the Nevada Test Site. Disposition of the transuranic/mixed transuranic waste and material will reduce the risk to the Nevada Test Site workers and the environment resulting from continued storage. The Nevada Test Site transuranic/mixed transuranic waste related facilities will be decontaminated and decommissioned, or will be transitioned to other uses.

The end state for the Nevada Site Office waste management operations is closure of all filled disposal cells with a final approved closure cap and transition of any remaining disposal operations to the Nevada Test Site landlord if the capability is needed for on-site operations.

The primary short-term Nevada Site Office project will be the completion of disposition of all legacy transuranic/mixed transuranic waste and material by the end of FY 2007. The majority of the scope within the Nevada Site Office environmental restoration and waste management projects is long-term (earliest completion of significant scope other than transuranic/mixed transuranic waste is not planned until FY 2012).

Regulatory Framework

Nevada Site Office work at the Nevada Test Site and Nevada Test and Training Range follows all applicable federal level regulations including the Resource Conservation and Recovery Act, Clean Air Act, Clean Water Act, Atomic Energy Act, DOE Orders, and applicable Nevada specific laws, codes and acts relating to these regulations. Below are some specific regulatory instruments associated with agreements and consent orders between National Nuclear Security Administration Nevada Site Office and the state of Nevada.

For the environmental restoration project, the primary regulatory process for addressing contaminants on the Nevada Test Site and surrounding areas (Nevada Test and Training Range) is the Federal Facility Agreement and Consent Order (1996).

For the waste management project, the primary regulatory process is the Federal Facility Compliance Act. The Federal Facility Compliance Act of 1992 required the Secretary of Energy to develop and submit Site Treatment Plans for the development of treatment capacity and technologies for treating mixed wastes. Additionally, the June 1992 Settlement Agreement for mixed transuranic waste requires the National Nuclear Security Administration Nevada Site Office to operate the Area 5 Radioactive Waste Management Site Transuranic Pad in accordance with 40 C.F.R. Subpart I.

Critical Site Uncertainties and Assumptions

The major uncertainty is due to delays in shipments of transuranic waste resulting from unavailability or loss of authorization to ship to Waste Isolation Pilot Plant.

The major assumptions are:

- Changes to the current Nevada Site Office regulatory framework, including consent agreements, state and federal regulations, and/or DOE orders will not impact the implementation of the Nevada Site Office EM baselines.

- There will not be a change in plans from limited to complete remediation (i.e., from “close in place” to “clean close”) of contaminated soils areas on the Nevada Test Site or the Nevada Test and Training Range.

- Subsurface contamination in and around the underground nuclear test cavities will not be removed, and post-closure monitoring will be conducted as agreed upon in the site completion reports for the subsurface.

- After subsurface completion, the final long-term hydrologic monitoring program will be defined in the site completion reports for the subsurface.

- Current land-use designations and subsurface intrusion restrictions will continue into the foreseeable future.

Interdependencies

- Nevada Site Office EM is dependent on concurrence from the U.S. Air Force on negotiated cleanup levels and plans to develop engineered controls and establish use restrictions.

- Nevada Site Office EM is dependent on the State of Nevada and other regulators for approval of investigation, characterization, closure, and long-term stewardship plans as stipulated in the Federal Facility Agreement and Consent Order.

- Nevada Site Office EM is dependent on the State of Nevada for acceptance of mixed low-level waste for disposal at the Nevada Test Site.

- Nevada Site Office EM requires the use of another DOE site for characterization, certification, and disposition to meet the goal of completing the transuranic waste project by the end of FY 2007.

Contract Synopsis

There are two primary contractors working on EM activities at Nevada Site Office responsible sites. National Security Technology, LLC, the Management and Operating Contractor for the Nevada Test Site, is contracted to perform environmental restoration field remediation activities and the waste management scope on the Nevada Test Site (including Nevada Test and Training Range). Stoller-Navarro Joint Venture, the architect engineer for EM work at Nevada Test Site, is contracted to perform site investigation and characterization activities on the Nevada Test Site (including Nevada Test and Training Range). In addition, the Desert Research Institute is contracted to perform subsurface characterization and modeling tasks, preliminary surface surveys, and re-vegetation.

Cleanup Benefits

The near and long-term benefit for Nevada Site Office environmental restoration efforts are varied and include the overall reduction in potential negative human health and environmental impacts, and restoration of the environment to an extent that will allow the maximum continuation of the national security mission conducted by the Nevada Site Office.

The near term benefit of the legacy transuranic/mixed transuranic waste cleanup at the Nevada Test Site is to eliminate the need for maintaining storage configurations, thereby eliminating human health risk from continued compliance inspections, and to properly disposition the waste at an appropriate disposal location.

The near term and long term benefit for maintaining sufficient low-level and mixed low-level radioactive waste disposal capabilities is to support accelerated cleanup across the DOE complex.

Disposing radioactive waste from storage locations across the DOE complex in engineered disposal facilities at the Nevada Test Site will substantially reduce risk at other DOE sites.

Pantex

Site Overview

Pantex has a continuing mission to support nuclear weapons activities in the Nation's stockpile. The primary mission of the Pantex Plant is to: 1) evaluate, retrofit, and repair nuclear weapons in support of life extension programs and certification of weapon safety and reliability programs, 2) dismantle nuclear weapons surplus to the stockpile, 3) sanitize components from dismantled weapons, 4) develop, test, and fabricate chemical and explosive components, and 5) provide interim storage and surveillance of the plutonium components.

Historical waste management practices at the Pantex Plant have resulted in contamination of the soils and the upper Perched Aquifer. High explosives, metals, and solvents exist in the soils located at the Pantex Plant. The Perched Aquifer contaminant plume has migrated past the Plant boundaries and onto adjacent landowners' properties to the southeast. The lower Ogallala Aquifer is the primary water supply for Pantex and the area landowners. Immediately north of the Pantex property boundary is a well field in the Ogallala Aquifer that supplies a portion of the water supply to the city of Amarillo. Contamination in the Perched Aquifer has the potential to leach deeper if appropriate corrective measures are not implemented to mitigate the risk.

Site Description

The Pantex Plant is located in the Texas Panhandle, approximately 17 miles northeast of Amarillo, Texas. Pantex was deactivated in 1945 and sold to Texas Technical University as excess government property. In 1951 the Atomic Energy Commission reclaimed approximately 10,000 acres for the manufacturing of high explosives for the nuclear weapons program. During the mid-1960s, the plant was expanded to assume weapons maintenance and modifications. The Pantex Plant is composed of more than 600 buildings and several functional areas to carry out the nuclear mission.

Site Cleanup Strategy/Scope of Cleanup

To eliminate or reduce risk at the Pantex Plant, the site strategy for the environmental restoration project includes the following four strategic initiatives:

- Accelerate Soils Project Closure & Removal.
- Accelerate Cleanup of Perched Aquifer.
- Continued Monitoring of Ogallala Aquifer.

- Accelerate Facility Cleanup and Footprint Reduction.

Site Completion (End State)

Near Term Projects:

Environmental Restoration Project - The completion of the Environmental Restoration Project will leave an active industrial site with 15 of 252 potential release sites remaining in operation by FY 2008. There will be some environmental hazards from active Pantex industrial operations remaining after completion. These hazards are known and will be controlled per the final Compliance Plan to be negotiated prior to the end of FY 2008. Land use is expected to remain constant with continued cooperation with Texas Tech University through the Service Agreement and leasing of Texas Tech University land for security and safety reasons.

Decontamination and Decommissioning Project - Decontamination and Decommissioning activities removed the facilities currently in the EM scope at the Pantex Plant by the end of FY 2006 with waste and debris removal continuing into FY 2007. Since some of these decontamination and decommissioning facilities may have been a source term and/or co-located with other contaminated sites, these areas will be incorporated into the long-term stewardship mission beginning in FY 2009.

Longer Term Projects:

The environmental monitoring and maintenance of the corrective measures implemented in previous years will be the responsibility of the National Nuclear Security Administration in FY 2009. These Long-Term Stewardship/Long-Term Surveillance and Maintenance activities will continue to meet Resource Conservation & Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act regulatory requirements.

Regulatory Framework

The environmental work is identified and conducted under the requirements of the current solid and hazardous waste permit issued by the State of Texas. Also, the Environmental Protection Agency has listed the Pantex Plant on the National Priority List as a Superfund Site. Through a Memorandum of Agreement between the EPA and the State, the Texas Commission on Environmental Quality has authority for investigations conducted under the Resource Conservation & Recovery Act process; however, the Environmental Protection Agency has retained the authority to regulate radionuclides. There are no regulatory drivers associated with the decontamination and decommissioning activities at the Pantex Plant.

Critical Site Uncertainties and Assumptions

The Project Risk Management Plans Guide, bound by the Pantex risk assessment process, identified the following assumptions:

- The nature and extent of contamination has been fully defined and no additional investigations and risk modeling will be required.

- The Corrective Measure Study and subsequent corrective measure selection process will be successful.

- Decontamination and Decommissioning of Building 12-24 will be required for the closure of Solid Waste Management Unit 122b and the Southeast Waste Management Area release sites.

- Active sites are not included in the Pantex baseline.

Interdependencies

None.

Contract Synopsis

The Pantex Plant is operated by BWXT Pantex, under a cost plus award fee, Management and Operating contract. The Pantex Site Office is developing annual incentives for baseline acceleration and critical milestone accomplishment for the remainder of the project.

Cleanup Benefits

Near Term Benefits: Enhanced onsite worker safety through source reduction efforts and site remediation. Protect the Ogallala aquifer from cross contamination through the perched aquifer by implementing interim corrective measures such as the Pump and Treatment System, Soil vapor extraction, In-situ bio remediation, Permeable reactive barrier, Ozone injection, and Playa 1 dewatering study. Gain stakeholder and regulatory confidence through CORE team meetings with the Texas Commission on Environmental Quality and EPA. Accelerate document approvals through the use of the CORE team and weekly interaction with regulatory agencies. Minimize risk of implementing interim corrective measures by close interaction with regulators.

Long Term Benefits: Reduce initial project duration by 6 years implementing the accelerated approach and including stakeholders and regulators in the process through CORE team meetings and quarterly public meetings. Avoid a cost of approximately $60 million by carrying out interim corrective measures that have been identified in the Corrective Measures Study. Offsite and onsite concerns regarding perched aquifer contamination have been mitigated with the early implementation of interim corrective measures. Proposed land acquisition will provide unrestricted access to neighboring land and will enhance the ability to monitor and treat the eastern boundary of the perched aquifer.

Sandia National Laboratories-New Mexico

Site Overview

The Sandia National Laboratories-New Mexico site is located in Albuquerque, New Mexico. The Sandia National Laboratories Environmental Restoration Project involves the remediation of inactive

waste disposal and release sites at Albuquerque and other off-site locations. These sites have known or suspected releases of hazardous, radioactive, or mixed waste.

Site Description

The Sandia National Laboratories-New Mexico is a multi-program national laboratory with research and development programs in a broad range of scientific and technical fields. It is located in Bernalillo County, New Mexico, 6.5 miles east of downtown Albuquerque. Sandia National Laboratories consists of five technical areas and several remote areas covering 2,820 acres in the eastern half of the 118 square miles of Kirtland Air Force Base. The base is situated on two broad mesas bisected by the Tijeras Arroyo and is bound by the Manzano Mountains to the east and the Rio Grande river to the west.

Site Cleanup Strategy/Scope of Cleanup

Environmental restoration at Sandia National Laboratories was initiated to assess and remediate contaminated areas following federal, state and local statutes. For soils, the project objective is to achieve an acceptable level of risk that is consistent with either an industrial or recreational end-use. Some of the areas being cleaned up passed residential risk without additional remediation. For groundwater, an acceptable residential risk scenario with monitored natural attenuation is being pursued. Two hundred sixty eight (268) sites were subject to investigation and potential corrective action. Three of these sites will remain as "deferred active mission sites" and require future remediation (future liability). DOE corporate performance measures (site counts) are complete at 98 percent (259 of 265) of the sites. All remaining remediation activities (fieldwork), includes installing a cover and rock bio-barrier at the Mixed Waste Landfill, and groundwater sampling for obtaining final remedies at one groundwater area as prescribed by the Corrective Measures Evaluation process.

Site Completion (End State)

The actual risk level of the site and the expected future land use will be used to determine the end-state for all soil areas being cleaned up. Those sites that pass residential risk criteria will be approved by the regulatory authority as corrective action complete without controls and will not be subject to institutional or engineered controls. Sites that do not pass residential risk criteria will be approved by the regulatory authority as corrective action complete with controls and will be subject to long-term stewardship according to the designated land-use and regulatory agreements. Long-term stewardship includes all activities necessary to ensure continued protection of human health and the environment after remediation, disposal, or stabilization of a site or part of a site. 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 with long-term monitoring in accordance with State and Federal requirements. The Sandia National Laboratories Environmental Restoration Project mission has completed all necessary corrective actions at 259 of 265 environmental restoration release sites by the end of FY 2006. FY 2006 is the final year of requested funding within the EM program. The remaining fieldwork activities, Mixed Waste Landfill cover and groundwater characterization sampling at Burn Site GW area, and the regulatory closeout of the project in FY 2009 will be completed with use of carryover funding. The baseline schedule was extended through FY 2009, due to regulatory delays on the Mixed Waste Landfill

rock bio-barrier and soil cover fieldwork, obtaining three final remedies for groundwater and completing the remaining regulatory administrative closure activities.

Regulatory Framework

The regulatory driver for completing this work is the April 2004 New Mexico Environment Department Compliance Order on Consent. As of July 2006, 204 of 265 sites have been approved for No Further Action through the entire regulatory process. The remaining 61 sites are in various stages of completion, 60 are waiting for final regulatory approval and one site requires field remediation. Three groundwater areas require final remedies.

Critical Site Uncertainties and Assumptions

There are two critical project uncertainties based primarily on the New Mexico Environment Department's regulatory approval not being in place. The work schedule is jeopardized and the risk of added cleanup scope exists due to the regulatory uncertainty. Second, the requirement for additional public review of closure documents could delay completion. Regulatory uncertainty on three groundwater areas will exist until the final remedy that aligns with the baseline exit strategy is received.

The Mixed Waste Landfill received a Final Order (remedy) from the New Mexico Environment Department Secretary that requires additional scope beyond the soil cover and bio-barrier. The additional scope includes a fate and transport model and formal public review of post-remediation closure documents. This extends the corrective measure study process and project schedule.

Interdependencies

Long-term stewardship for the 259 completed release sites will be funded by the National Nuclear Security Administration beginning in FY 2007. After completion of the EM work at the remaining 6 release sites including the Mixed Waste Landfill, the National Nuclear Security Administration will provide support for the long-term stewardship associated with these release sites.

Contract Synopsis

The current management and operating contract between DOE and Sandia National Laboratories will exist for the remainder of the Environmental Management Project. Sandia National Laboratories will also maintain several Task Order sub-contracts active beyond FY 2006 to assist in the completion of administrative regulatory closure requirements.

Cleanup Benefits

At the end of FY 2006, 259 of 265 DOE Corporate Performance Measures were completed (i.e. soil site completion counts) where a risk-based closure approach based on the expected land-use was implemented. The environmental risk to human health and the environment has been greatly reduced at Sandia since many of the 259 soil sites passed residential risk (i.e. free release) and sites that passed industrial risk and required institutional controls were transferred to the long-term stewardship program.

The footprint of contamination was reduced through the excavation of three major landfills, one of which had impacted groundwater. Millions of dollars of off-site waste disposal costs were avoided with the use of an on-site Corrective Action Management Unit (an engineered landfill unit that manages wastes excavated from the landfill that impacted groundwater) that is now under the long-term stewardship program. The remaining six soil sites are expected to pass industrial risk and three groundwater areas are expected to be managed under a Monitored Natural Attenuation strategy under long-term stewardship. The funding for Sandia National Laboratories has resulted in the regulatory benefit of compliance with the 2004 New Mexico Environment Department Compliance Order on Consent.

Separations Process Research Unit

Site Overview

The Separations Process Research Unit is an inactive pilot plant used to research and develop the chemical process to separate plutonium from radioactive material. The Separations Process Research Unit operated from 1950 to 1953. Operation of the Separations Process Research Unit contaminated the nuclear facilities, and impacted approximately thirty acres of land where waste containers were managed. Groundwater immediately adjacent to the nuclear facilities, and in a limited area where containers were once stored is also contaminated with radioactivity.

Site Description

Separations Process Research Unit is located within the currently operating 170-acre Schenectady Naval Reactor's Knolls Atomic Power Laboratory near Schenectady, New York. The Mohawk River forms the northern boundary of this site. Both industrial and residential areas also bound the site.

Site Cleanup Strategy/Scope of Cleanup

The proposed cleanup strategy for the project is to remove the nuclear facilities and remediate the land areas. This approach is consistent with DOE Environmental Management's (DOE-EM) strategic objectives to eliminate legacy facilities, stabilize and consolidate transuranic waste at the Waste Isolation Pilot Plant, meet site Resource Conservation and Recovery Act Permit investigation and cleanup requirements, eliminate surveillance and maintenance costs of the nuclear facilities, and allow DOE-EM to closeout an agreement with Naval Reactors for the disposition of the Separations Process Research Unit facilities.

During the time period of FY 2003 through FY 2006 the Separations Process Research Unit Project received approval of the Mission Need (Critical Decision 0), obtained public input for the disposition of the nuclear facilities, and completed the characterization of the land areas. During FY 2007 the project expects to receive Acquisition Executive Approval of a preferred alternative (Critical Decision 1) for the nuclear facilities and land areas. Implementation of the preferred alternatives for the facilities and land will commence in FY 2007 and complete by FY 2014.

Site Completion (End State)

The site the Separations Process Research Unit is located on, the Knolls Atomic Power Laboratory, is a continuing mission site. The Knolls Atomic Power Laboratory will continue research and development of Naval Nuclear reactors for the foreseeable future. Taking into account Naval Reactor's continuing use of this site, and the fact that work with radioactive materials continues, the appropriate DOE-EM end state for this site is to remove the contaminated excess facilities and restore land areas for continued industrial use.

Regulatory Framework

The Separations Process Research Unit project is implementing DOE's policy to decommission, remove facilities, and conduct cleanup using DOE's non-time critical removal action authority under the Comprehensive Environmental Response, Compensation, and Liability Act. In addition, the Separations Process Research Unit Project has applied for a simplified Resource Conservation and Recovery Act permit for investigation and cleanup of residual chemicals in several solid waste management units contained within the Separations Process Research Unit Project areas. The use of DOE's authority under the Comprehensive Environmental Response, Compensation, and Liability Act is allowing for a streamlined process, and has been acceptable to the public and the regulator.

Critical Site Uncertainties and Assumptions

The Separations Process Research Unit Project is still early in the planning process and the project cost estimate requires revision to account for characterization effort completed in FY 2006. The revision to the baseline will be included with the Critical Decision 1 submittal in early CY 2007.

Interdependencies

The major interdependency related to Separations Process Research Unit is the ongoing relationship with Naval Reactors and Knolls Atomic Power Laboratory. Separations Process Research Unit is located on the Knolls Atomic Power Laboratory site and Separations Process Research Unit characterization and remediation activities are closely coordinated with the local Naval Reactors Office and Knolls Atomic Power Laboratory in order to minimize impact on ongoing Knolls Atomic Power Laboratory operations. The relationship between the Separations Process Research Unit Project and the Naval Reactors is formally documented in a Memorandum of Agreement.

Other interdependencies are associated with waste disposition and will include the Waste Isolation Pilot Plant, Nevada Test Site, Savannah River Site, and Hanford Site. The project will work with these sites to ensure the expeditious transportation of waste and compliance with site waste acceptance criteria.

Contract Synopsis

All contracts issued since FY 2006 will be accomplished through direct contracts issued by EM's Consolidated Business Center. An EM Indefinite Delivery/Indefinite Quantity small business contractor

is currently being used to accelerate removal of small structures, and improve small business involvement with the Separations Process Research Unit Project.

An acquisition strategy for the removal of the nuclear facilities and environmental restoration of land areas will be prepared and submitted in early CY 2007 with the Critical Decision 1 documentation. The Separations Process Research Unit Project expects to make use of the EM Indefinite Delivery/Indefinite Quantity contract in support of this effort.

Cleanup Benefits

The benefits of completing the Separations Process Research Unit Project are removal of a legacy cold war project site, consolidation of transuranic waste at the Waste Isolation Pilot Plant, elimination of surveillance and maintenance costs of inactive nuclear facilities and enable the Naval Reactors to make use of land area occupied by the Separations Process Research Unit Project areas for continued mission use.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
NNSA Sites			
NV-0030 / Soil and Water Remediation-Nevada Offsites	2,818	0	0
VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle	1,744	1,622	1,511
VL-FOO-0013B-D / Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense)	486	90	90
VL-FOO-0100-D / Oakland Community and Regulatory Support (Defense)	59	280	280
VL-KCP-0030 / Soil and Water Remediation-Kansas City Plant	4,481	0	0
VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy	42,374	44,592	42,523
VL-LANL-0030 / Soil and Water Remediation-LANL	98,418	28,310	96,944
VL-LANL-0040-D / Nuclear Facility D&D-LANL (Defense)	0	17,700	0
VL-LLNL-0030 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site	16,038	0	0
VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300	13,245	11,580	8,680
VL-NV-0013 / Solid Waste Stabilization and Disposition-Nevada Test Site	6,430	4,430	0
VL-NV-0030 / Soil and Water Remediation-Nevada Test Site	64,821	67,180	56,794
VL-NV-0080 / Operate Waste Disposal Facility-Nevada	4,324	5,458	21,767
VL-NV-0100 / Nevada Community and Regulatory Support	8,602	2,600	2,545
VL-PX-0030 / Soil and Water Remediation-Pantex	14,357	19,394	12,411
VL-PX-0040 / Nuclear Facility D&D-Pantex	5,101	4,332	0

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
VL-SN-0030 / Soil and Water Remediation-Sandia	9,672	0	0
VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit	6,477	24,500	27,585
Subtotal, NNSA Sites	299,447	232,068	271,130
Total, Defense Environmental Cleanup	299,447	232,068	271,130
Non-Defense Environmental Cleanup			
Small Sites			
VL-LANL-0040-N / Nuclear Facility D&D-LANL (Non-Defense)	485	1,025	1,905
Subtotal, Small Sites	485	1,025	1,905
Total, Non-Defense Environmental Cleanup	485	1,025	1,905
Total, NNSA Sites	299,932	233,093	273,035

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
NNSA Sites					
Geographic Sites Eliminated (number of sites)	4	6	8	18	44%
Transuranic Waste shipped for disposal (Cubic meters)	1,784	2,409	3,453	7,694	45%
Nuclear Facility Completions (Number of Facilities)	0	0	0	4	0%
Radioactive Facility Completions (Number of Facilities)	1	1	1	2	50%
Industrial Facility Completions (Number of Facilities)	4	4	4	4	100%
Remediation Complete (Number of Release Sites)	3,079	3,284	3,454	5,068	68%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	9,994	9,994	9,994	9,994	100%

Detailed Justification

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
VL-FOO-0013B-D / Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense) (life-cycle estimate $15,251K)	**486**	**90**	**90**

This PBS can be found within the Defense Environmental Cleanup appropriation.

Activities performed in this project are directed at achieving efficiencies through supporting multiple waste management and environmental restoration activities at the Lawrence Livermore National Laboratory. Support 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. This project will end when the projects supported by the waste management and environmental restoration activities achieve their end-state.

In FY 2008, the following activities are planned:

- Activities performed under this PBS achieve efficiencies through supporting waste management and environmental restoration activities at the Lawrence Livermore National Laboratory. Rather than each project awarding its own separate contract, economies of scale are achieved by managing waste consolidation, characterization, aggregation, packaging, and transport in an integrated fashion, 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.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

	FY 2006	FY 2007	FY 2008
VL-FOO-0100-D / Oakland Community and Regulatory Support (Defense) (life-cycle estimate $4,552K)	**59**	**280**	**280**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This project provides funding for grants to the State of California 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 Main-Site and Site 300. This funding is mandated by the Federal Facilities Agreement signed by DOE, Environmental Protection

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Agency, and the State of California.

In FY 2008, the following activities are planned:

- Provide funding for grants to the State of California regulatory agencies (as specified in the Federal Facility Agreement) for their participation and oversight of the cleanup program at Lawrence Livermore National Laboratory Site 300.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Provided state review of data and documentation associated with environmental cleanup at two Lawrence Livermore National Laboratory sites. (FY 2006)
- Provided state regulatory oversight of legacy waste management and environmental restoration activities at two Lawrence Livermore National Laboratory sites. (FY 2006)
- Paid grants to the State of California regulatory agencies (as specified in the Federal Facility Agreement) for the participation and oversight of the cleanup programs. (FY 2006)
- Provide state review of data and documentation associated with environmental cleanup at two Lawrence Livermore National Laboratory sites. (September 2007/September 2008)
- Provide state regulatory oversight of legacy waste management and environmental restoration activities at two Lawrence Livermore National Laboratory sites. (September 2007/September 2008)
- 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 2007)
- Pay grants to the State of California regulatory agencies (as specified in the Federal Facility Agreement) for the participation and oversight of the cleanup programs. (September 2008)

VL-KCP-0030 / Soil and Water Remediation-Kansas City Plant (life-cycle estimate $28,345K)	**4,481**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

Through FY 2006, this PBS could be found within the Defense Environmental Cleanup appropriation. The Kansas City Plant manufactures non-nuclear components for defense purposes. Legacy contamination resulted from hazardous wastes that were released to the environment from the 1940's through the 1980's. The Environmental Remediation project at the Kansas City Plant is regulated by a Resource Conservation and Recovery Act Post Closure Permit with the State of Missouri. Remediation of

(dollars in thousands)

FY 2006	FY 2007	FY 2008

the known 43 Resource Conservation and Recovery Act Solid Waste Management Units began in FY 1992 and was completed by the end of FY 2006 to the satisfaction of Missouri Department of Natural Resources and Environmental Protection Agency Region 7.

All deliverables associated with completing the ER Project at the Kansas City Plant including the Corrective Measure Study Workplan, Public Relations plan, Construction Completion Report and Long-Term Operations Maintenance & Monitoring Plan have been completed.

A final Critical Decision-4 package has been prepared for sign off by the Deputy Secretary and is currently being circulated in the National Nuclear Security Administration and EM organizations for concurrence. Signoff is expected in the second quarter of FY 2007.

In FY 2008, the following activities are planned:

- This project was completed in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	43	43	43	43	100%
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Completed Project. (FY 2006)					

VL-LLNL-0030 / Soil and Water Remediation-
Lawrence Livermore National Laboratory - Main Site
(life-cycle estimate $123,154K) **16,038** **0** **0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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. This PBS scope has one operable unit and 120 release sites of which 120 were completed as of September 2006. 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

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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 focus on the buildout of the required remediation system to be completed in FY 2006. The proposed endstate 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. Through the end of FY 2006, the project has completed buildout of 27 groundwater treatment systems and 9 soil vapor treatment systems.

A final Critical Decision-4 package has been prepared for sign off by the Deputy Secretary and is currently being circulated in the National Nuclear Security Administration and EM organizations for concurrence. Signoff is expected in the second quarter of FY 2007.

In FY 2008, the following activities are planned:

- This project was completed in FY 2006.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	120	120	120	120	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Constructed, installed, and operated a portable treatment unit at Building 419 Source Area. (FY 2006)
- Constructed, installed, and operated a portable treatment unit at Building 511/514 Source Area. (FY 2006)
- Constructed, installed, and operated a portable treatment unit at Treatment Facility 406 South. (FY 2006)
- Constructed, installed, and operated a portable treatment unit at Treatment Facility 5475 South. (FY 2006)
- Constructed, installed, and operated a portable treatment unit at Treatment Facility B/C Hotspot. (FY 2006)
- Constructed, installed, and operated a portable treatment unit at the northern portion of the East Traffic Circle Source Area. (FY 2006)
- Completed project. (FY 2006)

VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300 (life-cycle estimate $122,580K)	**13,245**	**11,580**	**8,680**

This PBS can be found within the Defense Environmental Cleanup appropriation.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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 remedial actions required by regulatory decision documents will reduce the risks, overall liability, and mortgage at Site 300 associated with 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 will address risk reduction associated with groundwater contamination and will complete the project.

The Office of Engineering and Construction Management has reviewed the project baseline and issued its report. A corrective action plan has been developed, and items in the plan are being completed.

This project is planned for EM completion and transfer to National Nuclear Security Administration at the end of FY 2008.

In FY 2008, the following activities are planned:

- Completion of the Pit 7 Complex Interim Remedial Design Report.
- Completion of the Site-Wide Final Record of Decision.
- Removal of contaminated soil at the Building 850 Firing Table.
- Completion of the Building 854 5-Year Review.
- Completion of the Site-Wide Remedial Design Work Plan.
- Installation of the enhanced monitoring systems at Pit 2, 8, and 9 landfills to detect any future contaminant releases from these landfills as agreed to in the Interim Site-Wide Record of Decision for Site 300.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	69	73	74	74	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Site-Wide Final Remedial Evaluation Summary Report. (FY 2006)
- Final Amendment to the Interim Site-Wide Record of Decision for the Pit 7 Complex. (FY 2006)
- Final Proposed Plan for the Pit 7 Complex. (FY 2006)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Public Meeting for the Proposed Plan for the Pit 7 Complex. (FY 2006)
- Public Workshop for the Site-Wide Remediation Evaluation Summary Report. (FY 2006)
- Site-Wide Final Proposed Plan for the Final Record of Decision. (FY 2006)
- General Services Area Five-Year Review. (FY 2006)
- Hooked up Building 830 proximal extraction wells to the Building 830 source ground water treatment system in the Building 832 Canyon Operable Unit. (FY 2006)
- Constructed, installed, and operated Building 854 distal ground water treatment facility in the Building 854 Operable Unit. (FY 2006)
- Removed contaminated surface soil and sand pile at Building 850. (FY 2006)
- Completed the Building 865 (ATA) Characterization Summary Report. (FY 2006)
- Completed Sandia Test Site Characterization Summery Report. (FY 2006)
- Complete the Pit 7 Complex Final Interim Remedial Design Document. (January 2007)
- Conduct Public Workshop for the Site-Wide Proposed Plan. (January 2007)
- Complete the Building 834 Final 5-Year Review. (February 2007)
- Complete the Site-Wide Final Record of Decision. (April 2007)
- Complete the Site-Wide Final Proposed Plan for the Final Record of Decision. (April 2007)
- Conduct Public Meeting for the Site-Wide Proposed Plan. (May 2007)
- Complete the High Explosive Process Area (HEPA) Five-Year Review. (September 2007)
- Public Workshop for the Site-Wide Record of Decision. (September 2007)
- Modify the Building 830 distal south ground water treatment facility in the Building 832 Canyon Operable Unit. (September 2007)
- Expand the Building 854 source ground water extraction well field in the Building 854 Operable Unit. (September 2007)
- Expand the Building 854 proximal ground water extraction well field in the Building 854 Operable Unit. (September 2007)
- Expand the Building 832 source ground water extraction well field to the distal area in the Building 832 Canyon Operable Unit. (September 2007)
- Expand the Building 817 proximal ground water extraction and treatment facility in the former High Explosive Lagoon Area. (September 2007)
- Complete the Site-Wide Final Revised Remedial Design Work Plan. (September 2008)
- Install enhanced monitoring systems at Pit 2,8, and 9 landfills. (September 2008)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy (life-cycle estimate $429,717K)	**42,374**	**44,592**	**42,523**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Solid Waste Stabilization and Disposition Project (PBS-VL-LANL-0013), also known as the Legacy Waste Disposition Project, is comprised of the treatment, storage, and disposal of legacy transuranic and mixed low-level waste generated between 1970 and 1999 at the Los Alamos National Laboratory. The end-state of this project is the safe disposal of legacy waste from Los Alamos National Laboratory. This program is integrated with the Soil and Water Remediation Project (PBS-VL-LANL-0030) that is responsible for compliance with the New Mexico Environment Department 2005 Compliance Order on Consent. This order implements fines and penalties if material disposal area G, where legacy waste is stored, does not complete environmental closure by 2015. The other driver that requires disposition of this waste is the Site Treatment Plan developed under the authority of the 1995 Federal Facility Compliance Agreement between the National Nuclear Security Administration and the Environmental Protection Agency. The Solid Waste Stabilization and Disposition Project includes disposition of legacy mixed low-level waste completed by Los Alamos National Laboratory in FY 2005 and Transuranic Waste Operations continuing under Carlsbad Field Office's Central Characterization Project and Los Alamos National Laboratory. The three types of Transuranic Waste Operations include: Contact Handled Process and Characterization; Contact Handled Retrieval; and Remote Handled Retrieval;

In FY 2006, the Los Alamos National Laboratory Solid Waste Stabilization and Disposition Project accomplished the following:

- Shipped 496 cubic meters of transuranic waste to the Waste Isolation Pilot Plant.
- Initiated retrieval of legacy transuranic waste stored below ground.
- Completed characterization/visual examination of 16 remote-handled canisters, and the authorization basis is awaiting DOE comment resolution. These canisters will be retrieved and shipped to the Waste Isolation Pilot Plant for disposition in FY 2007.
- Increased capacity to prescreen drums and remediate prohibited items in order to provide sufficient feedstock of drums to the Central Characterization Project certification process. This was accomplished by implementing multiple shifts.
- Developed an alternative approach to the former Quick-to-Waste Isolation Pilot Plan goal focused on material-at-risk rather than an exact number of drums.

The Office of Engineering and Construction Management conducted an External Independent Review of the Los Alamos National Laboratory EM integrated project baseline in September 2006 and issued a final

(dollars in thousands)

FY 2006	FY 2007	FY 2008

report in early November 2006 detailing recommended corrective actions. The site anticipates validation of this baseline in FY 2007.

In FY 2008, the following activities are planned:

- Continue Transuranic Waste Operations at Material Disposal Area G.
- Transuranic Waste Characterization Operation will characterize, certify, and ship above-grade radioactive material inventory that present the greater public risk.
- Processing and repackaging systems for higher-activity transuranic waste will be designed and started.
- Authorize and install headspace gas equipment.
- Authorize and install drum venting equipment.
- Support and audit Resource Conservation and Recovery Act Part B Permit Modification.
- Issue request for proposal for retrieval of below-grade waste at Pit-9.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	1,267	1,892	2,936	7,127	41%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	483	483	483	483	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Initiated retrieval of legacy transuranic waste stored below ground. (FY 2006)
- Complete 1st 16 Remote-Handled Canisters Shipment. (February 2007)
- Issue request for proposal for retrieval of below-grade waste at Pit-9. (September 2008)

VL-LANL-0030 / Soil and Water Remediation-LANL (life-cycle estimate $999,699K)	**98,418**	**28,310**	**96,944**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Los Alamos National Laboratory Soil and Water Remediation Project is tasked to identify, investigate and remediate when necessary areas with known or suspected chemical and or radiological contamination

(dollars in thousands)

FY 2006	FY 2007	FY 2008

attributable to past Laboratory operations and practices. The original remediation scope was for investigation and/or cleanup of 2,124 Potential Release Sites in eight watersheds spread over the 40 square miles of the laboratory. Sites include town sites, industrial sites, firing sites, high explosive corridor and material disposal areas. The remaining scope of the Project includes the characterization, monitoring, and protection of the surface and ground waters at the Laboratory and 760 Potential Release Sites left to be investigated and remediated or closed by evaluation and assessment of human health and ecological risks. Included in the 760 sites remaining to be addressed are: 1) Characterization and capping of eight priority material disposal areas that are to follow the corrective measures study and implementation process. One of the material disposal areas, at Technical Area 54, is the former and active radioactive waste disposal area for the Laboratory; 2) Protection and monitoring of groundwater resources to ensure protection of drinking water supplies; 3) Design/build of an engineered barrier (cap) over a former DOE and Los Alamos County solid waste landfill located within the Los Alamos County Airport boundaries and characterization and cleanup of residual incinerator waste accumulated over several years of dumping onto the side slope of Pueblo Canyon. This waste includes asbestos and unexploded ordnance and is a high priority site, closely monitored by the Environmental Protection Agency; 4) Remediation of Technical Area-21, including 5 material disposal areas and over 100 potential release sites.

The end-state for the Los Alamos National Laboratory Environmental Restoration Project is cleanup of all legacy waste sites at Los Alamos and surrounding areas to levels appropriate for intended land use, the protection and monitoring of the regional aquifer, and long-term surveillance and monitoring as needed to provide necessary safeguards and protection for surface and ground waters.

An Independent Cost Estimate and Review was completed in March 2006. The scope, costs and schedule for completion of this project are principal components of the EM Integrated Baseline submitted by Los Alamos National Laboratory to the National Nuclear Security Administration and EM in June 2006 and to the OECM in August 2006 for external review and validation. The site anticipates validation of this baseline in FY 2007.

Through FY 2006, this project has completed 1,369 sites, with 760 remaining from a total of 2,129 initial sites; completed 32 of 34 regional groundwater wells; transferred 2,254.97 acres of land from a total 4,181.24 acres of land targeted for transfer to Los Alamos County and adjacent Pueblo. In FY 2006, the Project submitted 14 documents subject to stipulated penalties in the Consent Order, completed cleanup at material disposal area V (> 11,000 yds^3 of contaminated media - removed/disposed) confirming cleanup to residential standards; installed and operated a vapor extraction system at material disposal area L (removed over 400 lbs. Volatile Organic Compounds); completed the Airport Landfill cover design, obtained regulator approval and completed 50 percent of construction.

In FY 2008, the following activities are planned:

- Complete Corrective Measures Evaluations for material disposal areas L and G, and the 260 Outfall Intermediate and Regional groundwater.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Submit 15 deliverables required by the New Mexico Environment Department Consent Order and subject to stipulated penalties.
- Perform corrective actions at 3 cleanup sites, including needed follow-up field work in Mortandad Canyon to address the chromium contamination.
- Conduct storm water sampling and implement erosion control measures to ensure protection of water resources in accordance with Federal Facility Compliance Agreement.
- Install and monitor four wells in Pajarito and Bayo canyons.
- Construct material disposal area H landfill cap.
- Continue material disposal area B cleanup.
- Complete construction of 260 Outfall Corrective Measures for alluvial/surface water treatment system.
- Sediment and alluvial ground water investigation in Water/Valle Canyons Sandia.
- Completion of Pajarito watershed sediment, surface, and groundwater investigation.
- Conduct canyon sediment investigations in Bayo/Guaje/Rendija, and Potrillo/Fence watersheds.
- Complete characterization of the contents of the radioactive liquid waste holding tanks associated with material disposal area A.
- Perform lower Pajarito Canyon watershed aggregate area site investigations.
- Perform Upper Los Alamos Canyon watershed aggregate area site investigations.
- Perform groundwater monitoring at all major watersheds: LA/Pueblo; Mortandad; Canon de Valle; Sandia; and in close proximity to the major waste sites.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,426	5,426	5,426	5,426	100%
Remediation Complete (Number of Release Sites)	1,410	1,478	1,546	2,129	73%

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Submitted investigation report for Material Disposition Area V to the New Mexico Environment Department. (FY 2006)
- Installed two permeable reactive barriers to protect groundwater in Canyon de Valle watershed. (FY 2006)
- Installed one passive/reactive barrier to protect groundwater. (FY 2006)
- Submitted investigation work plan for Water Canyon, Canyon de Valle, Ancho, Chaquehui, Indio, Fence, and Portrillo Canyons to the New Mexico Environment Department. (FY 2006)
- Initiated Voluntary Corrective Actions at sites within Technical Areas 0, 10, 21,31, and 45. Completed Voluntary Corrective Actions for Building 16-340 sumps and airport landfills. (FY 2006)
- Completed site investigations at Material Disposition Areas L, G, and A. (December 2006)
- Complete final engineered cover for Material Disposition Area H (Technical Area-54). (September 2007)
- Submit Investigation Report, MDA C. (October 2007)
- Submit Investigation Work Plan for SWMUs 49-001(a-g), 49-003,AOC C-49-008(d), (Material Disposition Area AB, Areas 1,3,4,11 and 12). (October 2007)
- Submit Investigation Work Plan for Middle Canada del Buey Aggregate Area. (October 2007)
- Submit Investigation Work Plan for Lower Los Alamos Canyon Aggregate Area. (October 2007)
- Submit Investigation Report, DP Site Aggregate Area. (November 2007)
- Submit Investigation Work Plan for Upper Mortandad Canyon Aggregate Area. (November 2007)
- Submit Investigation Report, Middle Los Alamos Canyon Aggregate Area. (January 2008)
- Submit Investigation Report for SWMUs 10-002(a,b), 10-003(a-o), 10-004(b), 10-007 (Bayo Canyon). (March 2008)
- Submit Investigation Report for Pueblo Canyon Aggregate Area. (March 2008)
- Submit Investigation Work Plan for Upper Canada del Buey Aggregate Area. (June 2008)
- Characterizate the 22 remaining sites in the Pueblo Canyon aggregate area and the 44 remaining sites within Middle Los Alamos Aggregate area, and prepare two reports for submittal to New Mexico Environment Department (one for each aggregate area). The site will also be able to perform additional work associated with cleanup at material disposition Area B. (September 2008)
- Initiate the Corrective Measures Evaluations for material disposition areas A, C, T. (September 2008)
- Prepare and submit plan for the characterization of material disposition of AB. (September 2008)
- Start cleanup of the groundwater in Los Alamos Watershed. (September 2008)
- Continue characterization and complete cleanup of more than 12 sites in Technical Area-21. (September 2008)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Install and monitor four wells in Pajarito and Bayo canyons. (September 2008)
- Construct material disposal area H landfill cap. (September 2008)
- Complete construction of 260 Outfall Corrective Measures for alluvial/surface water treatment system. (September 2008)
- Completion of Pajarito watershed sediment, surface, and groundwater investigation. (September 2008)

VL-LANL-0040-D / Nuclear Facility D&D-LANL (Defense) (life-cycle estimate $0K)	**0**	**17,700**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

There are several facilities excess to the DOE mission at Los Alamos National Laboratory, including structures at Technical Area -21 and Technical Area -54, that impede or hamper cleanup at these areas. Decommissioning and decontamination of these facilities is crucial to completion of the EM mission at Los Alamos National Laboratory and necessary to maintain compliance with the New Mexico Environment Department Consent Order. The schedules within the Consent Order are enforceable milestones. Several of the former plutonium processing facilities at Technical Area -21 have leaking process waste lines beneath and adjacent to several of the buildings. The Consent Order requires investigation and potentially cleanup of these sites where structures limit access. In Delta Prime East, buildings attached to Tritium System Test Assembly Facility through shared utilities systems also have known or suspected leaking process waste lines that are also subject to the requirements for corrective actions in accordance with the Consent Order. At Technical Area -54 there are over 100 structures and active facilities that must be removed prior to the closure and capping of material disposal area L and material disposal area G required for completion of the Pajarito Watershed in accordance with the Consent Order. The end-state of this activity is decommissioning and decontamination of the Technical Area -21 and Technical Area -54 facilities, planned to occur in FY 2014, allowing completion of corrective actions in accordance with the New Mexico Environment Department Compliance Order on Consent.

The scope, costs and schedule for completion of this project are necessary components of the EM Integrated Baseline submitted by the site to the National Nuclear Security Administration and EM in June 2006 and to the OECM in August 2006 for external review and validation. The site anticipates validation of this baseline in FY 2007.

In FY 2008, the following activities are planned:

- No activities are being performed as funding is redirected to higher risk priority activities at the site.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

VL-LANL-0040-N / Nuclear Facility D&D-LANL (Non-Defense) (life-cycle estimate $18,060K) **485** **1,025** **1,905**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

The Tritium System Test Assembly Facility was transferred into the EM Program in FY 2003 for continued surveillance and maintenance, limited deactivation, and eventual demolition. This transfer is documented in a Memorandum of Agreement that was signed by EM, National Nuclear Security Administration, 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 glove boxes, molecular sieves and other equipment which contain small amounts of radioactive tritium residue were left in place as approved and documented in the safety authorization basis. As a result, the facility emissions stack system will continue to operate. 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-through, maintaining the safety authorization basis, stack monitoring, and security. The end-state of this activity, planned to occur in FY 2011, is demolition of the EM facilities as defined in the Memorandum of Agreement.

A new baseline was submitted to the National Nuclear Security Administration and EM in June 2006 and to the OECM in August 2006 for external review and validation. The follow-on Office of Engineering and Construction Management review was completed in October 2006 and a corrective action plan is being prepared. The site anticipates validation of this baseline in FY 2007.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- Continue surveillance and maintenance of the facility.
- Characterization of the facility in support of award of the decontamination and decommissioning contract in FY 2009, and additional removal of contaminated equipment and piping (to lower tritium levels) to minimize the risks and costs for further decontamination and decommissioning efforts in FY 2009. This work will result in a lower hazard level of the building and will facilitate scheduled demolition of the building within budget.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Radioactive Facility Completions (Number of Facilities)	0	0	0	1	0%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Continued surveillance and maintenance activities at the Tritium Systems Test Assembly to ensure safe and environmentally compliant conditions until final demolition. (FY 2006)
- Continue surveillance and maintenance activities at the Tritium Systems Test Assembly to ensure safe and environmentally compliant conditions until final demolition. (September 2007/September 2008)

NV-0030 / Soil and Water Remediation-Nevada Offsites (life-cycle estimate $113,061K)	**2,818**	**0**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS was created to allow tracking of funds for transfer of the Nevada Offsites to the Office of Legacy Management after FY 2006.

Historic atmospheric and underground nuclear tests at eight sites in Alaska, Colorado, Mississippi, Nevada, and New Mexico 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 these contaminated sites is due to institutional control being outside of DOE control.

This PBS will complete remediation activities to support regulatory closures at eight former underground 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. The focus for most off-site surface closures will be clean closure

(dollars in thousands)

FY 2006	FY 2007	FY 2008

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.

In FY 2008, the following activities are planned:

- Activities were transferred to the Office of Legacy Management in FY 2007.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	53	53	53	53	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed the closure of the Gnome surface. (FY 2006)

VL-NV-0013 / Solid Waste Stabilization and Disposition-Nevada Test Site (life-cycle estimate $76,318K)	**6,430**	**4,430**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

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; resize and disposition 58 oversized boxes of mixed transuranic waste; disposition of 248 drums of classified material and two experimental spheres; and safely, and compliantly store all of the above until disposition (total life-cycle quantity of 788 cubic meters). 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 and mixed transuranic waste in legacy drums will be shipped to the Waste Isolation Pilot Plant for disposal. The mixed transuranic waste in oversized boxes will be size reduced to fit standard waste packages and/or will be decontaminated to low-level waste or mixed low-level waste and disposed at the Waste Isolation Pilot Plant or on the Nevada Test Site as appropriate. The classified material will be declared a waste and will be disposed at the Waste Isolation Pilot Plant. The removal of the transuranic and mixed transuranic from the Nevada Test Site for disposal will reduce the risk to the Nevada Test Site workers and the environment resulting from continued storage. The Nevada Test Site transuranic and mixed transuranic related facilities will be decontaminated and decommissioned, or will be

(dollars in thousands)

FY 2006	FY 2007	FY 2008

transitioned to other uses. All the transuranic and mixed transuranic covered under this PBS will be dispositioned by the end of FY 2007.

In FY 2008, the following activities are planned:

- Activities are to be completed in FY 2007.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	392	392	392	392	100%
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • D&D Visual Examination and Repackaging Building Glove Box. (FY 2006) • Final transuranic waste disposition. (September 2007)					

VL-NV-0030 / Soil and Water Remediation-Nevada Test Site (life-cycle estimate $1,918,370K)	**64,821**	**67,180**	**56,794**

This PBS can be found within the Defense Environmental Cleanup appropriation.

Historic atmospheric and underground nuclear tests on the Nevada Test Site, and the U.S. Air Force's Nevada Test and Training Range including the Tonopah Test Range, resulted in contaminated support facilities, soils, and groundwater. The environmental restoration project scope addresses surface and shallow subsurface radiological soil contamination on the Nevada Test Site and Nevada Test and Training Range. Contamination at these sites is the result of historic nuclear detonations, safety experiments, storage/transportation related tests, nuclear reactor development and experiments, nuclear rocket engine tests, and hydronuclear experiments. The industrial-type sites restoration addresses facility decontamination and decommissioning, various historical infrastructure remediation efforts (e.g., septic systems, mud pits, storage tanks, disposal sites, etc.), and conventional weapons clean up including unexploded ordinance. The underground test area remediation involves geologic and hydrologic characterization, contaminated groundwater transport modeling, contaminant boundary definition and establishment of a monitoring system, to protect against the inadvertent use of contaminated groundwater. The overall objective of the Nevada Site Office Environmental Restoration Project is to provide for appropriate risk-based remediation of surface and subsurface contamination on all of these sites. The cleanup is complex due to the number of sites, nature/extent of contamination, and site size/location.

The surface contamination includes approximately 1,000 industrial type sites and approximately 100 soil contamination sites on the Nevada Test Site and Nevada Test and Training Range. The industrial release sites mainly support facilities and structures that were left after conducting aboveground and underground

(dollars in thousands)

FY 2006	FY 2007	FY 2008

nuclear tests and surface nuclear engine and reactor experiments. The industrial release sites cleanup goal is to eliminate access to contamination by removal and clean closure or closure in place, and capping and establishing appropriate use restrictions. For contaminated soil sites on the Nevada Test Site, contamination will be isolated, contained, and/or removed at areas where soil contamination is the highest (i.e., localized areas of elevated radioactivity). This PBS also includes integration activities such as health and safety, regulatory support, environmental compliance, quality assurance, etc., in support of field remediation activities. These integration activities are common to all sub-projects within this PBS and have been consolidated to eliminate redundant functions and gain efficiencies within the total program.

Characterization activities consist of gathering additional knowledge about the site and historical operations; preparing and developing Data Quality Objectives; preparing an investigation plan; providing all necessary labor, equipment, and materials to plan and perform the field investigation; performing required National Environmental Policy Act activities; preparing a site specific health and safety plan to guide all planned field operations; preparing a sampling instruction set to provide specific direction to the sampling crew with respect to procedures used for all aspects of sampling, decontamination, sample packaging, etc; preparing a Field Management Plan to identify key personnel for the field activities; providing all necessary services and logistical support for the field effort; assembling the field crew; conducting a readiness review; conducting a prefield briefing prior to field crew mobilization; demobilizing from the site when field characterization is complete; performing chemical, radiological, and physical parameter analyses on samples acquired during field operations; supporting laboratory coordination, data tracking and assessment, and posting of results; providing waste management services for all site investigation derived waste generated during the field investigation; determining the appropriate waste classification; and preparing a profile for radiological investigation derived waste, to demonstrate compliance with the Nevada Test Site waste disposal acceptance criteria when applicable.

The remediation activities consist of completing engineering design and review as necessary; preparing a real estate/operations permit, health and safety plan, work packages/job hazard analysis, field management plan, biological opinion, National Environmental Policy Act checklist, and radiation work permits, as necessary; procure materials, equipment, and subcontracts as required; excavating (for clean closure) to an approved action level/volume with standard construction equipment (front-end loaders, backhoes, scrapers); conducting waste characterization and cleanup verification sampling/analysis, backfill and area grading; conducting posting or de-posting and demarcation surveys, utility clearance, installation of monuments, land surveys, and use-restrictions; performing bioassay analysis and evaluation as necessary; characterize, store, transport, and dispose waste in accordance with applicable regulations and requirements; demobilize equipment and labor; performing site inspections to include moisture monitoring (time domain ‘reflectrometry’ or neutron), settlement monitoring (land survey or borehole survey), sample collection analysis data evaluation, and photo documentation as required by the State in approved closure requirements; preparing a profile for radiological remediation derived waste, to demonstrate compliance with the Nevada Test Site waste disposal acceptance criteria when applicable; and conducting a work package closeout and lessons learned.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

The life-cycle activities that are common to all of the above described activities include performing peer reviews and technical editing of documents and reports; performing Integrated Safety Management reviews (including health and safety, safeguards and security, waste management, environmental compliance, and quality assurance) during the planning, field work, data analysis, and document preparation phases; providing document production, reproduction, and distribution of drafts for review; providing technical support during the review period; addressing and resolving review comments; revising draft documents/reports; and publishing final documents/reports.

The life-cycle activities that are covered under this PBS (for consolidated efficiency reasons) and are common to all Nevada Site Office Environment Management activities include the development, implementation, maintenance, and management support for overall information systems, technical library, records, and other program documents including the control and processes to ensure an effective safeguards security program within the program; providing programmatic planning, budgeting, project control, and performance reporting services, including the development and support related to the life-cycle baselines, current year task plans, and input to the DOE Headquarters Integrated Planning Accountability and Budgeting System; coordinating responses to requests for information; and providing for configuration management of critical program elements included in the Nevada Site Office Environmental Management Information System; and providing services to enhance and distribute information related to Nevada Site Office Environmental Management activities to internal and external individuals including DOE Headquarters, State representatives, and stakeholders.

The Office of Engineering and Construction Management has reviewed the project baseline and issued its report. A corrective action plan has been developed, and items in the plan are being completed.

In FY 2008, the following activities are planned:

- For the subsurface sites: Work on 3 distinct transport models; 2 source term analyses and evaluations; and 2 area-specific contaminant boundary flow models. The areas associated this analysis work include Frenchman Flat, Western Pahute Mesa, Yucca Flat, Central Pahute Mesa, and Rainier Mesa. This includes the completion of the Pahute Mesa Corrective Action Investigation Plan addendum.

- For the industrial-type sites: Completing the closure of 12 above ground storage tanks, 2 boilers, 1 buried ordnance site, 3 decontamination pads and discharge piping, 5 depleted uranium surface debris sites, 5 injection wells, 4 leachfields, 3 mud pits, 2 oil/fuel spill sites, 3 miscellaneous sites, 3 ponds/lagoons, 3 radiological contamination areas, 7 septic tanks, 4 sewage lagoons, 1 sump (cellar), 7 surface release points, 3 underground storage tanks, and 1 major facility (Super Kukla).

- Additionally, remediation and closure work will begin on 1 above ground storage tank, 1 burn pit, 3 major facilities, 1 hazardous waste site, 8 injection wells, 1 magazine/bunker, 14 mud pits, 7 miscellaneous sites, 14 radiological contamination areas, 1 septic system, 1 sump (cellar), 3 surface release points, 11 underground storage tanks, and 8 waste disposal sites.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Work at the radioactive soil contamination areas will consist of conducting soil characterization activities at sites in Areas 11 and 18.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	863	919	990	2,019	49%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Underground Test Area Pahute Mesa - submit final Phase I report to state. (FY 2006)
- Industrial Site Closures - close 59 sites approved by the State. (FY 2006)
- Underground Test Area Yucca Flat Phase 1 - submit Phase I package to state. (September 2007)
- Industrial Sties Closures of storage yards, mud pits, cellars and polychlorinated biphenyl contamination - closure of 45 release sites. (September 2007)
- Industrial Sites Closures Super Kula - closure report for approval by the State. (November 2007)
- Industrial Sites Closure Area 25 and 26 Storage Tanks - closure report for approval by the State. (November 2007)
- Industrial Sites Closures Decon Pad and Septic Systems - closure report for approval by the State. (December 2007)
- Underground Test Area - complete Pahute Mesa Phase I Transport Model. (February 2008)
- Underground Test Area - complete Frenchman Flat Phase II Transport Mode documentation package. (May 2008)

VL-NV-0080 / Operate Waste Disposal Facility-Nevada (life-cycle estimate $165,966K)	**4,324**	**5,458**	**21,767**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Nevada Site Office Environmental Management waste management project provides indispensable, efficient, cost-effective low-level waste and mixed low-level waste disposal capability to meet the needs of other DOE sites. Also under the Nevada Site Office waste management project, the scope for legacy on-site transuranic and mixed transuranic waste and material includes storage, treatment (as needed), and disposal/disposition.

In FY 2006, the State of Nevada authorized the receipt of off-site mixed low-level waste for disposal. Acceptance of low-level waste and classified material will continue in support of the DOE complex until FY 2027. Acceptance of mixed low-level waste for disposal will only be available until December 2010,

(dollars in thousands)

FY 2006	FY 2007	FY 2008

or when a disposal capacity (20,000 cubic meters from December of 2005) is reached, in accordance with State of Nevada regulatory authorization. Individual disposal cells will be operationally closed as they reach capacity prior to 2027. Nevada maintains the capability to dispose low-level waste and mixed low-level waste (as allowed under permit conditions as administered by the State of Nevada), and store (in a disposal configuration) classified material from approved generators throughout the DOE complex. The projected total Nevada Test Site low-level waste, mixed low-level waste and classified material life-cycle volume from complex wide generators is projected to be over 1.275 million cubic meters. 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. Storage of 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, and shipping and tracking waste through disposal.

The Office of Engineering and Construction Management has reviewed the project baseline and issued its report. This project has been recommended for validation through FY 2009. A corrective action plan has been developed, and items in the plan are being completed to attain full life-cycle validation.

The FY 2008 request reflects a change in how the disposal operations are funded. Activities formally funded by generator fees will now be direct-funded by Nevada. Direct funding will ensure that the largest federal low-level and only federal mixed low-level radioactive waste disposal options remain available to off-site generators; and will stabilize and sustain sufficient capabilities to support cleanup across the DOE complex by eliminating dependence on fluctuating generator fees and waste volumes.

In FY 2008, the following activities are planned:

- Continue supporting cleanup activities across the DOE complex by disposing/storing an estimated 16,639 cubic meters of low-level/mixed low-level waste and classified material at the Nevada Test Site from approximately 30 off-site generators.

- Completing the Area 3 Radioactive Waste Management Site Performance Assessment.

- Developing and maintaining plans, permits, safety basis, and technical and regulatory support for activities such as the Nevada Test Site Resource Conservation and Recovery Act Part B Permit, Mutual Consent Agreement, Site Treatment Plan, and Consent Orders.

- Supporting generator programs to ensure compliance with the Nevada Test Site Waste Acceptance Criteria by performing audits and waste certification reviews. Disposing radioactive waste from

(dollars in thousands)

FY 2006	FY 2007	FY 2008

storage locations across the DOE complex in engineered disposal facilities at the Nevada Test Site will substantially reduce risk at other DOE sites.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Disposed low-level and mixed low-level wastes. (FY 2006) • Dispose low-level and mixed low-level wastes. (September 2007/September 2008)					

VL-NV-0100 / Nevada Community and Regulatory Support (life-cycle estimate $105,410K) **8,602** **2,600** **2,545**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This project provides for various agreements and grants with the state, universities, and other entities. Funding supports regulator oversight of the Nevada Test Site including surveillance and monitoring activities, research to accelerate project activities, and stakeholder involvement.

In FY 2008, the following activities are planned:

- Provide for the agreements and grants with organizations in the State of Nevada similar to previous years commensurate with the level of activity conducted by the Nevada Site Office EM program.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Regulator and stakeholder funding. (FY 2006/September 2007/September 2008) • Continued positive State and stakeholder relationships. (FY 2006) • Continue positive State and stakeholder relationships. (September 2007/September 2008)					

VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle (life-cycle estimate $85,339K) **1,744** **1,622** **1,511**

This PBS can be found within the Defense Environmental Cleanup appropriation.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

The New Mexico Agreement-in-Principle reflects the understanding and the commitments between the parties regarding DOE's provision to New Mexico of additional technical and financial support for State activities in environmental oversight and monitoring to provide independent verification of DOE's compliance with applicable federal, state and local laws, including rules, regulations, and standards at the (1) Los Alamos National Laboratory and (2) Sandia National Laboratories/New Mexico (collectively referred to as "the facilities") and such other DOE sites in New Mexico as the parties may subsequently identify and mutually agree to incorporate under the auspices of the program. Post-FY 2006, most Sandia Environmental Restoration activities have been completed so EM Agreement-in-Principle support to Sandia will decrease. The Waste Isolation Pilot Plant has a separate Agreement-in-Principle and as such is no longer a part of the agreement funded by this PBS.

The Agreement-in-Principle activities are intended to help assure that the activities at DOE facilities are protective of the public health and environment. Such assurance will be accomplished through a vigorous program of independent monitoring and oversight by the State of New Mexico. The parties to this Agreement understand that the oversight activities authorized by this Agreement are intended to supplement activities conducted under applicable environmental laws and regulations, but are not intended to support specific State regulatory, permitting, and legally-required environmental oversight activates such as issuance of regulatory permits, the review of DOE regulatory submissions when such review is intended to serve as the primary basis for State action under regulatory programs, required regulatory inspections, required monitoring, issuance of regulatory notices of violation and other citations. The Agreement is also not intended to support the activities of the Citizen Advisory Boards. The Agreement is intended to support non-regulatory activities of the State of New Mexico in working with the DOE to evaluate the adequacy of DOE activities related to environmental monitoring and to support periodic State monitoring of discharges, emissions, or biological parameters as necessary to verify the effectiveness of the DOE programs. The Agreement recognizes the continued need for the State of New Mexico to have access to DOE facilities and to exchange relevant technical information with the DOE to support the State's environmental monitoring efforts. Specific scope-of-work items are the review and assessment of: waste management, discharges, and emissions; clean-ups, spills, and facility decommissioning; environmental monitoring at DOE facilities to verify whether pathways of contaminant migration from sources related to activities at the facilities are being adequately monitored and reported to the public; public information and outreach; and reports and information systems development.

The Texas Agreement-in-Principle was initiated in 1990, in partnership with the Texas Governor's Office in an effort to protect human health and safety, and the environment around the Pantex Plant. It is made up of divisions that deal with remediation, field operations, air monitoring, toxicology and risk assessment, legal, and industrial and hazardous waste. The Texas Agreement-in-Principle activities for FY 2006 were completed within budget and on schedule.

The New Mexico Agreement-in-Principle work for FY 2006, with the exception of perchlorate monitoring that was slowed by an issue at Kirtland Air Force Base, was completed within budget and on schedule.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Fiscal Years 2007-08 Agreement-in-Principle independent environmental oversight and monitoring will be done on both Pantex cleanup and New Mexico cleanup.

In FY 2008, the following activities are planned:

- Continued surveillance of DOE New Mexico laboratories' environmental cleanup and monitoring programs including review and assessment of: waste management, discharges, and emissions; clean-ups, spills, and facility decommissioning; environmental monitoring at DOE facilities to verify whether pathways of contaminant migration from sources related to activities at the facilities are being adequately monitored and reported to the public; public information and outreach; and reports and information systems development.

- To support Pantex efforts, approval of remaining deliverables to federal and Texas regulators concerning cleanup completion.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • New Mexico, Texas and Missouri fulfill Agreements-in-Principle. (FY 2006) • New Mexico and Texas fulfill Agreements-in-Principle. (September 2007/September 2008)					

VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit (life-cycle estimate $242,650K)	**6,477**	**24,500**	**27,585**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The project objectives are: 1) remove and stabilize the chemical and radiological contamination in the land and groundwater; 2) remove the transuranic waste contained in the waste tanks and tanks enclosures, and ship the waste to the Waste Isolation Pilot Plant facility; and 3) demolish and remove the four nuclear facilities. Upon completion of the disposition project the remaining land will be restored and returned to the Naval Reactors, Knolls Atomic Power Laboratory for continuing mission use. Since the project start in 2003, the project has completed field sampling in thirty acres of land and demolished a small structure, and segregated the project areas from the main site areas. Project planning documents are being prepared. Work through FY 2006 includes completing security fencing for nuclear facilities, cooling tower demolition, CD-0 submission and approval, and demolition of structure K5. Work planned for FY 2007 includes placing small business contract for soil and land remediation, and placing contract for nuclear facility decontamination and decommissioning. The project end state completion is in 2014.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

OECM completed an internal project review during 2004 but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the life-cycle baseline. This effort is expected as part of the Critical Decision 2/3 Baseline to be submitted in FY 2008.

In FY 2008, the following activities are planned:

- Initiate decontamination of the nuclear facilities and removal of transuranic wastes to be shipped to the Waste Isolation Pilot Plant.
- Complete cleanup of approximately 15 acres of land and closeout four solid waste management units contained within the 15 acres.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	50	0%
Nuclear Facility Completions (Number of Facilities)	0	0	0	4	0%
Remediation Complete (Number of Release Sites)	0	0	4	6	67%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Cooling Tower Demolition. (FY 2006)
- Installed Security Fencing for Nuclear Facilities. (FY 2006)
- Demolished structure K5. (FY 2006)
- Complete removal of 50,000 cubic feet of radiologically contaminated soil/debris. (December 2006)
- Remove 5,000 cubic meters of contaminated soil. (September 2007)
- Place contracts for removal of the nuclear facilities and environmental restoration of the land areas. (September 2007)
- Initiate work on the nuclear facilities and environmental restoration of the land areas. (September 2008)

VL-PX-0030 / Soil and Water Remediation-Pantex (life-cycle estimate $168,154K)	**14,357**	**19,394**	**12,411**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Pantex Plant, located in the Texas Panhandle, approximately 17 miles northeast of Amarillo, has a long-term mission to extend the life of nuclear weapons in the stockpile. Past operations have

(dollars in thousands)

FY 2006	FY 2007	FY 2008

contaminated soils and portions of the upper or perched groundwater with high explosives, metals, and solvents. In 1989, the U.S. Environmental Protection Agency conducted a Resource Conservation and Recovery Act Facility Assessment of the Pantex Plant that identified 252 potential release sites, and resulted in an Environmental Protection Agency Order stipulating response measures for these release sites. Corrective Measures to be taken include continued operation of the pump and treatment systems 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, and soil vapor extraction.

Through a Memorandum of Agreement between the Environmental Protection Agency and the state of Texas, the Texas Commission on Environmental Quality has authority for investigations conducted under the Resource Conservation and Recovery Act process; however, the Environmental Protection Agency has retained the authority to manage radionuclide contamination and Comprehensive Environmental Response, Compensation, and Liability Act issues. Both the Environmental Protection Agency and the Texas Commission on Environmental Quality support the DOE EM Accelerated Cleanup Initiative, as shown by letters included in the Pantex Final Performance Management Plan, July 2003. Efficient satisfaction of Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation, and Liability Act requirements and timely regulator approval are key factors for Pantex Environmental Remediation project completion. Pantex is currently working closely with the Environmental Protection Agency Region 6 and the Texas Commission on Environmental Quality through the Core Team, that collectively reviews site data, to expedite integration of both the Resource Conservation and Recovery Act; and Comprehensive Environmental Response, Compensation, and Liability Act statutory requirements.

As of September 2006, the Texas Commission on Environmental Quality has approved closure of 136 release sites, leaving 101 release sites to be completed in Fiscal Years 2007-2008, with an additional 15 active release sites remaining in operation after project completion in FY 2008.

OECM performed an External Independent Review in support of Critical Decision 2/3 validation. EM prepared a Critical Decision 2/3 approval based on submittal of the Corrective Action Plan to OECM.

In FY 2008, following activities are planned:

- Complete operation/maintenance of Zone 11 (soil vapor extraction) and Zone 12 (ozone injection; ditch liners) contamination source-term Interim Corrective Measures.

- For site-wide groundwater – A) Complete Corrective Measures Construction; B) Submit and obtain regulator approval of Corrective Measures Report; C) Submit Final Long-Term Stewardship Compliance Plan to regulators.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	103	180	206	206	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Submitted and obtained regulator approval of Baseline Risk Assessment. (FY 2006)
- Continued operation of the Burning Ground soil vapor extraction interim stabilization measure for removal of contamination from the vadose zone and protection of groundwater. (FY 2006)
- Commence Corrective Measures Construction. (September 2007)
- Complete Corrective Measures Construction. (September 2008)

VL-PX-0040 / Nuclear Facility D&D-Pantex (life-cycle estimate $18,368K)	**5,101**	**4,332**	**0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

Included in the scope are decontamination and decommissioning of the 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. Status through 2006: 1) Building 8-008 - completed in FY 2001; 2) Building 11-44 - completed in FY 2004; 3) Zone 10 Ruins – completed in FY 2005; 4) Building 12-24 Complex – demolition is complete, waste disposal and transportation of construction debris continued through the remainder of FY 2006.

Building 12-24 Complex was demolished the first part of 2006 and the rubble generated was staged for transport offsite at a later date. This complex was located in the Material Access Area of the plant, which is very difficult for contractors to gain access to; therefore, hauling of the remaining demolition rubble will continue into 2007. The concrete, steel, and excess dirt are loaded into articulated dump trucks and hauled to a remote area of the plant where it is crushed, segregated, and hauled to an offsite landfill approved for Class I waste.

In FY 2008, the following activities are planned:

- No activity, project is scheduled to complete in FY 2007.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Industrial Facility Completions (Number of Facilities)	4	4	4	4	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Complete demolition of Building 12-24 Complex. (September 2007)

VL-SN-0030 / Soil and Water Remediation-Sandia
(life-cycle estimate $226,397K) **9,672** **0** **0**

This PBS can be found within the Defense Environmental Cleanup appropriation.

The Sandia National Laboratories Environmental Restoration project mission is to complete all necessary corrective actions at 265 release soil sites and three groundwater areas of concern. 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 sites are placed under institutional controls and long-term stewardship in accordance with State and Federal requirements. The New Mexico Environment Department's approval is required for final determination of No Further Action either without controls or with controls that are managed through long-term stewardship.

FY 2006 was the last year of requested funding when all field work was scheduled to be completed. The baseline schedule was extended through FY 2009, due to regulatory delays on the Mixed Waste Landfill rock bio-barrier and soil cover fieldwork, obtaining three final remedies for groundwater and completing the remaining regulatory administrative closure activities. No new budget authority was requested for Fiscal Years 2007-2009 as carryover funding from FY 2006 is expected to be sufficient to complete the remaining project scope. Also, long-term stewardship of 259 of 265 release sites is expected to be the responsibility of National Nuclear Security Administration in FY 2007.

The Office of Engineering and Construction Management validated the lifecycle Total Project Cost of $231,000,000 (~ Fiscal Years 1997-2006) and a schedule completion date of September 2006. Regulatory delays have extended the completion date until September 2009.

As of September 2006, 259 of 265 DOE corporate performance measures are complete. Also, 204 of 265 final site closure approvals have been received from the State and 60 sites are expected to be approved in FY 2007. The final approval for the Mixed Waste Landfill is expected in FY 2009. The Sandia National Laboratories Environmental Restoration project has completed all field work, except for the Mixed Waste Landfill cover, has submitted 2 of 3 corrective measures evaluation groundwater reports but is required to monitor the Burn Site groundwater area four more quarters prior to submitting the corrective measures evaluation report in FY 2008.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- FY 2006 was the last year of funding. All remaining work will be preformed with prior year carryover.
- Complete the fieldwork and finalize the Corrective Measures Implementation Report for the Mixed Waste Landfill and submit to New Mexico Environment Department.
- Draft the Long-term Maintenance and Monitoring Plan for the Mixed Waste Landfill and submit to New Mexico Environment Department.
- Receive final regulatory approval for the Chemical Waste Landfill and finalize administrative and regulatory closure activities for the other 4 sites.
- Draft the Burn Site Groundwater corrective measures evaluation report and share with New Mexico Environment Department.
- Perform vadose zone monitoring at the Mixed Waste Landfill.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Radioactive Facility Completions (Number of Facilities)	1	1	1	1	100%
Remediation Complete (Number of Release Sites)	262	262	262	262	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Submitted Corrective Measures Implementation Plan to the New Mexico Environment Department for Mixed Waste Landfill. (FY 2006)
- Completed Corrective Measure Implementation Plan for the Mixed Waste Landfill. (FY 2006)
- Completed installation of three groundwater wells, Canyons. (FY 2006)
- Submit final Corrective Measures Implementation (Resource Conservation and Recovery Act) Report to the New Mexico Environment Department for Chemical Waste Landfill. (September 2007)
- Submit Corrective Measures Implementation Report for the Mixed Waste Landfill to New Mexico Environment Department. (September 2008)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
• Submit the Corrective Measures Evaluation Report to the Burn-Site Groundwater area to New Mexico Environment Department. (September 2008) • Submit the Long-Term Maintenance and Monitoring Plan for the Mixed Waste Landfill to New Mexico Environment Department. (September 2008)			
Total, NNSA Sites	**299,932**	**233,093**	**273,035**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
NNSA Sites	
Lawrence Livermore National Laboratory	
VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300	
▪ Decrease in funds due to planned decrease in restoration activities for FY 2008, which is the final year for legacy cleanup work.	-2,900
Los Alamos National Laboratory	
VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy	
▪ Decrease in levels of transuranic waste characterization and shipment to the Waste Isolation Pilot Plant, and processing and repackaging of oversized transuranic waste for shipment to the Waste Isolation Pilot Plant will be deferred.	-2,069
VL-LANL-0030 / Soil and Water Remediation-LANL	
▪ Increase reflects additional regulatory requirements and remedial actions required to address the recent discovery of chromium contamination in the regional aquifer and the need to rehabilitate several monitoring wells.	68,634

	FY 2008 vs. FY 2007 ($000)
VL-LANL-0040-D / Nuclear Facility D&D-LANL (Defense)	
▪ No funding requested for this project due to the need to invest in higher risk activities at the Los Alamos National Laboratory site.	-17,700
Nevada	
VL-NV-0013 / Solid Waste Stabilization and Disposition-Nevada Test Site	
▪ Decrease due to project completion in FY 2007.	-4,430
VL-NV-0030 / Soil and Water Remediation-Nevada Test Site	
▪ Decrease reflects a deferral of surface contaminated soil remediation efforts pending the outcome of discussions and an agreement on the cleanup level.	-10,386
VL-NV-0080 / Operate Waste Disposal Facility-Nevada	
▪ Increase reflects the decision to directly fund the disposal facility (vs. funding through generator fees) to support complex-wide low-level and mixed low-level waste disposal activities at the Nevada Test Site, and for completing the Area 3 Radioactive Waste Management Site Performance Assessment.	16,309
VL-NV-0100 / Nevada Community and Regulatory Support	
▪ No significant change.	-55
NNSA Service Center	
VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle	
▪ No significant changes in funding.	-111
VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit	
▪ Increase in funding reflects start of nuclear facilities decontamination and decommissioning fieldwork and soil and ground water cleanup.	3,085
Pantex	
VL-PX-0030 / Soil and Water Remediation-Pantex	
▪ Decrease due to site completion in FY 2008.	-6,983
VL-PX-0040 / Nuclear Facility D&D-Pantex	
▪ Decrease due to completion of decontamination and decommissioning of facilities in FY 2006, and completion of project waste disposal and closeout in FY 2007.	-4,332

	FY 2008 vs. FY 2007 ($000)
Non-Defense Environmental Cleanup	
Small Sites	
VL-LANL-0040-N / Nuclear Facility D&D-LANL (Non-Defense)	
▪ Increase reflects facility characterization workscope in FY 2008 to support a D&D contract award in FY 2009, and increased equipment/piping removal.	880
Total, NNSA Sites	**39,942**

West Valley Demonstration Project

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
West Valley Demonstration Project	76,329	73,400	54,395
Total, West Valley Demonstration Project	76,329	73,400	54,395

Site Overview

The West Valley Demonstration Project is being executed at the site of the only commercial nuclear fuel reprocessing facility to have operated in the United States. The West Valley Demonstration Project is located on the site of the Western New York Nuclear Service Center whose title is held by the New York State Energy Research and Development Authority. The principal mission of DOE is to satisfy the mandates established by the West Valley Demonstration Project Act of 1980 (Public Law 96-368):

- Solidify, in a form suitable for transportation and disposal, the high-level waste;
- Develop containers suitable for permanent disposal of the solidified high-level waste;
- Transport, in accordance with applicable law, the solidified waste to an appropriate federal repository for permanent disposal;
- Dispose low-level waste and transuranic waste produced by high-level waste solidification activities;
- Decontaminate and decommission tanks and facilities used for solidification of high-level waste, as well as any material and hardware used in connection with the Project, in accordance with such requirements as the Nuclear Regulatory Commission may prescribe.

Site Description

The West Valley Demonstration Project is located approximately 40 miles south of Buffalo, New York. For purposes of conducting the West Valley Demonstration Project, DOE has operational responsibility for approximately 165 acres located near the center of the larger 3,345 acre Western New York Nuclear Service Center owned by the state of New York.

Site Cleanup Strategy/Scope of Cleanup

DOE has completed the first two mandates of the West Valley Demonstration Project Act – solidification of the liquid high-level waste and development of containers suitable for permanent disposal of the high-level waste. There are currently 275 high-level waste canisters that have been produced in accordance with federal repository requirements that are in safe storage within the former spent fuel reprocessing plant. The remaining work to be completed by DOE per the West Valley

Demonstration Project Act includes (1) shipment of the high-level waste canisters to a federal repository, (2) disposal of Project-generated low-level waste and transuranic waste, and (3) facility decontamination and decommissioning. Additionally, in accordance with the DOE and New York State Energy Research and Development Authority spent fuel agreement, DOE shipped 125 spent fuel assemblies to the Idaho National Environmental and Engineering Laboratory in July 2003.
The technical, schedule and cost considerations associated with decommissioning of the West Valley Demonstration Project are being considered during development of the Decommissioning and/or Long-Term Management Environmental Impact Statement. A Record of Decision determining the actions needed for final decommissioning is planned for issuance in 2008. As such, DOE will focus its near-term efforts on Project waste disposition, process building decontamination and removal of non-essential facilities that can proceed in the near-term while the Decommissioning Environmental Impact Statement is developed.

Site Completion (End State)

Until DOE completes evaluation and analysis of various closure alternatives in the Decommissioning Environmental Impact Statement and issues a Decommissioning Record of Decision, DOE plans to proceed toward Interim End State completion in CY 2011. The West Valley Demonstration Project Interim End State is defined as:

- Shipment of all low-level waste and transuranic waste generated by DOE as a result of the high-level waste solidification project;

- Deactivation, demolishment and removal of all DOE-managed facilities (foundations remain), with the exception of: 1) former spent nuclear fuel reprocessing facility (i.e., process building) and any other support facilities required for the interim storage of the high-level waste canisters, and 2) Remote-Handled Waste Processing Facility;

- Removal of major components and decontamination of the process building;

- Configuring utilities and infrastructure to achieve cost effective long-term storage and maintenance of the process building and other facilities, including the tank farm, until off-site transport of the high-level waste canisters can be facilitated.

Following publication of the Decommissioning Environmental Impact Statement Record of Decision, currently planned for 2008, DOE will proceed toward implementation of actions necessary to achieve EM Completion. Pending the Record of Decision, the end state for EM completion includes the following actions:

- Decommissioning of the tank farm;

- Remediation of lagoons, sludge ponds and water treatment systems, as applicable;

- Removal and disposal of facility foundations and contaminated soil, as applicable;

- Decommissioning and removal of Remote-Handled Waste Processing Facility;

- Installation of erosion controls and environmental monitoring requirements;

- Multi-Agency Radiation Survey and Site Investigation Manual survey and sampling;

- Implementation of other actions as required by the Decommissioning Environmental Impact Statement Record of Decision.

Activities to be implemented to achieve the Final End State for the West Valley Demonstration Project once transport of the high-level waste canisters to a federal repository can be facilitated include:

- Construction of high-level waste canister Load-out facility;

- Shipment of the high-level waste canisters off-site;

- Final decommissioning of the Process Building consistent with Decommissioning Environmental Impact Statement Record of Decision;

- Demolition and removal of any other interim storage support facilities;

- Transition of the site back to the State of New York.

Regulatory Framework

West Valley Demonstration Project Act (Public Law 96-368): Signed by President Carter in October 1980, the West Valley Demonstration Project Act required the Secretary of Energy to carry out a high-level radioactive waste management project at the Western New York Nuclear Services Center. Specifically, the West Valley Demonstration Project Act required the Department of Energy to conduct the following:

- Solidify, in a form suitable for transportation and disposal, the high-level waste;

- Develop containers suitable for permanent disposal of the solidified high-level waste;

- Transport, in accordance with applicable law, the solidified waste to an appropriate federal repository for permanent disposal;

- Dispose low-level waste and transuranic waste produced by high-level waste solidification activities;

- Decontaminate and decommission the tanks and facilities used for solidification of high-level waste, as well as any material and hardware used in connection with the Project, in accordance with such requirements as the Nuclear Regulatory Commission may prescribe.

Cooperative Agreement between DOE and New York State Energy Research and Development Authority: Signed in October 1980 with the New York State Energy Research and Development Authority and amended in September 1981, this agreement was entered into for implementation of the West Valley Demonstration Project Act of 1980. It allows DOE use and control of the 165-acre West Valley Demonstration Project premises and facilities thereon for the purposes and duration of the Project. In addition, this agreement sets forth specific definitions, roles and responsibilities applicable to the Project, use of facilities and Project completion.

Memorandum of Understanding between DOE and Nuclear Regulatory Commission: Published in the Federal Register in September 1981, this memorandum identifies roles, responsibilities, terms and conditions agreed to by the DOE and Nuclear Regulatory Commission regarding Nuclear Regulatory Commission review and consultation during the course of the Project.

Agreement between New York State Energy Research and Development Authority and DOE on U.S. DOE Spent Nuclear Fuel located at the Western New York Nuclear Service Center: Signed in July 1986, this agreement relates to shipment of spent nuclear fuel from the Project site to Idaho.

Stipulation of Compromise Settlement: Reached in May 1987, this settlement represents the legal compromise reached between the Coalition on West Valley Nuclear Waste and Radioactive Waste Campaign and the DOE regarding development of a comprehensive Environmental Impact Statement for the Project and for on- and off-site disposal of low-level waste.

Supplemental Agreement to the Cooperative Agreement: Signed in February 1991, this supplemental agreement sets forth special provisions for the preparation of a joint Environmental Impact Statement between the DOE and New York State for facility decommissioning.

Resource Conservation and Recovery Act 3008(h) Administrative Order on Consent: Expanded and signed in March 1992, this four-party agreement is between the United States Environmental Protection Agency, the New York State Department of Environmental Conservation, DOE and New York State Energy Research and Development Authority. Among the requirements of this agreement, DOE is to complete Resource Conservation and Recovery Act facility investigations and perform corrective measures for Resource Conservation and Recovery Act-regulated solid waste management units on the Project premises.

Federal and State Facility Compliance Agreement and Addendum: Completed in 1993, this agreement defines requirements for preparing and submitting a site treatment plan for mixed low-level waste (radioactive waste mixed with hazardous chemicals) to the New York State Department of Environmental Conservation, including options and schedules for treatment of identified waste.

Cooperative Agreement between the Seneca Nation of Indians and Ohio/West Valley Demonstration Project: Signed in June 1996, this agreement establishes a framework for inter-governmental relationships between the Seneca Nation of Indians and the DOE with respect to Project activities.

Critical Site Uncertainties and Assumptions

The following assumptions support the planning basis for achieving Interim End State completion in FY 2011:

- The Project will be able to disposition higher activity (Class B and C) low-level waste off-site, without obstruction, consistent with the Project's 2005 Waste Management Record of Decision.

- Supplemental analyses and amendments to the Record of Decision, as necessary, will allow for off-site disposition of other Project waste (e.g., transuranic waste).

- A disposition pathway for the Project's transuranic waste will be determined by the end of FY 2008, and Project transuranic disposition will be integrated onto the complex wide shipping schedule to support off-site disposition beginning in FY 2009.

- New York State Energy Research and Development Authority will continue as a joint lead agency in the Environmental Impact Statement process.

The critical path to achieving Interim End State completion at the West Valley Demonstration Project is continued decontamination operations in the former spent nuclear fuel reprocessing facility and final off-site disposal of the resulting waste.
Implementation of closure for the tank farm and other facilities under DOE's responsibility will become critical path following publication of the Decommissioning Environmental Impact Statement Record of Decision in order to achieve EM completion. Efforts will include final site survey and possible transfer to another organization for oversight and maintenance for long-term surveillance and monitoring with the exception of process building oversight and maintenance, high-level waste canister transport, and final decommissioning of the process building consistent with the Decommissioning Environmental Impact Statement Record of Decision after the high-level waste canisters have been shipped off-site. Completion of West Valley Demonstration Project Act mandates will be satisfied once West Valley Demonstration Project facilities can be returned to the state of New York.

Interdependencies

Completing the West Valley Demonstration Project Act requires off-site disposal of low-level waste, mixed low-level waste, transuranic waste, and high-level waste. Thus, the project is dependent on other sites for these disposal services. In addition, the State holds title to the high-level waste per the Act, and therefore is responsible for payment of the repository disposal fee.

Contract Synopsis

The current prime contract at the West Valley Demonstration Project that was to expire in December 2006 was extended for six months. The acquisition process to competitively award a new contract for completion of the Interim End State at West Valley Demonstration Project is ongoing to support contract transition in the 2007 timeframe.

Cleanup Benefits

Work planned for performance through FY 2007 includes significant progress toward off-site shipment of legacy low-level waste and initiating disposition of the West Valley Demonstration Project transuranic waste. Additionally, the former spent nuclear fuel reprocessing facility will be in the process of being decontaminated, reducing overall risks.

West Valley Demonstration Project plans to achieve Interim End State completion in FY 2011. At that point, all of the work that can be accomplished with current regulatory authority will have been completed including off-site disposition of low-level waste and transuranic waste, decontamination and demolishment of facilities and infrastructure no longer needed to support safe site operations, and decontamination of the former spent nuclear fuel reprocessing facility. The site will be ready for

implementation of the Decommissioning Environmental Impact Statement Record of Decision planned for issuance in 2008, which will include final decommissioning for the high-level waste tanks. The high-level waste canisters will be safely stored on-site awaiting disposition to a federal repository.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Non-Defense Environmental Cleanup			
West Valley Demonstration Project			
OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley	19,305	19,500	12,938
OH-WV-0040 / Nuclear Facility D&D-West Valley	57,024	53,900	41,457
Subtotal, West Valley Demonstration Project	76,329	73,400	54,395
Total, West Valley Demonstration Project	76,329	73,400	54,395

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
West Valley Demonstration Project					
Geographic Sites Eliminated (number of sites)	0	0	0	1	0%
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	1,176	0%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	16,594	19,954	23,121	23,121	100%

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley (life-cycle estimate $226,461K)	**19,305**	**19,500**	**12,938**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

The solid waste stabilization and disposition project at the West Valley Demonstration Project involves the waste management activities required, in accordance with the West Valley Demonstration Project Act of 1980, to disposition the low-level and transuranic waste produced as a result of high level waste solidification activities. When this EM project is completed, all demonstration project-generated, low-level

(dollars in thousands)

FY 2006	FY 2007	FY 2008

waste and transuranic wastes will have been shipped off-site for disposal, reducing worker and environmental risk at the site. In order to prepare for waste disposition efforts associated with transuranic and other high activity waste, a Remote-Handled Waste Facility has been constructed which provides the capability to safely characterize, size reduce, package and prepare high activity and transuranic waste for off-site shipment and disposal.

As of September 30, 2006, more than 22,400m^3 of legacy and remediation low-level waste has been shipped off-site for disposal. Remote-Handled Waste Facility processing operations have been initiated for high activity and transuranic waste in preparation for off-site shipment and disposal.

OECM has not yet performed an external independent review. A review is scheduled for FY 2007 after the award of the new Interim End State Contract.

In FY 2008, the following activities are planned:

- Continued processing and disposal of waste generated from the decontamination of the Main Plant Process Building.

- Continued processing of high activity low-level waste and transuranic waste through the Remote-Handled Waste Facility. These are critical path activities to the completion of Interim End State. At the completion of the West Valley Demonstration Project Interim End State, the Main Plant Process Building will be decontaminated and prepared for final decommissioning (PBS OH-WV-0040).

- Some waste generated from the decontamination of the Main Plant Process Building may require additional processing through the Remote-Handled Waste Facility. Other waste will be disposed as it is generated.

- Continued processing and disposal of waste generated from the decontamination and demolition of up to forty-two ancillary facility at the West Valley Demonstration Project (PBS OH-WV-0040) as part of the West Valley Demonstration Project Interim End State. Initiate the disposition of contact-handled transuranic waste in order to achieve the Interim End State for the West Valley Demonstration Project.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Transuranic Waste shipped for disposal (Cubic meters)	0	0	0	1,176	0%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	16,594	19,954	23,121	23,121	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed off-site disposition of legacy Class A low-level waste with a pathway for disposal. (FY 2006)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Continue off-site disposition of low-level and transuranic waste. (September 2007)
- Initiate off-site disposition of legacy remote-handled transuranic waste. (June 2008)

OH-WV-0040 / Nuclear Facility D&D-West Valley (life-cycle estimate $594,205K)	**57,024**	**53,900**	**41,457**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

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 during conduct of the high-level waste solidification efforts. Decommissioning criteria for the West Valley Demonstration Project was established by the Nuclear Regulatory Commission in 2002. An Environmental Impact Statement to support a Record of Decision for Decommissioning and/or Long-Term Stewardship of the West Valley site is currently under joint development by both DOE and New York State (the West Valley site owner). Decontamination and decommissioning will be performed consistent with the Nuclear Regulatory Commission criteria and Record of Decision to most effectively reduce worker, public, and environmental risk at the West Valley Demonstration Project. To support 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 requirements.

The high-level waste canisters produced as a result of solidifying liquid high-level waste are stored in a cell in the former spent fuel reprocessing facility. Once decontamination and decommissioning is completed to the extent possible, they will remain safely configured in their current storage location until they can be transported to a federal repository for disposal. Once the canisters are dispositioned, any final decommissioning of West Valley Demonstration Project facilities will be performed and the site returned to the State of New York.

As of September 2006, decontamination operations in the Head-End Cells (General Purpose and Process Mechanical Cells) and Extraction Cell #2 were completed. Dismantlement and decontamination of the vitrification facility in-cell area has also been completed. Further decontamination work in the original reprocessing facility continued in FY 2006, and will continue through FY 2007. In October 2006, the Project initiated removal of facilities no longer required at the site. Eleven facilities were removed between October 1 and December 31, 2006. Work continues toward development of the Decommissioning and/or Long Term Stewardship Environmental Impact Statement, as well as the Decommissioning Plan for Nuclear Regulatory Commission consistent with DOE's preferred alternative for decommissioning of Project facilities.

OECM has not yet performed an external independent review. This review is scheduled for FY 2007 after the award of a new Interim End State cleanup contract.

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- Continue progress toward the West Valley Demonstration Project Interim End State by decontamination and removal of excess components from the Main Process Plant Building (the former Spent Nuclear Reprocessing Facility) and preparing the Main Plant Process Building for final decommissioning. The only systems remaining are those required to support the storage of high-level waste canisters in the Main Plant Process Building until the high-level waste canisters can be removed for shipment to a federal repository.

- As part of the West Valley Demonstration Project Interim End State scope, decontamination and demolishing ancillary facilities (up to 42 nuclear and non-nuclear facilities) not required to support the storage of high-level waste canisters and not required to support the implementation of and Environmental Impact Statement Record of Decision will be continued.

- Preparation of the Environmental Impact Statement for the Decommission and/or Long Term Stewardship of the West Valley Demonstration Project is scheduled to be completed. This Environmental Impact Statement will be used to support the final disposition of the high-level waste tanks, the Main Plant Process Building, the two disposal areas, the groundwater plume, the Vitrification Facility, the Remote-Handled Waste Facility and other ancillary facilities.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Completed removal of trailers and ancillary facilities on south end of project premises. (FY 2006) • Initiated dispositioning of former spent nuclear fuel processing facility. (FY 2006) • Continued dismantlement/removal of facilities and structures no longer necessary to support safe site operations. (FY 2006) • Continue dismantlement/removal of facilities and structures no longer necessary to support safe site operations. (September 2007) • Complete preparation of the environmental impact statement for decommission and long-term stewardship. (September 2008)					

Total, West Valley Demonstration Project	**76,329**	**73,400**	**54,395**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Non-Defense Environmental Cleanup	
West Valley Demonstration Project	
OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley	
▪ The decrease in funding is due to the reduction of Low Level Waste shipments from the Drum Cell.	-6,562
OH-WV-0040 / Nuclear Facility D&D-West Valley	
▪ The decrease in funding is due to completion of the Environmental Impact Statement for Long Term Stewardship in FY 2008 and completion of the demolition of the 01/14 Building and other related facilities in FY 2007.	-12,443
Total, West Valley Demonstration Project	**-19,005**

All Other Sites

Funding by Site and Location

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
All Other Sites			
Argonne National Laboratory	10,382	10,726	2,437
Brookhaven National Laboratory	33,985	28,272	23,699
California Site Support	99	160	160
Energy Technology Engineering Center	8,910	16,000	13,000
Inhalation Toxicology Laboratory	302	2,931	427
Lawrence Berkeley National Laboratory	3,861	0	0
Moab	27,726	22,865	23,952
Stanford Linear Accelerator Center	3,465	5,720	5,900
Total, All Other Sites	88,730	86,674	69,575

The Environmental Management program is responsible for cleanup, closure, and post-closure environmental activities at a number of geographic sites across the nation. Most of the sites described in this section of the budget are aligned organizationally to other Department of Energy programs, particularly the Office of Science, and may have continuing missions after EM completes the cleanup. Some sites, however, belong to EM and are in the final stages of cleanup and closure, or have actually transitioned to post-closure. The sites included in this section of the budget are Argonne National Laboratory, Brookhaven National Laboratory, Energy Technology Engineering Center, Inhalation Toxicology Laboratory, Lawrence Berkeley National Laboratory, Moab, and Stanford Linear Accelerator Center. Below is an overview of the geographic sites that are included in this section of the budget.

Argonne National Laboratory

Site Overview

Argonne National Laboratory is a DOE Office of Science research and development laboratory with a broad program of research in the basic energy and related sciences (such as physical, chemical, material, computer, biomedical and environmental sciences) including operation of several large scientific user facilities. The Laboratory is located about 27 miles southwest of downtown Chicago.

Contamination of soil and groundwater occurred as a result of accidental spills, past materials management practices, and former waste disposal practices. Contaminants of concern for soil and groundwater include volatile organic compounds, semi-volatile organic compounds, metals, polychlorinated biphenyl compounds, and a variety of radioisotopes. A number of buildings and research reactors were contaminated with low levels of radioactive materials as a result of normal past operations. Resource Conservation and Recovery Act Corrective Actions were completed in September 2003 with minor ongoing long-term stewardship activities. Eleven (11) of thirteen (13) nuclear cleanups

are complete, the twelfth is substantially complete at the end of FY 2006, and the final nuclear facility decontamination and decommissioning started planning in FY 2006.

Site Description

The Argonne National Laboratory cleanup involves two key areas: (1) Long Term Stewardship for Soil and Water Remediation (PBS CH-ANLE-0030); and (2) Nuclear Facility decontamination and decommissioning (PBS CH-ANLE-0040). Residual contamination, post cleanup, still remains at several areas of the Argonne National Laboratory site, which requires continued monitoring and/or remediation system operation. Decontamination and decommissioning will be completed at the Zero Power 6 reactor in FY 2007 and continue at Building 301.

The Illinois Environmental Protection Agency has formally issued all "No Further Actions" as appropriate and has signed the Land Use Control Memorandum of Agreement; 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. Transfer of monitoring and surveillance responsibilities to the Office of Science is planned to occur when all EM work at the site is completed at the end of FY 2009.

Site Cleanup Strategy/Scope of Cleanup

Corrective actions to address contaminated soils and groundwater were conducted under the site Resource Conservation and Recovery Act permit. All corrective actions were completed at the end of FY 2003, with the exception of such ongoing activities as operation and maintenance of groundwater pumping systems; routine environmental monitoring; and periodic inspection of engineered barriers. Focus of site cleanup is now on completing the remaining decontamination and decommissioning projects. At the end of FY 2006, eleven nuclear facilities were decontaminated and decommissioned, another is essentially complete, and one facility remains for completion.

Site Completion (End State)

EM site cleanup work will be complete in FY 2009, along with required regulatory actions. One facility awaits decontamination and demolition, Building 301 Hot Cells. There are also approximately 150 drums of legacy remote-handled transuranic wastes to be disposed at the Waste Isolation Pilot Plant, in Carlsbad, New Mexico, prior to geographic site completion of the Argonne National Laboratory site. The End State includes decontamination (as necessary) and demolition of Building 301. The land occupied by Building 301 will be available for unrestricted research and development reuse. Zero Power Reactor 6, which is being cleaned up for beneficial reuse, is scheduled to be complete in FY 2007 but is substantially complete at the end of FY 2006. Building 301 decontamination and demolition is planned to be complete in FY 2009.

Regulatory Framework

Corrective actions to address contaminated soils and groundwater were conducted under the Argonne site Resource Conservation and Recovery Act permit with the Illinois Environmental Protection Agency.

Critical Site Uncertainties and Assumptions

Achieving site completion by FY 2009 includes shipment for disposal of remote-handled transuranic waste by that time, which appears to be feasible. A previous critical project uncertainty had to do with the volume and disposal location of certain wastes anticipated to come from the Building 301 project. The DOE Argonne Site Office worked with stakeholders to assess the feasibility of implementing DOE's exemption policy for disposing some project wastes to a local landfill, including preparation of a quantitative risk and cost study to support future decision making. The risk and cost study showed no unacceptable risks, but also did not show appreciable cost savings. The DOE Site Office and Argonne National Laboratory have decided upon an alternate technical approach to the Building 301 project that will involve less upfront decontamination and quicker building demolition.

Interdependencies

Argonne Site Office and Argonne National Laboratory expect to work with various State of Illinois agencies such as Illinois Environmental Protection Agency, Illinois Emergency Management Agency, and the State Historic Preservation agency to execute the remaining EM scope. In addition, Department of Housing and Urban Development determinations are sometimes required when buildings are to be demolished. Wastes are typically disposed to local landfills or to Energy Solutions (formerly known as Envirocare) or the Nevada Test Site for radioactive wastes. Most shipments are economical via truck. Final disposal of the remote-handled transuranic waste will require that the Waste Isolation Pilot Plant facility be open to accept remote-handled transuranic waste, and will require that the shipping corridor remain available from Argonne National Laboratory to the Waste Isolation Pilot Plant. In order to execute remote-handled transuranic waste shipments, coordination with various State agencies will be required. Currently, Argonne National Laboratory and EM have funded a project to dispose 100 of the estimated 150 drums of the remote-handled transuranic waste, to the Waste Isolation Pilot Plant, which is expected to begin receiving such waste in FY 2007. Removal of the remaining approximately 50 drums of legacy remote-handled transuranic waste needs to be completed to support overall EM site completion at Argonne National Laboratory by the close of FY 2009. The site will recommend a characterization strategy to EM in mid 2007 to accomplish the removal of the remaining drums and meet the closure date.

Contract Synopsis

The current major contract in place to support the balance of the EM mission at Argonne National Laboratory is the Management and Operating contract for Argonne National Laboratory, previously held by the University of Chicago. Activity was underway in FY 2006 to compete the contract, which expired September 30, 2006. The new performance-based management contract was awarded July 31, 2006 to a new entity, UChicago Argonne LLC, and transition was completed by October 1, 2006. The Argonne Site Office also uses specialty contractors to support aspects of EM work such as the existing contracts for National Environmental Policy Act scope and for Independent Verification scope. It is possible that Argonne National Laboratory or the DOE Argonne Site Office will make use of one or more of the existing Indefinite Delivery/Indefinite Quantity contracts managed by the DOE EM Consolidated Business Center.

Cleanup Benefits

The last two EM scope projects will reduce risk, cut surveillance and maintenance costs, and return valuable space to Argonne National Laboratory for research and development purposes.

Brookhaven National Laboratory

Site Overview

The Brookhaven National Laboratory is a U.S. Department of Energy (DOE) owned multi-disciplinary scientific research center located in the center of Suffolk County on Long Island, about 60 miles east of New York City. The Atomic Energy Commission established Brookhaven National Laboratory on the site of the U.S. Army's former Camp Upton in 1947. The Atomic Energy Commission's objective was to build a regional laboratory that could provide researchers with powerful tools too costly for their home institutions to build and maintain.

The Brookhaven Environmental Management Completion Project addresses the cleanup of the Brookhaven National Laboratory Superfund site as well as the decontamination and decommissioning of two former research reactors: the High Flux Beam Reactor and Brookhaven Graphite Research Reactor. Cleanup is required by a 1992 Interagency Agreement among DOE, the U.S. Environmental Protection Agency and the New York State Department of Environmental Conservation. The Brookhaven Environmental Management Completion Project is considered complete when all required groundwater treatment plants are built and operating; cleanup of soil and the Peconic River are complete; decontamination and decommissioning of the Brookhaven Graphite Research Reactor and High Flux Beam Reactor is complete; all cleanup, decontamination and decommissioning and legacy wastes are disposed of off-site; and an effective Long Term Environmental Operations, Safety and Security program is underway.

Brookhaven Science Associates has operated Brookhaven National Laboratory for DOE since 1997 and also performs the cleanup work for the DOE Office of Environmental Management (EM).

Site Description

Groundwater cleanup is Brookhaven National Laboratory's highest priority because Long Island's Sole Source aquifer provides the only source of drinking water for local residents. Off-site groundwater is contaminated with volatile organic compounds above State standards and onsite groundwater is contaminated with volatile organic compounds and the radionuclides tritium and strontium-90 above the drinking water standard. 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. Three landfills have been capped and 55 waste disposal pits have been excavated and disposed of off-site. 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 just off-site. Cleanup requirements are outlined in Records of Decision for the various areas.

Brookhaven Graphite Research Reactor: The Brookhaven Graphite Research Reactor was the first reactor built solely to provide neutrons for research and was operated from August 1950 to June 1968. This reactor is of concern because releases to the environment have occurred and have caused soil and groundwater contamination with cesium-137 and strontium-90 and it is listed as an Area of Concern in the Interagency Agreement. Numerous interim actions have been performed to address high priority environmental releases. A Record of Decision was signed by the United States Environmental Protection Agency in March 2005 that adopts the interim actions as final and requires removal and off-site disposal of the pile and bioshield.

High Flux Beam Reactor: The High Flux Beam Reactor, constructed for basic experimental research in physics, chemistry and biology, was permanently shut down in 1999. Extensive stabilization activities were conducted during FY 2000 – FY 2001 including the removal of experimental equipment, installation of a stainless steel liner for the spent fuel pool and the installation of leak prevention alarms and double-walled piping to mitigate potential releases to the environment. All systems have been drained and the reactor vessel and primary and secondary cooling systems are in dry lay-up. The reactor fuel was sent to the DOE Savannah River Site in 1996-97. Decision making with the regulatory agencies and the community is currently underway for the High Flux Beam Reactor.

Site Cleanup Strategy/Scope of Cleanup

In summary, Brookhaven National Laboratory's highest cleanup priorities involve the cleanup of environmental releases to groundwater, soils and the Peconic River. These activities make up the CH BRNL-0030/Soil and Water Remediation and were completed in FY 2005. The budget for FY 2006 and beyond is for Long Term Environmental Operations, Safety and Security activities.
High priority activities at the Brookhaven Graphite Research Reactor (CH-BRNL-0040 Nuclear Facility decontamination and decommissioning – Brookhaven Graphite Research Reactor) related to addressing environmental releases were also completed in FY 2005. Removal of the reactor internals, graphite moderator (pile), and radiation biological shield (bioshield) are planned for completion in FY 2008. These high priority activities include the removal and off-site disposal of contaminated soil and materials (e.g., concrete) associated with the Pile Fan Sump, Fan House, the Above Grade Ducts, Coolers and Filters, the Canal and Water Treatment House, and portions of the Below Ground Ducts. Decontamination and decommissioning of the High Flux Beam Reactor is considered the lowest risk and is scheduled for completion last.

Site Completion (End State)

Completion of the Brookhaven National Laboratory Soil and Water activities in FY 2005 is followed by continuing Long Term Environmental Operations, Safety and Security. These activities will continue while the Brookhaven Graphite Research Reactor and High Flux Beam Reactor decontamination and decommissioning is completed. Site completion has slipped from 2008 to 2010 because DOE has discovered several issues with the existing Feasibility Study, including the early removal of the control rod blades from the reactor and resolving the differences in the contractor's radioactive inventory at the facility. As a result, the Feasibility Study is being revised. Upon completion, the Long-Term Environmental Operations, Safety and Security program will be transferred to the DOE Office of Science, which is the Brookhaven National Laboratory site landlord.

Regulatory Framework

Brookhaven National Laboratory was added to New York State's list of Inactive Hazardous Waste sites in 1980 and to the federal National Priorities List in 1989. A tri-party Federal Facilities Compliance Agreement, also known as the Interagency Agreement, was subsequently negotiated between the DOE, the U. S. Environmental Protection Agency Region II, and the New York State Department of Environmental Conservation. The Interagency Agreement integrates the requirements of Comprehensive Environmental Response, Compensation, and Liability Act, the corrective action requirements of the Resource Conservation and Recovery Act, DOE cleanup authorities under the Atomic Energy Act, and any corresponding New York State regulations.

The Interagency Agreement became effective in 1992 and provides the overall framework for conducting the Brookhaven environmental restoration program, using Comprehensive Environmental Response, Compensation, and Liability Act processes. Furthermore, the Interagency Agreement defines authorities between the three parties, and includes procedures for resolving disputes, assessing stipulated penalties by Environmental Protection Agency, reviewing documents, reporting and notifications, extending schedules, complying with State and Federal regulations and requirements, and reimbursing the costs of oversight performed by the New York State Department of Environmental Conservation. While not a formal Interagency Agreement partner, the Suffolk County Department of Health Services is also actively involved with the Brookhaven National Laboratory cleanup. Examples of Suffolk County Department of Health Services activities include reviewing proposed work plans, overseeing field work to ensure that it is performed properly and splitting Brookhaven National Laboratory samples for analysis.

Critical Site Uncertainties and Assumptions

The most significant project uncertainty for the High Flux Beam Reactor involves the resolution of the end state with the regulatory agencies and the public. The current assumption involves removing accessible source terms and shrinking the footprint of the facility to reduce long-term surveillance, maintenance and security requirements and to defer removal of the reactor vessel for 40 to 75 years which will allow the high source terms to radiological decay thus reducing radiation exposures to workers during removal and packaging. Deferral of the vessel removal will also greatly simplify the dismantlement, segmentation and packaging of the vessel and will reduce the need for specialized shipping casks and containers to transport the highly radioactive components; reducing the generation of secondary waste streams. DOE is using the Core Team process with the regulatory agencies to facilitate this decision.

The most significant project uncertainty for the Brookhaven Graphite Research Reactor involves hazard categorization of the facilities during the decommissioning. If the facility becomes a hazard category 3 nuclear facility during decommissioning, the additional reviews (e.g., operational readiness review) and approvals required may extend the completion of this project by two years. The current schedule assumes that the facility designation of a (less than category 3) radiological facility remains during decommissioning.

Interdependencies

The most significant dependency with other external agencies involves the resolution of the High Flux Beam Reactor end-state with the U. S. Environmental Protection Agency and New York State Department of Environmental Conservation, as well as the public. Waste transportation and disposal constitute the most significant inter-site dependencies. Radioactive waste from decontamination and decommissioning will be disposed at Nevada Test Site and Energy Solutions in Clive, Utah, (formerly Envirocare of Utah). Brookhaven Science Associates has applied value engineering to radioactive waste management on this project and is planning to use both Federal and commercial disposal facilities to provide the most efficient, cost effective disposal. For example, Brookhaven Science Associates has received certification to dispose of the graphite blocks at the Nevada Test Site, while radioactive debris from the bioshield will be disposed at Energy Solutions.

Contract Synopsis

DOE's cost-plus performance fee contract with Brookhaven Science Associates, as the managing and operating contractor, to perform the DOE science mission at Brookhaven National Laboratory extends through January 4, 2008. EM funded cleanup activities involving the completion of the Brookhaven National Laboratory Soil and Water activities, high priority removals at the Brookhaven Graphite Research Reactor, and surveillance and maintenance activities at the High Flux Beam Reactor are included in this contract. Current plans for work in FY 2006 and beyond involve extending Brookhaven Science Associate's contract to perform the Brookhaven Graphite Research Reactor and High Flux Beam Reactor decontamination and decommissioning as an integrating contractor. The current plan is for this contract to be competed during FY 2008.

Cleanup Benefits

Environmental restoration and nuclear facility decommissioning at Brookhaven National Laboratory addresses historical releases by mitigating their added risks to human health and the environment. Radiological and chemical contamination has been removed, reduced or placed under an active remediation system that is designed to isolate and remediate the contamination. The overall benefit is a workplace and environment whose immediate threats of exposure to contamination have been mitigated.

Under BRNL-0030, soil contamination has been either removed or placed in a safe and stable condition. Groundwater contamination is being addressed by a suite of remediation technologies designed to isolate and remediate the contamination and reduce overall risks. Peconic River sediment has been remediated. All soil, groundwater and Peconic River response actions are constructed and in various phases of operation and monitoring. This post-construction phase (Long-Term Environmental Operations, Safety and Security) will continue until such time when cleanup goals as specified in the Records of Decisions are achieved.

Sources of releases and contamination from the inactive nuclear facilities have been addressed in a variety of facility stabilization, decontamination and decommissioning activities have been removed. Final decommissioning is underway.

At the Brookhaven Graphite Research Reactor, removal of the reactor, which includes the reactor internals, the graphite moderator (pile), and the radiation biological shield (bioshield), is the high priority activity under BRNL-0040 that will ultimately remove over 99 percent of the total radiological inventory. This is a significant reduction in source term and overall risk at Brookhaven Graphite Research Reactor. Historical releases to the environment have already been addressed and the facility is in a phase of post-construction groundwater monitoring.

The High Flux Beam Reactor is in a safe and stable condition. Environmental releases have been addressed and the facility has under gone extensive stabilization and decontamination. The remaining work is designed to further reduce the radiological inventory. However, because of the high radiation levels associated with final decommissioning, consideration of radioactive decay to safer levels is being evaluated as part of the Comprehensive Environmental Response, Compensation, and Liability Act response action selection process. The overall benefit is similar to Brookhaven Graphite Research Reactor in that the remaining radiological inventory will be addressed.

Overall, cleanup at Brookhaven National Laboratory, as executed under Comprehensive Environmental Response, Compensation, and Liability Act and the Brookhaven interagency agreement, is designed to take near-term action to reduce the immediate threats to human health and the environment from historical releases of contamination. Long-term actions are a key part of the cleanup strategy with the overall goal of delisting from the National Priorities List.

Energy Technology Engineering Center

Site Overview

The Santa Susana Field Laboratory, owned by the Boeing Company and NASA, is located atop a range of hills between the populous Simi and San Fernando Valleys, north of Los Angeles. The Energy Technology Engineering Center, which was DOE's laboratory at the Santa Susana Field Laboratory (2,850 acres), is a collection of facilities within Area IV.

When opened in the late 1950s, the site was ideally remote from population centers to enable development of security sensitive projects. These projects supported nuclear research and energy development for DOE and its predecessor agencies. The site includes buildings that housed test apparatus for large-scale heat transfer and fluid mechanics experiments, mechanical and chemical test facilities, office buildings, and auxiliary support facilities.

Site Description

The Energy Technology Engineering Center is surplus to DOE's current mission and is operated by EM solely to complete site cleanup and closure. As such, the current use of the site involves diminishing use of facilities through deactivation, decommissioning, and dismantlement. As a result of past operations, radioactive and chemical contamination exists in several structures (including the Radioactive Materials Handling Facility) and soil, surface and groundwater.

DOE is the regulator for radiological contamination under the Atomic Energy Act. The site is not a Comprehensive Environmental Response, Compensation, and Liability Act of 1980 site nor is it on the National Priorities List. Chemical contamination is being handled under the Resource Conservation and Recovery Act.

Historically, the site had 27 radiological facilities, although only two now remain. At one time there were seven non-radioactive sodium facilities (used to test reactor components because sodium is an efficient medium for heat transfer).

Site Cleanup Strategy/Scope of Cleanup

Two radiological facilities (comprising a total of 11 buildings) and two sodium facilities remain. The two radiological facilities remaining at Energy Technology Engineering Center are the Radioactive Materials Handling Facility complex (which has a Resource Conservation and Recovery Act permit) and Building 4024 (part of the space nuclear program). There are two sodium facilities: 1) Sodium Pump Test Facility; and 2) the Hazardous Waste Management Facility. The Sodium Pump Test Facility are those installations where research and development related to sodium cooled reactors were performed. The sodium has been removed from the facility and is not radiologically contaminated. The Hazardous Waste Management Facility is a Resource Conservation and Recovery Act permitted facility. It is awaiting regulatory authorization to proceed with demolition. In addition, there is an ongoing Resource Conservation and Recovery Act Corrective Action for chemical contamination in soil and groundwater

DOE is responsible for ten areas of soil contamination that require investigation and potential remediation at Energy Technology Engineering Center. Corrective actions are based on a residential land-use assumption. The land use assumption is for analysis only. It is anticipated that three to six of the ten units will be excavated to meet projected media cleanup standards.

Three small plumes are contaminated primarily with low levels of trichloroethylene and are included in the site wide Resource Conservation and Recovery Act Corrective Action Program. The Corrective Action program for DOE activities is a small part of the activity for the entire Santa Susana Field Laboratory. The state, which is the regulatory authority, will not allow DOE to proceed independently from the rest of the site. The long-term response actions for the DOE groundwater contamination was transferred to Boeing as part of the 1998 Closure Contract.

Site Completion (End State)

Due to significant remaining work scope, it is possible that the current completion date of 2009 may be delayed. A new acquisition strategy is being worked on, as well as a CD-2/3 package to outline EM strategy for completion of the scope.

Following is a list of remaining activities that are needed to achieve EM completion:

- Decontamination and demolition of two remaining radiologically contaminated facilities. One of the facilities also has a Resource Conservation and Recovery Act Part A permit. Radiological cleanup standard is 15 millirem/year under the assumed residential land use scenario.

- Resource Conservation and Recovery Act Corrective Action. Currently, the site is in the investigation phase, which leaves the Corrective Measures Study phase and the Corrective Measures Implementation phase still to go. Additionally, the state will conduct an environmental review for all of the Santa Susana Field Laboratory after the Corrective Measures Study has been completed. Cleanup level is within the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 risk range.

- Demolition of two sodium facilities (not radiologically contaminated)

- Disposition offsite of all radioactive waste and decommissioned waste.

Regulatory Framework

Regulation of the Energy Technology Engineering Center Closure project is segmented into different regulatory authorities. The decontamination and demolition of the radiologically contaminated facilities at the Energy Technology Engineering Center site is being conducted under Atomic Energy Act authority. A comprehensive Environmental Assessment was released in March 2003 for the final decommissioning activities and release of the site. The California Department of Health Services does not have regulatory authority over DOE for radiological contamination. However, if it was determined that the site had not been adequately cleaned up to State standards, they would license the site and require additional survey and remediation before it could be released. Therefore, as a risk mitigation measure, DOE obtains the Department of Health Services concurrence before former radioactively contaminated facilities are released. The Energy Technology Engineering Center site is not on the National Priority List and therefore the Environmental Protection Agency has no regulatory authority.

The Resource Conservation and Recovery Act chemical cleanup is regulated by the California Department of Toxics Substance Control. Once the closure plan for the Radioactive Materials Handling Facility has been approved in FY 2007, DOE will face fines and penalties if the closure schedule is not maintained. This is because the closure plan includes regulatory milestones. Failure to maintain progress towards completion in the Resource Conservation and Recovery Act Corrective Action will result in receipt of a stipulated enforcement order from the state.

Critical Site Uncertainties and Assumptions

Risks to EM completion at Energy Technology Engineering Center include potential delays in State environmental reviews and final acceptance by the regulators of DOE's approach to groundwater characterization and containment. All of the Santa Susana Field Laboratory is undergoing the Resource Conservation and Recovery Act Corrective Action. The state has mandated that the entire site be done as one project for the corrective action. Consequently, the DOE portion is connected inextricably to the progress of the balance of the site (all 2,850 acres). This is especially important for resolution of groundwater contamination. Characterization will not be completed for three years so there is a possibility that some issues with respect to the corrective action for the rest of the site could surface still.

The Radioactive Materials Handling Facility has a Resource Conservation and Recovery Act Part A permit. The facility has both radioactive and chemical contamination. In addition a portion of the

facility is involved with the Resource Conservation and Recovery Act corrective action. The combination of the different programs raises uncertainty regarding the completion schedule.

The Natural Resources Defense Council, the City of Los Angeles and the Committee to Bridge the Gap have sued the Department regarding its adherence to Comprehensive Environmental Response, Compensation, and Liability Act of 1980, National Environmental Policy Act, and the Endangered Species Act. Until the lawsuit is settled there is uncertainty regarding cost and schedule.

Interdependencies

There are no significant dependencies with other DOE sites.

Contract Synopsis

The current cleanup contract (through September 30, 2008) is held by Boeing. It is a cost plus incentive fee contract. The scope is comprehensive in that it includes all of the radioactive contamination (remediated under DOE's Atomic Energy Act authority) and chemical contamination, conducted under the state of California's Resource Conservation and Recovery Act authority. Under the terms of the contract, the site owner will assume responsibility for long-term groundwater surveillance and maintenance after the corrective action has been completed. In addition, the site owner agreed to take ownership of three uncontaminated buildings.

Cleanup Benefits

The cleanup is protective of human health and the environment using a residential land use scenario. Activities in FY 2008 will reduce nearly all of the remaining radiological contamination to acceptable risk levels. The ongoing Resource Conservation and Recovery Act investigation activities in FY 2008 are necessary to identify and define risks to enable their reduction through appropriate remediation technologies in the outyears.

Inhalation Toxicology Laboratory

Site Overview

The Inhalation Toxicology Laboratory is a research facility operated by the non-profit Lovelace Biomedical and Environmental Research Institute. It is located in Albuquerque, New Mexico on Kirtland Air Force Base. It was built by the Atomic Energy Commission in 1960 to conduct research on the health effects of inhaling radioactive and other energy related pollutants. From 1960 to 1996 Inhalation Toxicology Laboratory was operated under a traditional Management and Operating contract. In 1996 the facility was privatized and continues to operate as a private facility, which conducts research for DOE and other entities on a reimbursable basis.

As a result of operations conducted for DOE, groundwater and soil areas were contaminated, laboratories and buildings were contaminated and legacy waste has accumulated.

Site Description

Inhalation Toxicology Laboratory is located in Albuquerque, New Mexico on Kirtland Air Force Base. It has approximately 240,000 square feet of building space on 144 acres of land, which has been withdrawn from the Bureau of Land Management by the Air Force and permitted to DOE.

Site Cleanup Strategy/Scope of Cleanup

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) waste collection and disposal of surface decontamination.

Site Completion (End State)

Groundwater monitoring and reporting is ongoing and will continue until state regulatory standards are met or an alternative abatement standard is granted by the state. Legacy waste from about 30 laboratories and other contaminated areas is being collected and disposed of. Once the legacy waste is collected and disposed and the laboratories and other contaminated areas decontaminated, the EM mission at Inhalation Toxicology Laboratory will be complete. EM completion is scheduled for 2008. Remaining projects for FY 2006-FY 2008 include the Radioactive Source Collection and Disposal, and cleanup of the Beta Gamma Wing, Castle Area and Miscellaneous Laboratory Areas.

Long-term stewardship objectives include continued groundwater monitoring and reporting under Monitored Natural Attenuation until either state standards are met or alternative abatement standards are granted by the state. Institutional controls to preserve industrial land use will be required until approximately the year 2030 when residual radioactivity will decay sufficiently to allow for unrestricted land use.

Regulatory Framework

The Inhalation Toxicology Laboratory cleanup is being conducted under DOE Orders, Resource Conservation and Recovery Act, and State of New Mexico Groundwater Standards. The Sewage Lagoon Site is regulated under a State Discharge Permit. Hazardous waste is managed by the State of New Mexico pursuant to Resource Conservation and Recovery Act and radioactive waste is managed under DOE Orders and Nevada Test Site Waste Acceptance criteria. There are no compliance milestones other than those related to groundwater monitoring and reporting contained in the Discharge Permit and New Mexico State regulations.

Critical Site Uncertainties and Assumptions

It is assumed that no more TRU waste will be generated during the remainder of the ITL cleanup and that there will not be waste items identified for which there is no disposal path. The discovery of additional TRU waste or items with no known disposal path are considered to be a relatively low programmatic risk.

Interdependencies

Low-level waste is packaged and shipped by Inhalation Toxicology Laboratory to the Nevada Test Site or to a commercial vendor. The relatively small volume of transuranic waste resulting from Inhalation Toxicology Laboratory operations thus far has been transported to Sandia National Laboratory for ultimate disposition at the Waste Isolation Pilot Plant. There are no major Government-Furnished Services and Items related to materials or services. There are no other interdependencies associated with the Inhalation Toxicology Laboratory EM Project.

Contract Synopsis

The Inhalation Toxicology Laboratory has been managed under a Cooperative Agreement with DOE since 1996; the Cooperative Agreement expired at the end of FY 2006 and will be renewed for the period through FY 2008. The Cooperative Agreement is the mechanism currently used for funding the EM Project as well as other DOE projects and initiatives. It is administered by the National Nuclear Security Administration Service Center.

Cleanup Benefits

Completion of the Inhalation Toxicology Laboratory EM Project will represent elimination of radiological and hazardous chemical waste risk due to DOE activities in the Inhalation Toxicology Laboratory areas, thus enabling Inhalation Toxicology Laboratory to use these areas for its own use as a private entity.

Lawrence Berkeley National Laboratory

Site Overview

The primary mission of the EM Project at Lawrence Berkeley National Laboratory is to identify, assess, and remediate (if necessary) contaminated areas. This mission shall be accomplished in compliance with the Lawrence Berkeley National Laboratory Resource Conservation and Recovery Act Permit and applicable regulations, and shall be conducted in a manner that maintains human health and safety and protects the environment.

Site Description

Lawrence Berkeley National Laboratory is a multipurpose research facility operated by the DOE Office of Science and managed by the University of California. It is located in the Berkeley/Oakland Hills in Alameda County, California and encompasses approximately 200 acres adjacent to the northeast side of the UC Berkeley campus. The western three-quarters of the Laboratory are in the city of Berkeley and the eastern quarter is in the city of Oakland.

Lawrence Berkeley National Laboratory's Hazardous Waste Handling Facility operates under a Resource Conservation and Recovery Act Hazardous Waste Facility Permit issued by the California

Environmental Protection Agency Department of Toxic Substances Control on May 4, 1993. The Hazardous Waste Handling Facility Permit conditions require that Lawrence Berkeley National Laboratory investigate and address historic releases of hazardous waste and constituents that may have occurred both at the Hazardous Waste Handling Facility, and throughout the Lawrence Berkeley National Laboratory site as part of the Resource Conservation and Recovery Act Corrective Action Program.

Site Cleanup Strategy/Scope of Cleanup

The Office of Environmental Management (EM) completed construction of remedial measures in January 2007 and submitted the Corrective Measures Implementation Report to the regulatory agencies. Approval of the Corrective Measures Implementation Report is expected in mid 2007. EM and Office of Science are proceeding with the transition of these facilities to the Office of Science along with the implementation of long-term stewardship in FY 2007.

The Lawrence Berkeley National Laboratory risk-based cleanup strategy emphasized:

- A continued focus on implementing interim corrective measures to eliminate/reduce the highest risk areas.

- Completing construction of the corrective measures to be outlined in the Resource Conservation and Recovery Act Corrective Measures Study Report.

- Turning over operation of the final corrective measures to the Office of Science for long-term stewardship in FY 2007.

Site Completion (End State)

Lawrence Berkeley National Laboratory will continue to operate as an Office of Science DOE sponsored laboratory. Soil will be remediated to meet the risk associated with industrial land use, based on this continued use. Groundwater remedial systems have been constructed to prevent off-site migration and discharge to surface water and additional systems will be constructed to address the long-term response action goal of meeting Maximum Contaminant Levels for drinking water.

EM completed construction of remedial systems identified in the Resource Conservation and Recovery Act corrective measures study in January 2007, including disposal of all remediation derived waste. EM will obtain regulatory approval of the Corrective Measures Implementation Report in mid 2007. EM will transfer long term stewardship responsibility for operation and maintenance of groundwater treatment systems to the Office of Science beginning in FY 2007. Remaining business closure activities including approval of the Critical Decision 4, the Project Closure Report, and other activities outlined in the Site Transition Plan will be completed in FY 2007.

Critical Project Uncertainties and Assumptions

Risk to project completion associated with the Lawrence Berkeley National Laboratory environmental restoration project can be categorized in seven distinct areas: risks to soil corrective action, groundwater corrective action, waste disposition, regulatory and public acceptance, government-furnished services,

long-term response action transfer, and contracts. The most significant risks are those associated with regulatory and public acceptance, long-term response action transfer, and scope growth and/or changes. The basic elements constituting each area and mitigation strategies have been detailed in a project Risk Management Plan. Mitigation strategies have been developed, where appropriate.

Interdependencies

Dependencies include other State and Federal agencies, provision of Government-Furnished Services and Items, and scope and funding transfers.

Contract Synopsis

A Management and Operations contract with the University of California was awarded in May 31, 2005 and the period of performance is to May 31, 2010, with provisions to extend to 2025.

Cleanup Benefits

The cleanup plan that has been developed will result in rapid, cost effective solutions that drive performance and reduce risks to human health and the environment.

Moab

Site Overview

The project mission is to remediate uranium mill tailings from the former Atlas Minerals Corporation (Atlas) uranium-ore processing and mill site, contaminated vicinity properties, and contaminated groundwater. DOE became responsible for this mission upon the enactment of the Floyd D. Spence National Defense Authorization Act of 2001.

Site Description

The DOE Moab project site is approximately 3 miles northwest of the city of Moab, Utah on the west bank of the Colorado River. The site encompasses approximately 435 acres, of which approximately 130 acres is covered by a 12 million cubic yards uranium mill tailings pile.

Site Cleanup Strategy/Scope of Cleanup

DOE's Record of Decision (issued on September 14, 2005) made the decision to relocate the mill tailings pile away from the Colorado River to a DOE-constructed disposal facility near Crescent Junction, Utah via rail transportation. DOE will assess the extent of radiological contamination at the mill site and vicinity properties, characterize the proposed disposal site and construct a disposal cell, excavate and remove the tailings pile to the disposal cell, and remediate local ground water. The remainder of the mill site will be verified to meet radiological standards and then restored to an acceptable condition. Demobilization from the site will complete the on-site activities, except in the case

of active ground water restoration. DOE also will investigate unidentified vicinity properties to assess the presence of contamination.

Site Completion (End State)

The end state for the Moab Site Project will be achieved after contaminated soil, tailings, vicinity properties, and surface and groundwater are remediated. DOE may place some restrictions on reutilization of the site, depending on how a proposed land use could impact the selected ground water remedy. The site will then be transferred to the Office of Legacy Management for monitoring and required stewardship. The end date will be established once Critical Decision-2 is in place and the performance baseline finalized. Based on the current funding profile and project technical approach, the current estimate of completion date at pre-Critical Decision-2 is 2028.

Regulatory Framework

In October 2000, the Floyd D. Spence National Defense Authorization Act for FY 2001 assigned DOE responsibility to establish a remedial action program and stabilize, dispose of, and control uranium mill tailings and other contaminated material at the Moab uranium-ore processing site and associated vicinity properties. Remediation must be performed in accordance with Title I of the Uranium Mill Tailings Radiation Control Act and the cleanup standards established under 40 CFR 192. The Nuclear Regulatory Commission must concur on the remediation plan.

Critical Site Uncertainties and Assumptions

- Full cost of remediation will not be known until a remedial action contract(s) is awarded and a performance baseline is validated.
- Potential rail upgrades and rail transport will be accomplished within expected project cost and schedule.
- Vicinity properties characterization will minimize the number of sites requiring remediation.
- Nuclear Regulatory Commission will concur on the Final Remedial Action Plan with no major revisions or additions.

Interdependencies

Past surveys by the Environmental Protection Agency indicate contaminated vicinity properties may exist and consequently will have to be remediated to Environmental Protection Agency standards. Contaminated materials will be excavated and transported to the disposal cell location.

Contract Synopsis

A remedial action contract will be awarded by March 30, 2007. A new technical assistance contract and a contract to remediate groundwater will be awarded before the existing technical assistance contract expires in June 2007.

Cleanup Benefits

Continued maintenance and surveillance of the groundwater and mill tailings pile area will ensure no further contamination of surrounding areas. Initiating the removal of the approximately 12 million cubic yards of uranium tailings away from the Colorado River will begin to significantly reduce danger to human health and the environment.

Stanford Linear Accelerator Center

Site Overview

The objectives of EM's Stanford Linear Accelerator Center Remediation Project are to conduct necessary response actions to a California Regional Water Quality Control Board Site (Water Board) Cleanup Requirement Order (issued May 2005), implement necessary long-term groundwater remediation remedies, excavate and dispose of contaminated soils, and transfer responsibility for long-term operation and maintenance of necessary groundwater treatment systems to the Office of Science at the end of FY 2009. Meeting these objectives will allow DOE-EM to meet ongoing obligations as defined in the DOE lease with Stanford University (April 26, 1962), perform EM's mission of legacy contamination cleanup, comply with the Water Board Order, and achieve EM completion for the Stanford Linear Accelerator Center Environmental Remediation Project. In addition, completing this project in the shortest time feasible results in mortgage reduction as annual site monitoring costs are reduced and most of the support staff can be reassigned or eliminated.

Historically, EM's mission at the Stanford Linear Accelerator Center was the remediation of contamination resulting largely from the Stanford Linear Accelerator Center's 2-mile long linear accelerator, a leaky underground solvent tank, and many oil-cooled transformers. By 2005, this was reduced to 54 remaining release sites. The 2005 Cleanup Requirements Order forced a reassessment that concluded there are 39 sites with known or suspected contamination that require immediate responses, plus numerous other sites that must be evaluated (presumed no-action) or monitored (currently inaccessible, with stable contamination). EM and the Office of Science staffs divided responsibility for the 39 sites, assigning 33 to EM. A Critical Decision-0 to redefine the Stanford Linear Accelerator Center project was made September 2005, and its supporting documents planned EM activities through 2009. The remediation work scope was finalized in February 2006, adding many new sites.

Site Description

The Stanford Linear Accelerator Center is a national research facility operated by Stanford University under contract with DOE. The term of Stanford University's current contract with DOE (then the Atomic Energy Commission) began in 1962 and extends to 2007. The current lease expires in 2012.

The Stanford Linear Accelerator Center is located in an unincorporated area of southeast San Mateo County, California, about 2 miles west of the Stanford University campus. Constructed on land owned by Stanford University, the Stanford Linear Accelerator Center is devoted to theoretical and experimental research in elementary particle physics, developing new accelerator and particle detection

techniques, and the utilization of synchrotron radiation in biology, chemistry, physics, materials science, medical science, and other disciplines.

As a result of Stanford Linear Accelerator Center's mission as a high-energy physics research facility, certain chemicals have been used or produced as wastes over its 40+ year history. These chemicals include volatile organic compounds, polychlorinated biphenyls, and metals, most notably lead. Additionally, radionuclides, notably tritium, have also been generated as a result of Stanford Linear Accelerator Center experiments. Some of these chemicals have been released to the environment, including site soil, groundwater, sediment, and storm water.

In May 2005, the local Water Board issued a Site Cleanup Requirements Order that set the scope for this phase of EM remediation work at the Stanford Linear Accelerator Center. The Cleanup Order directed 19 tasks, including following a "Comprehensive Environmental Response, Compensation, and Liability Act -like" process (Stanford Linear Accelerator Center is not a National Priorities List site, and is unlikely to become one). The release sites at issue are grouped into four operating units: Groundwater/Volatile Organic Compound, Tritium, Research Yard/ IR-6 Channel, and West Campus/ IR-8 Channel. Some of the release sites can't be currently accessed without interfering with the Stanford Linear Accelerator Center's research operations, and the Office of Science /Stanford Site Office has accepted responsibility for them as deferred actions.

Site Cleanup Strategy/Scope of Cleanup

The EM approved baseline calls for completing removal actions and construction of remedial measures by the end of FY 2009 and transition these facilities to the Office of Science for the implementation of long-term stewardship. This objective will be achieved by:

- Excavating contaminated soils.
- Using a Core Team of Project Leads from each of the involved organizations to identify and resolve potential technical issues early, before they cause project delays.
- Installing or upgrading two groundwater treatment systems, to be operated long-term by the Office of Science.
- Following the Comprehensive Environmental Response, Compensation, and Liability Act process (including public reviews), leading to issuing a Remedial Investigation/ Feasibility Study for two of the Operable Units and a Remedial Investigation for a third. The Office of Science will be responsible for completing the Comprehensive Environmental Response, Compensation, and Liability Act process for the other Operable Units.
- Stanford Site Office and Office of Science accepting responsibility for all sites that are currently inaccessible due to site research operations, and all contamination after EM completes this project.

The primary chemicals of concern detected in soils at the Stanford Linear Accelerator Center are polychlorinated biphenyls, lead, volatile organic compounds, and petroleum hydrocarbons. Remediation activities are planned for the Lower Salvage Yard, the Clean Landfill, the Bone Yard, and several other smaller sites.

A network of wells has been installed at the Stanford Linear Accelerator Center to investigate past operational areas. As a result of groundwater investigation and monitoring performed since the 1980s, four areas of Stanford Linear Accelerator Center have been identified where volatile organic compounds are present in groundwater. Additionally, results of storm water and sediment sampling and testing indicate that polychlorinated biphenyls and lead have entered Stanford Linear Accelerator Center's storm water drainage system.

Site Completion (End State)

Once site completion is achieved, and responsibility for all operation and maintenance of remedial systems will be transferred from EM to the Office of Science. It is anticipated that Stanford Linear Accelerator Center will continue to operate as an Office of Science DOE-sponsored laboratory indefinitely, with Office of Science managing and completing all Long Term Remedial Actions activities. EM will complete construction and startup of remedial systems and transfer them to Office of Science, dispose of all remediation derived waste, complete regulatory and business closure activities, and enter into an agreement with the Office of Science defining EM completion, the end state, and transferring the long-term response action responsibility.

Multiple minor contamination sites were quantified and 51 were identified as additional scope in February 2006. These sites became regulatory requirements in the Water Board Site Cleanup Requirements Order issued on May 18, 2005, which may delay the current site closure date of 2009 by several years.

Regulatory Framework

The California Regional Water Quality Control Board, Bay Area Region, is the lead regulatory agency for all media including soil, groundwater, sediment, and storm water portions of the Stanford Linear Accelerator Center Environmental Restoration Program. The U.S. Environmental Protection Agency has regulatory authority regarding soil remedial actions involving polychlorinated biphenyls but they do not desire to play a role as long as the Toxic Substances Control Act unrestricted use standards are applied. DOE is also executing its Comprehensive Environmental Response, Compensation, and Liability Act authority provided under Executive Order 15280 to conduct removal actions. The Stanford Linear Accelerator Center is now under a Water Board Site Cleanup Requirements Order, issued on May 18, 2005. This Order requires the investigation and remediation of impacted soil and groundwater resulting from the historical spills and leaks that have occurred during the operation of the Stanford Linear Accelerator Center. Per the Order, a Remedial Investigation/ Feasibility Study Work Plan was prepared and approved that details cleanup work and regulatory work.

Critical Site Uncertainties and Assumptions

Groundwater

The groundwater will be considered not drinkable (i.e., industrial or irrigation-only).
A 2001 evaluation documented that natural groundwater at the Stanford Linear Accelerator Center does not qualify as potable drinking water due to naturally poor water quality and low well yields. Stanford Linear Accelerator Center in conjunction with the landowner, Stanford University, has proposed that the California Regional Water Quality Control Board exempt groundwater at Stanford Linear Accelerator

Center from all potential uses except freshwater replenishment, agricultural supply, irrigation supply and industrial process supply.

Soil

Although the future land use at Stanford Linear Accelerator Center has been classified as residential, the cleanup standards have not been determined. The National Contingency Plan recognizes an allowable risk range of 10^{-4} to 10^{-6} and the state regulator also recognizes this same risk range for unrestricted use. Stanford University has requested all cleanup standards be based on $1x10^{-6}$ risk. The cost of meeting this more conservative cleanup standard has not been determined but could be substantial, especially when the facility is finally shutdown by the Office of Science and full site cleanup is performed before returning the land back to Stanford University. Negotiations between Office of Science, EM and Stanford University are ongoing to establish cleanup standards for the site.

Interdependencies

Transition to Office of Science

The intent is to transfer responsibility for environmental management of Stanford Linear Accelerator Center to the Office of Science. It is expected that EM completion will achieve protection of groundwater and residential land use standards for accessible areas. DOE's lease with Stanford requires final end-state of "leaving the premises in safe, clean and neat condition".

Contract Synopsis

The Stanford Linear Accelerator Center is a national research facility operated by Stanford University under contract with DOE. The term of Stanford University's lease with DOE (then the Atomic Energy Commission) began in 1962 and extends to 2012. The Management and Operating contract expires September 30, 2007.

Cleanup Benefits

Stanford Linear Accelerator Center's location on the densely populated San Francisco peninsula with Stanford University as the Stanford Linear Accelerator Center property owner produces significant visibility and public awareness of EM's cleanup performance. In addition, the land on which Stanford Linear Accelerator Center is built is zoned residential, and property values in the area are among the highest in the nation. Therefore, there is substantial benefit in mitigating the existing environmental legacy risks at this site.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Non-Defense Environmental Cleanup			
Small Sites			
BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory	7,903	6,643	6,784
BRNL-0031 / Environmental Remediation - Brookhaven National Laboratory	0	0	0
BRNL-0040 / Nuclear Facility D&D-Brookhaven Graphite Research Reactor	18,664	13,703	6,956
BRNL-0041 / Nuclear Facility D&D-High Flux Beam Reactor	7,369	7,776	9,809
BRNL-0100 / Brookhaven Community and Regulatory Support	49	150	150
CBC-CA-0013B-N / Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense)	2	60	60
CBC-CA-0100-N / Oakland Community and Regulatory Support (Non-Defense)	97	100	100
CBC-ETEC-0040 / Nuclear Facility D&D-Energy Technology Engineering Center	8,910	16,000	13,000
CBC-ITL-0030 / Soil and Water Remediation-Inhalation Toxicology Laboratory	302	2,931	427
CBC-LBNL-0030 / Soil and Water Remediation-Lawrence Berkeley National Laboratory	3,861	0	0
CBC-MOAB-0031 / Soil and Water Remediation-Moab	27,726	22,865	23,952
CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center	3,465	5,720	5,900
CH-ANLE-0030 / Soil and Water Remediation-Argonne National Laboratory-East	411	426	437
CH-ANLE-0040 / Nuclear Facility D&D-Argonne National Laboratory-East	9,971	10,300	2,000
Subtotal, Small Sites	88,730	86,674	69,575
Total, Non-Defense Environmental Cleanup	88,730	86,674	69,575
Total, All Other Sites	88,730	86,674	69,575

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
All Other Sites					
Geographic Sites Eliminated (number of sites)	15	16	17	23	74%
High-Level Waste packaged for final disposition (Number of Containers)	275	275	275	275	100%
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	1	1	1	1	100%
Radioactive Facility Completions (Number of Facilities)	82	82	83	99	84%
Industrial Facility Completions (Number of Facilities)	25	26	26	26	100%
Remediation Complete (Number of Release Sites)	774	774	774	787	98%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	4,722	4,847	4,878	4,878	100%

Detailed Justification

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
CH-ANLE-0030 / Soil and Water Remediation-Argonne National Laboratory-East (life-cycle estimate $30,274K)	**411**	**426**	**437**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

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 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 and Recovery Act solid waste management units/release sites were completed in FY 2003. Regulator acceptance was received and, therefore, EM completion was achieved in FY 2003 by formal acceptance of "No Further Actions" and by signature in August 2003 of the Land Use Control Memorandum of Agreement by the Illinois Environmental Protection Agency. However, residual contamination still remains at several areas of the Argonne National Laboratory- East site, which requires continued monitoring and/or remediation system operation.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

The EM end-state of this project includes completion/installation of all Resource Conservation and Recovery Act solid waste management units/release site remedies; the Illinois Environmental Protection Agency has formally issued all "No Further Actions " as appropriate and has signed the Land Use Control Memorandum of Agreement; 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.

In FY 2008, the following activities are planned:

- Continuation of Long-Term Stewardship/Long Term Response Actions covering operation, monitoring, and maintenance of soil and water treatment systems.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	443	443	443	443	100%

CH-ANLE-0040 / Nuclear Facility D&D-Argonne National Laboratory-East (life-cycle estimate $47,800K) **9,971** **10,300** **2,000**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

Historic operations at Argonne National Laboratory-East focused on research reactor construction and operation, including nuclear support facilities such as glove boxes and hot cells. All the reactors are shut down as are most support facilities. Surplus contaminated facilities need to be decontaminated and in one case demolished, to reduce risk and support the overall Argonne National Laboratory – East mission of continuing science research and development work.

In FY 2008, the following activities are planned:

- Continue decontamination and demolition of Building 301, a former Hot Cell facility and the last project under the current baseline.

- Continue surveillance and monitoring.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Radioactive Facility Completions (Number of Facilities)	68	68	68	83	82%

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Complete Zero Power Reactor 6 D&D Project. (June 2007)
- Continue decontamination and decommissioning of Building 301, a former Hot Cell facility at the Argonne National Laboratory Site. (September 2007)
- Complete decontamination and decommissioning of Zero Power Reactor 6. (September 2007)
- Continue D&D of 301 Hot Cell. (September 2008)

BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory (life-cycle estimate $266,835K)	**7,903**	**6,643**	**6,784**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

This PBS addresses response actions taken on environmental media and some building structures that became contaminated with radioactive and chemical substances at Brookhaven National Laboratory. Historical practices, discharges, and past spills have resulted in groundwater, sediment, and soil contamination at the Laboratory, which is located in Suffolk County, New York. As a result, on and off-site groundwater is contaminated with volatile organic compounds, in addition to onsite radionuclides. Historical discharges from the Laboratory's Sewage Treatment Plant have resulted in elevated levels of mercury, in on and off-site Peconic River sediments. Some on-site soils are contaminated with radionuclides and chemicals (primarily mercury). Cleanup is conducted as a response action in accordance with the Comprehensive Environmental Response, Compensation and Liability Act and under an Interagency Agreement, which serves as the Federal Facility Agreement among the DOE, the United States Environmental Protection Agency and New York State. Initiatives 1 and 2 of Brookhaven's Performance Management Plan accelerate completion of the soil and water projects from FY 2006 to FY 2005. Initiative 5 is DOE's commitment to plan and implement an effective monitoring and treatment system operation program at the Laboratory. The end-state of this PBS is that sixteen groundwater treatment systems were built and are operating, and all required non-reactor facility decontamination and decommissioning, soil and Peconic River cleanup was completed by September 30, 2005. Continuing activities such as groundwater monitoring and treatment system operations and maintenance will be underway. Groundwater cleanup is Brookhaven's highest priority because it is located above Long Island's sole source aquifer. Cleanup consists of treating groundwater both on and off site, continued monitoring, source term removal, and natural attenuation. The end state for this project was successfully achieved. All soil cleanups, tank removals, landfill caps and remediation of the Peconic River have been completed and all related wastes have been disposed of off-site. All sixteen groundwater treatment systems are either built and operating, or have completed their mission and have been shut-down and/or decommissioned.

In FY 2008, the following activities are planned:

The end state for this project was achieved in FY 2005. During FY 2008, activities related to long-term environmental operations, safety and security and long-term stewardship activities will continue:

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Maintenance and monitoring of three capped landfills; operation, maintenance and monitoring of sixteen groundwater treatment systems.
- Continuation of environmental monitoring programs including sample collection, sample analysis, data interpretation and management.
- Records management; reporting; continuation of land use controls.
- Community outreach; and continued interaction with the regulatory agencies.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Radioactive Facility Completions (Number of Facilities)	3	3	3	3	100%
Remediation Complete (Number of Release Sites)	75	75	75	75	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- On-going long-term soil and groundwater operations and environmental stewardship. (FY 2006/September 2007/September 2008)

BRNL-0040 / Nuclear Facility D&D-Brookhaven Graphite Research Reactor (life-cycle estimate $99,626K) **18,664** **13,703** **6,956**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

This PBS characterizes, stabilizes, decontaminates and decommissions the Brookhaven Graphite Research Reactor, which is located at Brookhaven National Laboratory in Suffolk County, New York. It was the world's first research reactor constructed solely for the peaceful use of atomic energy and operated from 1950-1968. During initial deactivation between 1968 and 1972, reactor fuel was removed and shipped to DOE’s Savannah River Site in Aiken, South Carolina. Fuel canal water was pumped to the Brookhaven Waste Concentration Facility for storage and processing. These actions removed more than 95% of the radioactive material from the facility. However, the graphite reactor core is radioactive and the fuel canal and cooling air ducts were contaminated with fission products. The decommissioning of Brookhaven Graphite Research Reactor is conducted as a response action under the Comprehensive Environmental Response, Compensation and Liability Act. It is identified as Area of Concern 9 under an Interagency Agreement, which serves as the Federal Facility Agreement among the DOE, the United States Environmental Protection Agency and New York State. A Feasibility Study was prepared to evaluate

(dollars in thousands)

FY 2006	FY 2007	FY 2008

viable decommissioning alternatives. A Proposed Remedial Action Plan, which presented the preferred alternative, was prepared and underwent public review. Collectively, the two documents provide the regulatory and technical basis for the removal and permanent disposal of the reactor's graphite moderator and its biological radiation shield, the fuel canal (external), and reasonably accessible soils.

A Record of Decision documenting public comment responses and the selected alternative was concurred on by New York State and approved by the United States Environmental Protection Agency in March 2005. Even after decommissioning activities are complete, a very small amount of residual radioactive contamination will remain in soils and some structures that lie in inaccessible areas beneath the massive concrete pedestals, footings and foundation. This requires DOE to maintain the facility in a protected state until the radioactivity naturally decays to low levels. As such, surveillance and maintenance of the remaining structures will be transferred to the Brookhaven National Laboratory landlord (DOE Office of Science) at project completion. Completed decommissioning work includes demolition and disposal of: pile fans and sump; above grade canal house; water treatment houses; instrument house; above grade ducts; below grade duct filters/coolers/liners (partial); below grade piping to/from the canal; below grade portions of the canal external to building 701; and selected hot pockets of contaminated soil.

The following actions have also been completed: pile sealed; building 701 isolated from Building 703; temporary cap put in place until final decommissioning is complete; completed facility characterization, development of Documented Safety Analysis and Technical Safety Requirements documents for a needed upgraded to the facility Authorization Basis documents, Critical Decision 1 achieved in accordance with DOE Order 413.3A, and facility Hazard Categorization and Startup Notification Reports written. DOE's Office of Environmental Management continues to incorporate opportunities to further accelerate risk reduction, including use of Indefinite Delivery/Indefinite Quantity subcontractors as appropriate. Remaining work includes removal of the pile and bioshield and installation of an engineered cap.

In FY 2008, the following activities are planned:

- Continue packaging, shipping and disposal of waste generated by the demolition of the reactor bioshield (started in FY 2007).
- Install groundwater monitoring wells.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Radioactive Facility Completions (Number of Facilities)	7	7	7	7	100%
Remediation Complete (Number of Release Sites)	1	1	1	1	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Complete removal of over 60,000 graphite pile blocks. (July 2007)
- Continue packaging, shipping, and disposal of waste generated by the demolition of the reactor bioshield. (September 2008)
- Install groundwater monitoring wells. (September 2008)

BRNL-0041 / Nuclear Facility D&D-High Flux Beam Reactor (life-cycle estimate $50,722K)	**7,369**	**7,776**	**9,809**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

This PBS scope includes characterization, decontamination and decommissioning of the High Flux Beam Reactor at Brookhaven National Laboratory in Suffolk County, New York. The scope also includes the remediation of a two-acre plot of contaminated soil alongside a railroad spur. The High Flux Beam Reactor is a nuclear reactor used for peaceful scientific research. It was a heavy water moderated and cooled research reactor that operated at a power range between 30 to 60 thermal megawatts to produce neutrons from highly enriched uranium. In 1997, a tritium plume originating from a leak in the reactor's spent fuel storage pool was identified and reactor operations were halted. In 1999, High Flux Beam Reactor was permanently shut down. The High Flux Beam Reactor complex has been deactivated and stabilized. Fuel has been removed, equipment used to support research and experimentation has been removed, and the primary system, including the fuel pool, has been drained. Ancillary buildings have been demolished. Excess control rod blades and other legacy waste have been disposed. The facility is now fully characterized and is currently in a safe and stable configuration waiting final decommissioning. Remaining activities include: demolition and removal of Building 704 (Fan House) and Building 802 (Tritiated Water Evaporator Building/Fan House); demolition and removal of Building 705 (Stack); and removal of all contaminated underground lines. In addition, the scope includes interim and long-term surveillance and maintenance.

The final decommissioning of High Flux Beam Reactor will be conducted as a response action under the Comprehensive Environmental Response, Compensation and Liability Act and in accordance with the Interagency Agreement, which serves as the Federal Facility Agreement among the DOE, the United States Environmental Protection Agency and New York State Department of Environmental Conservation. Alternatives for final decommissioning are currently being evaluating. The Proposed Remedial Action Plan, which will present the preferred alternative, will undergo public review and comment in late FY 2007. The Record of Decision will soon follow. DOE’s Office of Environmental Management continues to incorporate opportunities for acceleration and project cost reductions.

In FY 2008, the following activities are planned:

- All remaining ancillary buildings and structures will be demolished and removed.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- The confinement dome will begin to be placed in a safe and stable configuration in preparation for long-term dormancy and protected care.
- Facility surveillance and maintenance will be performed.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Complete HFBR BOP D&D. (January 2007)
- Complete underground Utilities D&D. (January 2008)
- Complete Fan House D&D. (August 2008)
- Demolish and remove ancillary buildings and structures. (September 2008)
- Begin to place confinement dome. (September 2008)

BRNL-0100 / Brookhaven Community and Regulatory Support (life-cycle estimate $3,244K) **49** **150** **150**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

Brookhaven National Laboratory is listed on the National Priorities List. This PBS assists New York State in carrying out its oversight responsibilities in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act and the federal facility agreement, also known as the Brookhaven Interagency Agreement among the DOE, the United States Environmental Protection Agency, and the New York State Department of Environmental Conservation for response actions taken at Brookhaven National Laboratory. This project will continue until the Comprehensive Environmental Response, Compensation, and Liability Act cleanup activities, as identified in the Brookhaven National Laboratory Performance Management Plan (August 2002) and site Records of Decision, are completed.

In FY 2008, the following activities are planned:

- The New York State Department of Environmental Conservation will continue oversight of the decontamination and decommissioning of the Brookhaven Graphite Research Reactor and the High Flux Beam Reactor, progress in groundwater cleanup with continued operation of the groundwater treatment systems, and continued monitoring of the Peconic River.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- DOE reviewed and amended grant after soil and groundwater remedy implementation. (FY 2006)
- The New York State Department of Environmental Conservation will continue oversight of the Brookhaven Graphite Research Reactor decontamination and decommissioning and progress in groundwater cleanup with continued operation of the groundwater treatment systems. (September 2008)

CBC-CA-0013B-N / Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense) (life-cycle estimate $6,624K)	**2**	**60**	**60**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

The scope of work within this PBS achieves efficiencies by managing similar activities for waste management and environmental restoration at multiple Non-Defense sites in California. 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 2008, the following activities are planned:

- Support ongoing environmental/safety activities and disposal activities related to all forms of waste.
- Continue to transport packaged remediation 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	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	83	83	83	83	100%

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
CBC-CA-0100-N / Oakland Community and Regulatory Support (Non-Defense) (life-cycle estimate $2,320K)	**97**	**100**	**100**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

This project provides funding for grants to State of California regulatory agencies for their oversight of environmental remediation at DOE sites, whether Comprehensive Environmental Response, Compensation, and Liability Act or Resource Conservation & Recovery Act driven. It currently funds Water Quality Control Board oversight of Stanford Linear Accelerator Center and Lawrence Berkeley National Laboratory.

In FY 2008, the following activities are planned:

- State Agencies will be funded for their involvement and oversight of environmental remediation at DOE sites.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • 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. (FY 2006/September 2007/September 2008)					

CBC-ETEC-0040 / Nuclear Facility D&D-Energy Technology Engineering Center (life-cycle estimate $204,973K)	**8,910**	**16,000**	**13,000**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

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 radioactively and chemically contaminated facilities for eventual release to the Boeing Company (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).

(dollars in thousands)

FY 2006	FY 2007	FY 2008

The end-state is to complete cleanup for both radiological contamination and chemical contamination. The site will be turned over to the Boeing Company which owns the land.

In FY 2008, the following activities are planned:

- Continuation of decontamination and decommissioning of the radiological portion of the Radioactive Materials Handling Facility.
- Shipment of low-level radioactive waste and decommissioned waste from Building 4024.
- Continuation of Resource Conservation and Recovery Act Facility Investigation activity for the solid waste management units.
- Continuation of the Resource Conservation and Recovery Act Facility Investigation phase for the groundwater characterization phase.
- Continue verification radiological surveys for eventual site release.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,055	1,055	1,055	1,055	100%
Radioactive Facility Completions (Number of Facilities)	4	4	5	6	83%
Industrial Facility Completions (Number of Facilities)	24	25	25	25	100%
Remediation Complete (Number of Release Sites)	4	4	4	14	29%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Complete demolition of the Sodium Pump Test Facility. (September 2007)
- Complete decontamination and decommissioning of Space Nuclear Auxiliary Power Reactor Environmental Test Facility (B4024) and the Radioactive Materials Handling Facility. (September 2007)
- Continue decontamination and decommissioning of the radiological portion of the Radioactive Materials Handling Facility. (September 2008)
- Continue Resource Conservation and Recovery Act Facility Investigation activity for the solid waste management units. (September 2008)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
CBC-ITL-0030 / Soil and Water Remediation-Inhalation Toxicology Laboratory (life-cycle estimate $11,270K)	**302**	**2,931**	**427**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

Remedial activities for contaminated soil and groundwater at the site were completed in 1997.

Currently, the environmental management mission at the Inhalation Toxicology Laboratory comprises two projects: (a) groundwater monitoring and reporting and (b) 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 Sewage Lagoon Site and four consecutive semiannual sampling events for the Diesel Spill Site. Labs and facilities that are contaminated from DOE projects have been vacated and are in the process of being surveyed, surface decontaminated, and released for other research purposes. Legacy low-level radioactive waste and hazardous waste within the laboratories and facilities are being identified and disposed.

During FY 2006, disposal and surface decontamination activities were completed for the Analytical Chemistry Building and groundwater monitoring and reporting activities were completed.

Remaining activities to be completed include chemical waste collection and disposal, beta gamma wing cleanup; D&D of crematory; collection and shipment of remaining low-level waste; and collection and disposition of remaining mixed waste. When these activities are accomplished in FY 2008, the EM Project will be complete.

In FY 2008, the following activities are planned:

- Collection and disposition of remaining low-level waste and hazardous waste from labs and facilities and, possibly a limited volume of legacy mixed low-level waste. The waste will be primarily generated through the completion of cleanup of the Beta Gamma Wing and Crematory.

- Complete the review and documentation of final rad surveys.

- 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.

- Complete EM Project and prepare for transfer to other organizational entity.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	198	323	354	354	100%
Remediation Complete (Number of Release Sites)	9	9	9	9	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Conducted groundwater monitoring and reporting to the New Mexico Environment Department. (FY 2006)
- Groundwater monitoring and reporting. (September 2007/September 2008)

CBC-LBNL-0030 / Soil and Water Remediation-Lawrence Berkeley National Laboratory (life-cycle estimate $35,004K) **3,861** **0** **0**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

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. The laboratory has completed its Resource Conservation and Recovery Act Facility Investigation for 181 release sites to determine the amount and extent of contamination. Pilot testing to evaluate different remedial systems for use at the Laboratory was completed in FY 2004. The results were used to recommend full-scale remediation systems that will be constructed in FY 2005 and FY 2006. The Laboratory 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. The site landlord will continue surveillance and monitoring of the site.

In FY 2008, the following long-term stewardship activities are planned:

- The site is transferred to the Office of Science.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
Remediation Complete (Number of Release Sites)	174	174	174	174	100%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Implemented remedial actions and constructed treatment systems identified in corrective measures studies. (FY 2006)
- Completed EM mission and transferred to the Office of Science for Long-Term Stewardship. (FY 2006)

CBC-MOAB-0031 / Soil and Water Remediation-Moab (life-cycle estimate $836,493K)	**27,726**	**22,865**	**23,952**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

The project mission is to remediate contaminated mill tailings, mill debris, contaminated ground water, and contaminated vicinity properties at the former Atlas Minerals Corporation uranium ore-processing site. DOE became responsible for this mission upon enactment of the Floyd D. Spence National Defense Authorization Act of 2001. The project site is approximately 3 miles northwest of the city of Moab, Utah, on the west bank of the Colorado River. The site encompasses 435 acres, of which approximately 130 acres is covered by a 12 million cubic yards uranium mill tailings pile.

The Record of Decision issued in September 2005, made the decision to relocate the mill tailings away from the Colorado River to a DOE constructed disposal facility near Crescent Junction, Utah, via rail transportation. DOE will asses the extent of radiological contamination at the mill site and vicinity properties, characterize the proposed disposal site and construct a disposal cell, excavate and remove the tailings pile to the disposal cell, and remediate shallow ground water. The remainder of the mill site will be verified to meet radiological standards and then restored to an acceptable condition to protect human health and the environment. Demobilization from the site will complete the on-site activities, except in the case of active ground water restoration. The site will then be transferred to the Office of Legacy Management for monitoring and required stewardship.

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 ground water, 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 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.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

In FY 2008, the following activities are planned:

- Program and field/site management and oversight.
- Moab and Crescent Junction operations and maintenance.
- Complete upgrade of Cane Creek Branch of Union Pacific Railroad (between Moab and Crescent Junction) to meet DOE safety standards and increase weight capacity.
- Moab: Complete road, water, and power infrastructure.
- Start design of long-term groundwater remediation.
- Continue rail spur construction to facilitate mill tailings haul.
- Procure MiJack cranes to facilitate mill tailings haul.
- Lease containers required to facilitate mill tailings haul.
- Crescent Junction: Start disposal cell excavation.
- Continue rail spur construction to facilitate mill tailings placement in disposal cell.
- Procure MiJack cranes to facilitate mill tailings placement in disposal cell.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed Conceptual Design / Remedial Action Plan. (FY 2006)
- Start Cane Creek Rail Road upgrade. (April 2007)
- Complete Crescent Junction - Rail Spur. (July 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center (life-cycle estimate $35,725K)	**3,465**	**5,720**	**5,900**

This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

Activities in this PBS involve the cleanup of legacy contamination resulting from the physics research mission and operations over the past several decades at the Stanford Linear Accelerator Center. On May 18, 2005, the California Regional Water Quality Control Board San Francisco Bay Region adopted Order R2-2005-0022 requiring the investigation and remediation of the Stanford Linear Accelerator Center site. 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 in accordance with the Order. The principal contaminants of concern include polychlorinated biphenyls, lead, and volatile organic compounds in soils and groundwater.

Preliminary Site Assessments have identified 54 release sites requiring further action; either further risk evaluation or 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, as presumptive remedies, is occurring when appropriate at the same time as the remedial investigation/feasibility study reports are completed and 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 various removal actions. These actions will lower the overall risk at the site and accelerate project completion.

The EM end-state is to turn over long-term surveillance and maintenance activities at groundwater treatment sites to the Office of Science in FY 2010.

The Office of Engineering and Construction Management reviewed the project but has not validated the near-term (current contract period) performance baseline or endorsed the reasonableness of the lifecycle baseline. A Critical Decision Zero has been completed and approved, and the Critical Decision One package is with EM-HQ for review and approval. The Critical Decision Two/Three package will be submitted later in FY 2007. EM's Project Management Oversight Office will validate the baseline by an Independent Project Review as a component of Critical Decision Two.

In FY 2008, the following activities are planned:

- Removal Actions for 8 sites.
- Install Dual Phase Extraction groundwater treatment system at Plating Shop Area.
- Prepare a Feasibility Study/Remedial Action Plan for the Groundwater Operable Unit.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Remediation Complete (Number of Release Sites)	17	17	17	20	85%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Completed construction and installation of groundwater treatment facilities at southern and northern portions of the Former Hazardous Waste Storage Area. (FY 2006)
- Completed Lower Salvage Yard Removal Action. (FY 2006)
- Complete site-wide remedial investigation and finalize the baseline risk assessment report. (September 2007)
- Complete construction of a groundwater treatment system at the Plating Shop Area. (September 2008)

Total, All Other Sites	**88,730**	**86,674**	**69,575**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Non-Defense Environmental Cleanup	
Small Sites	
Argonne National Laboratory	
CH-ANLE-0030 / Soil and Water Remediation-Argonne National Laboratory-East	
▪ No significant change.	11
CH-ANLE-0040 / Nuclear Facility D&D-Argonne National Laboratory-East	
▪ Decrease due to completion of decommissioning of Zero Power Reactor.	-8,300

	FY 2008 vs. FY 2007 ($000)
Brookhaven National Laboratory	
BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory	
▪ No significant change.	141
BRNL-0040 / Nuclear Facility D&D-Brookhaven Graphite Research Reactor	
▪ Decrease reflects completion of the removal of the graphite pile blocks in FY 2007.	-6,747
BRNL-0041 / Nuclear Facility D&D-High Flux Beam Reactor	
▪ Increase is due to planned decommissioning activities of the High Flux Beam Reactor, several auxiliary buildings and structure demolitions.	2,033
Energy Technology Engineering Center	
CBC-ETEC-0040 / Nuclear Facility D&D-Energy Technology Engineering Center	
▪ Decrease reflects completion of Building 4024 and a major portion of the radioactive materials handling facility in FY 2007.	-3,000
Inhalation Toxicology Laboratory	
CBC-ITL-0030 / Soil and Water Remediation-Inhalation Toxicology Laboratory	
▪ Decrease reflects the completion of cleanup workscope.	-2,504
Moab	
CBC-MOAB-0031 / Soil and Water Remediation-Moab	
▪ Increase reflects railroad upgrade, Moab groundwater remediation design start, and excavation start on disposal cell at Crescent Junction.	1,087

	FY 2008 vs. FY 2007 ($000)
Stanford Linear Accelerator Center	
CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center	
▪ No significant change.	180
Total, All Other Sites	**-17,099**

Headquarters Operations

Funding by Site

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Headquarters	52,075	57,881	53,146
Total, Headquarters Operations	52,075	57,881	53,146

Description

The Headquarters Operations program includes policy, management and technical Support activities that provide management and direction for various crosscutting EM and DOE initiatives; establish and implement national and departmental policy; provide focused technical expertise to resolve barriers to site cleanup; and conduct analyses and integrate activities across the DOE complex. The activities provide the policy basis and foundation for sites to complete their mission. The activities also identify opportunities that result in cost savings from site baselines. Also included is the Uranium/Thorium Reimbursement program that reimburses 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

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 management, crosscutting and other activities funded by this account ensures that EM's primary cleanup mission and other DOE objectives proceed in a consistent, responsible and efficient manner.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Program Support			
Headquarters			
HQ-MS-0100 / Policy, Management, and Technical Support	32,275	37,881	33,146
Uranium Enrichment Decontamination and Decommissioning Fund			
U/Th Reimbursements			
Headquarters			
HQ-UR-0100 / Reimbursements to Uranium/Thorium Licensees	19,800	20,000	20,000
Total, Headquarters Operations	52,075	57,881	53,146

Performance Measure Summary

	Complete through FY 2006	Complete through FY 2007	Complete through FY 2008	Life-Cycle	FY 2008 % Complete
Headquarters Operations					
Geographic Sites Eliminated (number of sites)	26	26	26	27	96%

Detailed Justification

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
HQ-MS-0100 / Policy, Management, and Technical Support (life-cycle estimate $1,875,528K)	**32,275**	**37,881**	**33,146**

This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS provides management and direction for various crosscutting EM and DOE initiatives; establishes and implements national and departmental policy; supports various intergovernmental activities; and conducts analyses and integration activities across the DOE complex. 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; support legal claims; support closure assistance activities; and effectively communicate with the public and stakeholders regarding the EM program's activities. It includes the National Environmental Policy Act analysis on Greater-Than-Class C radioactive waste disposal, as required by Section 631 of the Energy Policy Act of 2005. The scope of this PBS will be completed by 2035.

In FY 2008, the following activities are planned:

- Continue support of Tribal, State, and local government participation 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 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.

- 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.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Prepare the Environmental Impact Statement for Disposal of Greater-Than-Class C Radioactive Waste and the required Report to Congress on Greater-Than-Class C Disposal Alternatives.

- Support various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program and Consolidated Accounting Investment System.

- Provide support to various advisory groups, such as the Nuclear Regulatory Commission, National Academy of Sciences and Low-Level Radioactive Waste Forum, to obtain technical assistance/expertise that indirectly supports the EM mission objectives.

- Administer the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.

- Provide rapid response from technical experts or "External/Internal" review teams to address technical problems impeding site cleanup and closure.

- Provide technical solution projects designed to reduce near-term technical risks and technical assistance to include site troubleshooting, consulting, scientific or technical problem solving.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Supported various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program, and Consolidated Accounting Investment System. (FY 2006)
- Provided support to various advisory groups to obtain technical assistance/expertise that indirectly support the EM mission objectives. (FY 2006)
- Provided expertise in the areas of safety, health and security; as well as in emergency management, package certification, quality assurance, analytical services, and risk management. (FY 2006)
- Instilled safety awareness by utilizing the National Safety Council to conduct surveys, which will indicate whether and how EM's commitment to safety is working. (FY 2006)
- 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 wit (FY 2006)
- Administered the EM and DOE-wide transportation and packaging responsibilities and Transportation Emergency Preparedness Program. (FY 2006)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
• Support various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program, and Consolidated Accounting Investment System. (September 2007/September 2008) • Provide support to various advisory groups to obtain technical assistance/expertise that indirectly support the EM mission objectives. (September 2007/September 2008) • 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 2007/September 2008) • 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 2007/September 2008) • Enhance 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 wit (September 2007/September 2008) • Administer the EM and DOE-wide transportation and packaging responsibilities and Transportation Emergency Preparedness Program. (September 2007/September 2008) • Issue Draft Environmental Impact Statement for Disposal of Greater-than-Class C Radioactive Waste. (January 2008) • Complete three to five reviews and provide technical experts as needed by the sites to address specific issues impeding site cleanup and closure. (September 2008) • Complete four to 10 technical solutions projects or technical assistance projects. (September 2008)			

HQ-UR-0100 / Reimbursements to Uranium/Thorium Licensees (life-cycle estimate $561,737K)	**19,800**	**20,000**	**20,000**

This PBS can be found within the Uranium Enrichment Decontamination and Decommissioning Fund appropriation.

This PBS scope reimburses fourteen active uranium and thorium processing site licensees for a portion (the Federal-related byproduct material 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 byproduct 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 three times since enactment in 1992). These monetary ceilings are adjusted annually for inflation. 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 and the Petrotomics Company has completed remedial action at its Shirley Basin mill site. Five of the remaining

(dollars in thousands)

FY 2006	FY 2007	FY 2008

ten licensees' project they will complete remedial action no later than FY 2008. The total estimated future liability, including excess claims, for the program is less than $150 million, which is within the remaining authority. The final liability for the program will be determined when DOE completes review and approval of licensees' Plans for Subsequent Remedial Action (per provision in the Act) in the first quarter of FY 2008.

As of September 2006, DOE has reimbursed the thirteen uranium licensees $241,491,000 and the thorium licensee $292,687,000, for an aggregate reimbursement amount of $534,178,000.

In FY 2008, the following activities are planned:

- Complete review and approval of Plans for Subsequent Remedial Action by December 31, 2007, for sites planning to incur costs after that date. The costs approved for each site will be the maximum amount eligible for reimbursement of costs incurred after that date. Complete audit of claims received in FY 2007 and issue prorated reimbursement payments by May 1, 2008, to uranium and thorium licensees on newly approved claim amounts and prior years unpaid backlog claim balances.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- 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. (FY 2006/May 2007)
- Complete review and approval of Plans for Subsequent Remedial Action. (December 2007)
- 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 (May 2008)

Total, Headquarters Operations	**52,075**	**57,881**	**53,146**

Title X of the Energy Policy Act of 1992: Uranium/Thorium Reimbursement Program
Status of Payments through Fiscal Year 2006 and Estimated Future Payments
($ Thousands)

Licensees	Total Payments FY 1994-FY 2006	Approved but Unpaid Claim Balances After FY 2006 Payments	Estimated Payments: FY 2007 through End of Program	Estimated Unpaid Uranium Claim Balances in Excess of Dry Short Ton Ceilings at End of Program
Uranium				
American Nuclear Corp. Site				
American Nuclear Corporation…….	820	0	0	0
State of Wyoming……	1,233	0	673	0
Atlantic Richfield Company[a]…….	32,306	0	0	0
Atlas Corporation/Moab Mill Reclamation Trust[a].…	9,694	0	0	0
Cotter Corporation……..	2,702	624	523	1,052
Dawn Mining Company…….	5,848	80	6,139	830
Homestake Mining Company……	42,408	161	16,986	0
Pathfinder Mines Corporation……...	10,621	13	270	0
Petrotomics Company……	2,694	0	156	0
Rio Algom Mining LLC[b] ……...	22,086	413	10,215	0
Tennessee Valley Authority……..	13,937	11,193	2,698	8,495
Umetco Minerals Corporation-CO……	48,894	14,750	9,465	13,981
Umetco Minerals Corporation-WY……...	18,036	3,368	3,491	2,266
Western Nuclear, Incorporated……	30,211	60	983	0
Subtotal, Uranium……..	241,491	30,662	51,599	26,624

[a] Reimbursements have been completed to the Atlantic Richfield Company and the licensees of the Moab site.
[b] Formerly Quivira Mining Company.

Licensees	Total Payments FY 1994-FY 2006	Approved but Unpaid Claim Balances After FY 2006 Payments	Estimated Payments: FY 2007 through End of Program	Estimated Unpaid Uranium Claim Balances in Excess of Dry Short Ton Ceilings at End of Program
Thorium				
Tronox Incorporated[c] ..…….	292,687	1,685	51,871	--
Subtotal, Thorium……...	292,687	1,685	51,871	--
Total, Uranium and Thorium…….	534,178	32,347	103,470	26,624

[c] Formerly Kerr-McGee Chemical Corp.

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Program Support	
Headquarters	
HQ-MS-0100 / Policy, Management, and Technical Support	
▪ Decrease reflects reduction in Defense Contracts Audit Agency requirements; completion of Environmental Impact Statement for disposal of Greater-Than-Class C Radioactive Waste in FY 2008; and reduced Departmental initiative requirements.	-4,735
Total, Headquarters Operations	**-4,735**

Program Direction

Funding Profile by Category

	(dollars in thousands/whole FTEs)		
	FY 2006	FY 2007	FY 2008
Carlsbad			
Salaries and Benefits	5,414	7,104	7,263
Travel	328	338	339
Other Related Expenses	149	1,998	2,007
Total, Carlsbad	5,891	9,440	9,609
Full Time Equivalents	42	51	50
Chicago			
Salaries and Benefits	1,587	1,054	0
Travel	99	50	0
Support Services	525	528	0
Other Related Expenses	551	509	0
Total, Chicago	2,762	2,141	0
Full Time Equivalents	10	7	0
Idaho			
Salaries and Benefits	7,996	9,667	10,074
Travel	208	280	287
Support Services	134	85	87
Other Related Expenses	155	142	145
Total, Idaho	8,493	10,174	10,593
Full Time Equivalents	58	67	67
Oak Ridge			
Salaries and Benefits	11,352	11,180	11,650
Travel	216	217	222
Support Services	446	1,898	1,944
Other Related Expenses	1,283	1,962	2,009
Total, Oak Ridge	13,297	15,257	15,825
Full Time Equivalents	88	83	83
Portsmouth/Paducah Project Office			
Salaries and Benefits	4,562	6,245	6,507
Travel	163	205	210
Support Services	1,494	1,460	1,495
Other Related Expenses	930	1,190	1,219
Total, Portsmouth/Paducah Project Office	7,149	9,100	9,431
Full Time Equivalents	34	45	45

	(dollars in thousands/whole FTEs)		
	FY 2006	FY 2007	FY 2008
Ohio			
Salaries and Benefits	3,610	2,353	0
Travel	225	100	0
Support Services	397	242	0
Other Related Expenses	330	127	0
Total, Ohio	4,562	2,822	0
Full Time Equivalents	31	20	0
Richland			
Salaries and Benefits	29,933	32,897	34,145
Travel	438	600	612
Support Services	170	900	918
Other Related Expenses	938	7,036	7,176
Total, Richland	31,479	41,433	42,851
Full Time Equivalents	238	245	244
River Protection			
Salaries and Benefits	14,436	17,188	17,462
Travel	339	399	399
Support Services	1,276	1,976	1,971
Other Related Expenses	1,479	2,506	2,501
Total, River Protection	17,530	22,069	22,333
Full Time Equivalents	101	115	112
Rocky Flats			
Salaries and Benefits	1,472	0	0
Travel	15	0	0
Other Related Expenses	56	0	0
Total, Rocky Flats	1,543	0	0
Full Time Equivalents	4	0	0
Savannah River			
Salaries and Benefits	38,467	42,316	43,636
Travel	735	843	856
Support Services	525	2,082	2,602
Other Related Expenses	1,663	3,651	3,687
Total, Savannah River	41,390	48,892	50,781
Full Time Equivalents	328	343	339
Small Sites			
Salaries and Benefits	0	2,578	5,755
Travel	0	182	403
Support Services	0	1,400	1,976
Other Related Expenses	0	450	672
Total, Small Sites	0	4,610	8,806
Full Time Equivalents	0	21	46

	(dollars in thousands/whole FTEs)		
	FY 2006	FY 2007	FY 2008
Nevada Site Office			
Salaries and Benefits	3,000	3,962	4,128
Travel	162	146	150
Support Services	347	532	545
Other Related Expenses	59	64	66
Total, Nevada Site Office	3,568	4,704	4,889
Full Time Equivalents	24	30	30
NNSA Sites			
Salaries and Benefits	4,897	5,111	4,922
Travel	224	242	229
Support Services	569	550	520
Other Related Expenses	728	1,076	1,017
Total, NNSA Sites	6,418	6,979	6,688
Full Time Equivalents	40	38	35
Subtotal, Field			
Salaries and Benefits	126,726	141,655	145,542
Travel	3,152	3,602	3,707
Support Services	5,883	11,653	12,058
Other Related Expenses	8,321	20,711	20,499
Total, Field	144,082	177,621	181,806
Full Time Equivalents	998	1,065	1,051
Headquarters Operations			
Salaries and Benefits	40,639	44,215	52,848
Travel	2,122	2,826	3,669
Support Services	16,148	19,520	21,340
Other Related Expenses	11,818	19,786	21,908
Total, Headquarters Operations	70,727	86,347	99,765
Full Time Equivalents	272	280	299
Consolidated Business Center			
Salaries and Benefits	15,901	19,682	20,454
Travel	843	843	862
Support Services	2,423	1,800	1,840
Other Related Expenses	7,410	4,923	5,033
Total, Consolidated Business Center	26,577	27,248	28,189
Full Time Equivalents	120	150	150
Total, Environmental Management			
Salaries and Benefits	183,266	205,552	218,844
Travel	6,117	7,271	8,238
Support Services	24,454	32,973	35,238
Other Related Expenses	27,549	45,420	47,440
Total, Environmental Management	241,386	291,216	309,760
Full Time Equivalents	1,390	1,495	1,500

Mission

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 safe, risk reduction and cleanup of the nuclear weapons environmental legacy 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, budget formulation and execution, 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 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). 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 by contractors. Finally, Headquarters personnel assess the progress of planned program activities in order to report to Congress, Federal, State and local governments, Tribal Nations, 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 levels include personnel supporting the analytical laboratories.

Program Direction is grouped into four categories:

- Salaries and benefits for FY 2008 provide for 299 Federal full-time equivalents at Headquarters (employees based in Germantown, Maryland and Washington, DC), 1,051 Federal full-time equivalents under the Operations/Field/Site Offices located throughout the United States, and 150 full-time equivalent employees at the Environmental Management Consolidated Business Center in Cincinnati, Ohio. In addition, funding is provided for workers' compensation payments to the Department of Labor, 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 include but are not limited to 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 (storage of household goods and the buying/selling of homes in conjunction with directed permanent change of station) required for permanent change of duty station at Headquarters and the Operation/Field/Site Offices. A Working Capital Fund established at Headquarters to which EM contributes, 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, contract closeouts, corporate training services, Project Management Career Development Program, and the Standard Accounting and Reporting System.

Human Capital Strategy

During the past several years, EM aggressively reduced its Full-Time Equivalent requirements. However, recent concerns related to significant skills gaps in mission critical areas such as contracting and acquisition, safety, and cost estimating have caused EM to begin increasing its Full-Time Equivalent level in FY 2007. EM also is strengthening resources and skills to provide proper performance and oversight of complex technical and project management activities. This budget request reflects EM's plan to shift resources to assure that sites are properly staffed to meet mission requirements. Therefore, the Full-Time Equivalents in this request have been adjusted to provide a more realistic program outlook, commensurate with mission requirements.

EM plans to continue an aggressive recruitment effort to seek qualified personnel and plans to use a variety of incentives such as recruitment bonuses, student loan repayment program and permanent change of station. In FY 2008, EM plans to expand its recruitment, hiring and training of interns to meet both skills and leadership gaps produced by the increasing number of retirements within the next five years. The Energy Student Achievement Program (Summer Program) provides undergraduate and graduate students in science, engineering, finance, law, information technology, and other technical backgrounds with a unique opportunity to work alongside leading scientists, engineers and top professionals at the DOE. With these ten-week appointments, EM has the opportunity to recruit and develop a pool of talented individuals who have an interest in securing internships with EM.

The Environmental Management Career Intern Program will provide a means for succession planning and ensuring a continuing source of highly competent technical personnel with the skills and knowledge to meet EM's current and future technical staffing needs. The Program also includes components designed to develop interns' potential to serve as future leaders and managers. The need to recruit and hire is projected to last between three and five years. This two-year Program will begin in FY 2007 with the planned hiring of 15 interns and an additional 30 interns hired in FY 2008.

Significant Program Shifts

Beginning in FY 2008, funding is included for activities previously funded by the former Office of Environment, Safety and Health. This funding provides salaries and benefits, as well as travel, support service, and other related expenses for five Full-Time Equivalents located at Headquarters (four) and Savannah River (one).

This request continues to include funding for eight Full-Time Equivalents associated with a Central Technical Authority that provides the central oversight function for nuclear safety as directed by the Defense Nuclear Facilities Safety Board Implementation Plan (recommendation 2004-1).

This budget request reflects the realignment of salaries and benefits, as well as travel, support service, and other related services funding to support 46 Full-Time Equivalents from Headquarters, Chicago, Ohio, and the Consolidated Business Center to a separate Small Sites Program Direction request. The following non-EM sites will be included in this request: Oakland (Energy Technology Engineering Center, Stanford Linear Accelerator Center, and Lawrence Berkeley National Laboratory), Moab, Separations Process Research Unit, West Valley Demonstration Project, Argonne National Laboratory, and Brookhaven National Laboratory. The separate display of these Full-Time Equivalents will allow more efficient formulation and execution tracking of the Small Sites requirements.

This budget request continues to recognize the impact that corporate requirements have on the Program Direction budget. As in FY 2007, the requirement to fund E-Government initiatives, as well as HSPD-12 costs, continues. In addition, funding is included for a new Human Capital Initiative to assist the Department to attract and develop a workforce of the future.

EM currently uses various Departmental systems (e.g., Corporate Human Resource Information System for human capital management) to manage corporate data. Several of these systems are under consideration for replacement by e-Government initiatives. EM plans to provide, from within the Program Direction account, approximately $1.1 million in FY 2007 and $1.3 million in FY 2008 for the continued development of these e-Government initiatives. In return, EM expects to receive the benefit of streamlined data management and enhanced system functionality to meet evolving requirements.

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Salaries and Benefits	**183,266**	**205,552**	**218,844**

Provides funding for 1,500 full-time equivalent employees in FY 2008 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, budget formulation and execution, and interagency and international coordination. Funding is also provided to support the recruitment of interns associated with the Human Capital Strategy.

Travel	**6,117**	**7,271**	**8,238**

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. Also includes travel costs associated with permanent change of duty station.

Support Services	**24,454**	**32,973**	**35,238**

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

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Other Related Expenses	**27,549**	**45,420**	**47,440**

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; and other vendor services, including those associated with contractual services (storage of household goods and the buying/selling of homes in conjunction with directed permanent change of station) for permanent change of duty station. In addition, the tuition assistance and student loan reimbursements associated with the Human Capital Strategy are included. 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, and the Corporate Asset Management and Capital Planning and Investment Control (CPIC) Information Technology Project Management Training. Significant portions of these expenditures are fixed in nature and do not change in relation to the workforce.

Total, Program Direction	**241,386**	**291,216**	**309,760**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Salaries and Benefits	
▪ Reflects government-wide increase associated with escalation for pay and personnel related costs for 1,495 full-time equivalent employees	8,911
▪ Reflects increase associated with the Environmental Management Career Intern Program implementation to include salary and benefits as well as recruitment incentives for 45 interns (15 planned hires in FY 2007 and 30 requested hires in FY 2008)	3,700
▪ Reflects redistribution of FTEs to sites (with lower average cost) in order to address skill needs as identified in Human Capital Strategy	-120
▪ Reflects increase associated with transfer of 5 full-time equivalent employees previously funded within the Environment, Safety and Health budget request.	801

	FY 2008 vs. FY 2007 ($000)
Travel	
▪ Reflects increase associated with escalation, as well as higher airfare and lodging costs, for 1,495 full-time equivalent employees	220
▪ Reflects the increase in fuel costs associated with permanent change of station relocations (i.e., shipment of household goods)	50
▪ Reflects increase associated with the 45 interns in the Environmental Management Career Intern Program. Supports travel associated with extended details to EM site offices as well as travel associated with training	600
▪ Reflects increase associated with transfer of 5 full-time equivalent employees previously funded within the Environment, Safety and Health budget request	27
▪ Reflects increase in travel associated with the redistribution of FTEs to address skill needs as identified in Human Capital Strategy implementation	70
Support Services	
▪ Reflects increase associated with escalation for 1,495 full-time equivalent employees	1,383
▪ Reflects decrease in FTE support associated with the redistribution of FTEs to address skill needs as identified in Human Capital Strategy implementation	-107
▪ Reflects increase associated with additional technical support required in the areas of seismic; authorization basis; quality assurance, and environment, safety and health; as well as support for independent project reviews	500
▪ Reflects increase associated with transfer of funding to support the Corporate Safety Program previously funded within the Environment, Safety and Health budget request.	489
Other Related Expenses	
▪ Reflects increase associated with escalation for 1,495 full-time equivalent employees, offset by management initiative to limit non-labor related spending complex-wide	1,367
▪ Reflects decrease in FTE support associated with the redistribution of FTEs to address skill needs as identified in Human Capital Strategy implementation	-180
▪ Reflects increase associated with training and incentives for 45 interns in the Environmental Management Career Intern Program	700
▪ Reflects increase associated with transfer of 5 full-time equivalent employees previously funded within the Environment, Safety and Health budget request	133
Total Funding Change, Program Direction ……..	**18,544**

Support Services by Category

	(dollars in thousands/whole FTEs)		
	FY 2006	FY 2007	FY 2008
Technical Support			
Economic and Environmental Analyses	4,082	5,801	5,673
Test and Evaluation	8,988	5,974	8,899
Total, Technical Support	13,070	11,775	14,572
Management Support			
Directives Management Studies	0	32	25
Training and Education	1,782	2,063	1,652
Reports and Analyses Management and General Administrative Services	9,602	19,103	18,989
Total, Management Support	11,384	21,198	20,666
Total, Support Services	24,454	32,973	35,238

Other Related Expenses by Category

	(dollars in thousands/whole FTEs)		
	FY 2006	FY 2007	FY 2008
Other Related Expenses			
Training	1,835	2,190	2,071
Working Capital Fund	7,758	9,118	9,033
Printing and Reproduction	241	346	356
Rent to GSA	2,627	5,304	5,653
Communication, Utilities, Misc.	1,676	2,452	3,704
Other Services	13,412	26,010	26,623
Total, Other Related Expenses	27,549	45,420	47,440

Safeguards and Security

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Safeguards and Security			
CB-0020 / Safeguards and Security	4,181	4,324	4,927
OH-FN-0020 / Safeguards and Security-Fernald	1,377	1,216	0
OH-WV-0020 / Safeguards and Security-West Valley	1,782	1,600	1,600
OR-0020 / Safeguards and Security	28,567	22,889	18,490
PA-0020 / Safeguards and Security	10,904	8,707	0
PO-0020 / Safeguards and Security	17,664	15,642	11,667
RL-0020 / Safeguards and Security	81,335	77,836	87,297
SR-0020 / Safeguards and Security	135,379	163,626	149,400
Subtotal, Safeguards and Security	281,189	295,840	273,381
Total, Safeguards and Security	281,189	295,840	273,381

Description

The 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 for 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.

EM's landlord sites include Savannah River (excludes the tritium facilities), Hanford (including the Office of River Protection), Carlsbad/Waste Isolation Pilot Plant, West Valley Demonstration Project, East Tennessee Technology Park, Paducah Gaseous Diffusion Plant, and the Portsmouth Gaseous Diffusion Plant.

These 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, and a Cyber Security Plan addressing the protection planning for DOE interests including: classified information, nuclear weapons components, and special nuclear materials. In addition, Personnel Security Programs ensure the continued reliability of employees having access to classified matter at all EM sites.

Since the events of September 11, 2001, the Department has revised the Design Basis Threat several times to define the response capabilities that security programs throughout the complex must meet. The Design Basis Threat was increased for the most critical facilities in May 2003. It was increased again in April 2004 as a result of a special evaluation team's review of protection requirements. In October, 2004, the Design Basis Threat was again significantly increased. Finally, late in 2005, the Design Basis Threat changed again to levels lower than the 2004 requirements but higher than those established in 2003.

Site implementation plans and associated vulnerability assessments (including Joint Conflict and Tactical Simulation runs) had to be significantly modified after each of these revisions. During the same period, EM made significant strides in consolidating its special nuclear materials to fewer locations to minimize the number of facilities affected by increases in Design Basis Threat specifications. The Hanford Site and the Savannah River Site each have only one facility with Category I special nuclear material. Despite these significant consolidations, EM faces increased safeguards and security costs because of the significantly higher requirements posed by the 2005 Design Basis Threat.

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

Protective Forces
Protective Forces are the Security Police Officers and other specialized personnel that provide security at EM sites to insure 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 are 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
EM Cyber Security provides protection for the processing, storing, and 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.

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
CB-0020 / Safeguards and Security (life-cycle estimate $194,067K)	**4,181**	**4,324**	**4,927**

The Waste Isolation Pilot Plant in Carlsbad, New Mexico, is the nation's mined 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. 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.

In FY 2008, the following activities are planned:

- Maintain information and record systems to support receipt of classified transuranic waste from the generator sites across the complex.
- Increase training, install Passive Infrared Sectors, and initiate limited scope performance tests to validate security configuration.

(dollars in thousands)

FY 2006	FY 2007	FY 2008

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Ensured that no unauthorized person or persons gained access to the site and that all sensitive material was safeguarded. (FY 2006) • Maintain Security Posture. (September 2007/September 2008)					

OH-FN-0020 / Safeguards and Security-Fernald (life-cycle estimate $16,353K) **1,377** **1,216** **0**

The Safeguards and Security Program is comprised of three primary activities: Protective Forces and operation of the site Communications Center, Material Control and Accountability, and Cyber Security. A 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, performance testing of security systems, site communication capability for 24/7 monitoring of site-wide alarms. 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 configurations for hardware and software. For decontamination and decommissioning and excavation activities, personnel are moved to an offsite location, where facilities use a passive security syste not requiring a manned security posture. As part of facility closure, removal of the perimeter field fence is required and currently underway. However, access restrictions to the site remain in place and “No Trespassing” signs are posted around the perimeter in lieu of the fence. Fernald Security and the Hamilton County Sheriff’s Department will continue to patrol the project and perimeter. The Fernald Site was transferred to the Office of Legacy Management in FY 2007 for long term surveillance and monitoring. EM has agreed to provide the required protection in FY 2007.

In FY 2008, the following activities are planned:

- No safeguards and security activity is planned for this site after FY 2007.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)					

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
• Maintained protective force, material control, accountability programs, cyber security, and communication capability and implemented heightened security efforts as directed basis. (FY 2006) • Continued to support the site closure by conducting general workload activities, such as cyber security, visitor control, personnel security, and program management. (FY 2006) • Continue to support the site closure by conducting general activities such as cyber security, visitor control, personnel security, and program management. (September 2007)			

OH-WV-0020 / Safeguards and Security-West Valley (life-cycle estimate $47,876K)	**1,782**	**1,600**	**1,600**

The Safeguards and Security Program at the West Valley Demonstration Project includes those activities required to provide physical and cyber security for all project activities in accordance with applicable DOE standards. The West Valley Demonstration Project Safeguards and Security Program provides a secure working environment during execution of the Project by maintaining access controls and perimeter security of the site, and ensuring general site security for personnel and information technology systems.

This scope will continue until DOE's mission at the West Valley Demonstration Project is complete.

In FY 2008, the following activities are planned:

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

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Continued to support the accelerated site closure by conducting cyber security, visitor control, personnel security, and program management activities. (FY 2006)
- Continue to support Project activities by providing physical security and protection, cyber security, visitor control, personnel security, and program management. (September 2007/September 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
OR-0020 / Safeguards and Security (life-cycle estimate $141,252K)	**28,567**	**22,889**	**18,490**

The Safeguards and Security Program at the East Tennessee Technology Park, in Oak Ridge, Tennessee, provides a safe environment for operations, incorporates changes when necessary by global conditions and/or DOE Orders.

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.

Personnel Security provides badging support for all employees, contractors, and visitors, and visitor control. Safeguards and security activities will continue until the East Tennessee Technology Park is closed in FY 2009.

In FY 2008, the following activities are planned:

- Maintain a safeguards and security program at East Tennessee Technology Park to protect against loss or theft of classified matter or Special Nuclear Material.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Implemented Safeguards and Security Program to protect against loss or theft of classified matter or Special Nuclear Material. (FY 2006)
- Implement Safeguards and Security Program to project against loss or theft of classified matter or Special Nuclear Material. (September 2007/September 2008)

(dollars in thousands)

	FY 2006	FY 2007	FY 2008
PA-0020 / Safeguards and Security (life-cycle estimate $109,353K)	**10,904**	**8,707**	**0**

This project provides: visitor control, classification, personnel security, physical security (locks/alarms, access control), information security, implementation of the new Design Basis Threat, 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 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 on-going environmental health investigations, and classify/declassify documents. Oversight and management of nuclear materials control and accountability activities are provided. Personnel security provides badging/clearance support for all employees, contractors, and visitors and visitor control. This project is expected to continue as long as DOE has a site presence.

In FY 2008, the following activities are planned:

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

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Ensured that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded. (FY 2006) • Ensure that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded. (September 2007/September 2008)					

PO-0020 / Safeguards and Security (life-cycle estimate $687,850K)	**17,664**	**15,642**	**11,667**

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 and access controls; information security including information protection, classification/declassification, technical surveillance countermeasures, and operations security; Personnel security including subtopics clearance program, security awareness, and visit control; material control and

(dollars in thousands)

FY 2006	FY 2007	FY 2008

accountability; program management which includes planning, professional training and development, and policy oversight and administration, and cyber security including 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, and a limited number of litigation responses. 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 has a site presence.

In FY 2008, the following activities are planned:

- Maintain the appropriate level of safeguards and security using a graded approach for the non-leased portions of the Portsmouth Gaseous Diffusion Plant.
- Provide protective forces, Nuclear Material Control and Accountability and communications security services.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Provided protective force services through a work authorization with the United States Enrichment Corporation. (FY 2006)
- Maintained security conditions (SECON) appropriate to the threat. (FY 2006)
- Ensured that no unauthorized person or persons gained access to the site and safeguarded all sensitive material. (FY 2006)
- Continued large scale classification. (FY 2006)
- Fully implement the 2005 Design Basis Threat requirements by the end of FY 2008. (September 2008)

RL-0020 / Safeguards and Security (life-cycle estimate $1,119,448K)	**81,335**	**77,836**	**87,297**

The Safeguards and Security Program ensures appropriate levels of protection for the Hanford Site facilities against theft or diversion of Special Nuclear Material; acts of radiological sabotage; espionage; theft or loss of classified matter; protection of sensitive information; theft or loss of government property;

(dollars in thousands)

FY 2006	FY 2007	FY 2008

and other hostile acts that may cause unacceptable impacts on national security, or the health and safety of employees, the public, or the environment.

As of September 2006, approval of the 2003 Design Basis Threat Implementation Plan was completed. In addition, the following Design Basis Threat projects were completed: Protective Forces were increased to new levels to support the implementation of the 2003 Design Basis Threat requirements; additional explosive K-9 units were deployed at Hanford; and additional barriers and early detection technologies were deployed at the Plutonium Finishing Plant. In a memorandum signed on April 19, 2006 by the Deputy Secretary of DOE, Richland received an exemption to provide relief from further security upgrades and enhancements that would fully implement threat level and protection strategy requirements outlined in the 2005 Design Basis Threat. This is being done in response to the Department's plans to consolidate plutonium off-site.

In FY 2008, the following activities are planned:

- Protect the Hanford Site against loss or theft of special nuclear material and toxicological sabotage events.
- Conduct vulnerability/risk analyses and force-on-force testing.
- Protect classified and unclassified information (sensitive) against unauthorized disclosure or compromise.
- Continue installation of defense and delay enhancements and perimeter detection/assessments/entry controls.
- Upgrade of Protective Force equipment, weapons systems, ranges, and facilit*es*.
- Evaluate and begin implementation of necessary security upgrades to the Canister Storage Building for the storage of Category 1 slightly irradiated spent nuclear fuel.
- Continue to refine protective force strategy for the Design Basis Threat shipping scenario through the use of technology, protective force tabletops, and modeling.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Implement the Design Basis Threat requirements, in accordance with revised guidance. (September 2007)

(dollars in thousands)

FY 2006	FY 2007	FY 2008

- Implement threat level and protection strategy requirements outlined in the 2003 Design Basis Threat (minus annex). (September 2008)

SR-0020 / Safeguards and Security (life-cycle estimate $2,999,649K)	**135,379**	**163,626**	**149,400**

The DOE-Savannah River Office of Safeguards, Security, and Emergency Services oversees and manages, safeguards, security and emergency service activities at the Savannah River Site. This organization formulates and executes policies and programs in the areas of physical, information, internal, and personnel security; classification and declassification; computer security; technical surveillance countermeasures; foreign travel; protective force; and material control and accountability. In addition, DOE provides direct management of the perimeter security upgrade construction projects, which are performed under separate contracts, outside those identified below.

The Savannah River Site has two contractors that perform safeguards and security activities. One provides for protective forces and law enforcement. The site management and operations contractor provides security system maintenance, personnel security, material control and accountability, cyber security, information security and vulnerability assessment programs.

EM will fully implement the 2005 Design Basis Threat requirements by the end of FY 2008 at the Savannah River Site.

In FY 2008, the following activities are planned:

- Maintain appropriate uniformed protective force personnel, physical security protection systems, information security and operational security, cyber security, personnel security, and program management for overall assessment and performance testing and indirect functions such as accounting, contracts, compensation, and benefits, etc.

- Meet the 2005 Design Basis Threat requirements security upgrades.

- Provide the necessary safeguards and security modifications to the K-Area complex.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
Material Access Areas eliminated (Number of Material Access Areas)	2	2	2	3	67%

Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008)

- Mobile Commend Post is fully integrated and operational. (FY 2006)
- Ensured timely and accurate material control and accountability for nuclear materials at the Savannah River Site. (FY 2006)

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008

- Ensured that no unauthorized person or persons will gain access to limited areas within the Site perimeter. (FY 2006)
- Ensured no theft of nuclear material takes place at the Savannah River Site. (FY 2006)
- Will ensure timely and accurate material control and accountability for nuclear materials at the Savannah River Site. (September 2007)
- Will ensure that no unauthorized person or persons will gain access to limited areas within the Site perimeter. (September 2007)
- Will ensure no theft of nuclear material takes place at the Savannah River Site. (September 2007)
- Meet all FY 2007 site integrated schedule commitments associated with the Design Basis Threat Implementation. (September 2007)
- Complete 2005 Design Basis Threat Implementation in FY 2008. (September 2008)

Total, Safeguards and Security	**281,189**	**295,840**	**273,381**

Funding Schedule by Site and Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Carlsbad			
Protective Forces	3,634	3,764	4,014
Physical Security Systems	150	153	236
Information Security	186	190	271
Personnel Security	22	23	104
Material Control and Accountability	0	0	146
Program Management	149	153	113
Subtotal, Carlsbad	4,141	4,283	4,884
Cyber Security	40	41	43
Total, Carlsbad	4,181	4,324	4,927
Oak Ridge			
Protective Forces	16,771	16,301	13,014
Physical Security Systems	5,915	779	1,583
Information Security	1,397	990	791
Personnel Security	686	576	656
Material Control and Accountability	1,032	731	409
Program Management	1,960	3,036	1,746
Subtotal, Oak Ridge	27,761	22,413	18,199
Cyber Security	806	476	291
Total, Oak Ridge	28,567	22,889	18,490

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Portsmouth/Paducah Project Office			
Protective Forces	17,611	13,130	6,666
Physical Security Systems	750	743	202
Information Security	1,836	1,665	482
Personnel Security	466	449	190
Material Control and Accountability	1,079	1,105	821
Program Management	6,801	7,231	3,280
Subtotal, Portsmouth/Paducah Project Office	28,543	24,323	11,641
Cyber Security	25	26	26
Total, Portsmouth/Paducah Project Office	28,568	24,349	11,667
Ohio			
Protective Forces	2,657	2,476	1,260
Program Management	322	340	340
Subtotal, Ohio	2,979	2,816	1,600
Cyber Security	180	0	0
Total, Ohio	3,159	2,816	1,600
Richland			
Protective Forces	48,680	50,471	48,388
Physical Security Systems	11,012	6,935	7,389
Information Security	728	750	725
Personnel Security	2,088	2,148	2,260
Material Control and Accountability	2,069	2,131	2,195
Program Management	15,031	12,751	24,443
Subtotal, Richland	79,608	75,186	85,400
Cyber Security	1,727	2,650	1,897
Total, Richland	81,335	77,836	87,297
Rocky Flats			
Subtotal, Rocky Flats	0	0	0
Cyber Security	0	0	0
Total, Rocky Flats	0	0	0

Savannah River			
Protective Forces	62,735	70,096	76,861
Physical Security Systems	29,363	49,853	28,115
Information Security	2,773	2,192	2,200
Personnel Security	5,393	5,604	5,646
Material Control and Accountability	6,154	5,749	5,637
Program Management	25,337	26,299	27,126
Transportation	453	586	609
Subtotal, Savannah River	132,208	160,379	146,194
Cyber Security	3,171	3,247	3,206
Total, Savannah River	135,379	163,626	149,400
Total, Safeguards and Security	281,189	295,840	273,381

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Protective Forces	152,088	156,238	150,203
Physical Security Systems	47,190	58,463	37,525
Information Security	6,920	5,787	4,469
Personnel Security	8,655	8,800	8,856
Material Control and Accountability	10,334	9,716	9,208
Program Management	49,600	49,810	57,048
Transportation	453	586	609
Subtotal, Safeguards and Security	275,240	289,400	267,918
Cyber Security	5,949	6,440	5,463
Total, Safeguards and Security	281,189	295,840	273,381

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Safeguards and Security	
CB-0020 / Safeguards and Security	
▪ Increase reflects additional training, new equipment, and additional security exercises.	603
OH-FN-0020 / Safeguards and Security-Fernald	
▪ Decrease is due to completion of all security activities.	-1,216

	FY 2008 vs. FY 2007 ($000)
OR-0020 / Safeguards and Security	
▪ Decrease is primarily associated with the continued progress in the decontamination and decommissioning of the K-25 building at the East Tennessee Technology Park resulting in fewer security requirements.	-4,399
PA-0020 / Safeguards and Security	
▪ Decrease reflects the utilization of available prior year carryover balances from FY 2007 to support FY 2008 requirements at the same level of effort.	-8,707
PO-0020 / Safeguards and Security	
▪ Decrease is attributed to completion of security upgrade projects.	-3,975
RL-0020 / Safeguards and Security	
▪ Increase reflects the initiating of security upgrades at the Canister Storage Building.	9,461
SR-0020 / Safeguards and Security	
▪ Decrease is due to the implementation of the final phase of the 2005 Design Basis Threat requirements.	-14,226
Total, Safeguards and Security	**-22,459**

Capital Operating Expenses

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
General Plant Projects	37,983	6,935	7,389
Capital Equipment	1,442	735	0
Total, Capital Operating Expenses	39,425	7,670	7,389

Technology Development and Deployment

Funding Schedule by Activity[a b c]

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Technology Development and Deployment			
Eliminating Technical Barriers to Accelerated Closure / Alternative Projects	27,547	19,338	20,790
Small Business Innovative Research Program	0	551	599
Technical Assistance / External Technical Review Program	1,500	1,500	0
Total, Technology Development and Deployment	29,047	21,389	21,389

Description

This PBS can be found within the Defense Environmental Cleanup appropriation. EM projectized its Technology Development and Deployment Program to directly support opportunities identified in the Office of Environmental Management (EM) cleanup initiatives. The program currently focuses on the highest cost centers for the EM complex: Tank Waste and Groundwater and Soil cleanup at the largest EM sites: Savannah River, Idaho, Hanford, Oak Ridge, and Portsmouth/Paducah.

The overall goals of the program are to eliminate technical barriers to cleanup by reducing technical uncertainty; improving safety performance by applying improved or new technologies; increasing confidence in achieving long-term cleanup goals; addressing emerging issues; and leveraging investments in scientific research conducted by other parts of the Department. The program is composed of a limited number of critical, high-risk and high-payback activities where significant technical issues need to be addressed and/or where significant improvements can be gained.

Work activities will continue to support prior Congressional direction to evaluate commercially available remediation technologies to accelerate cleanup, reduce risks, and to provide increased safety to workers and the public. This effort was initiated in FY 2005 through issuance of a solicitation to private industry.

[a] Distribution of funds by program area may change depending upon final receipt, review, selection, and award of technical proposals.
[b] FY 2006 funding levels provide $18,067,500 for Congressionally directed activities in addition to the Alternative Projects described.
[c] FY 2006 funding levels exclude $718,000 ($641,000 for Small Business Innovation Research and $77,000 for Small Business Technical Transfer Programs) transferred to Office of Science for award and administration of grants to small businesses.

Benefits

These projects provide funding to support innovative technical solutions through applied research and engineering to assist with the safe, cost-effective cleanup of the DOE complex; to address technology gaps; and to reduce technical uncertainty.

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Eliminating Technical Barriers to Accelerated Closure / Alternative Projects	**27,547**	**19,338**	**20,790**

The program will focus on three major challenges: 1) eliminating technical uncertainties/gaps in individual site baselines; 2) offering significant cost/schedule reductions to a site's current baseline; and 3) improving worker and public safety. The focus will be on providing innovative technical solutions in response to the highest priority needs of the sites. This portion of the budget will include support for applied engineering and research demonstrating the technical feasibility of higher-risk, high payoff technologies. The ultimate implementation of an innovative technology will be supported separately by site cleanup funding.

Some opportunities will require qualification and delivery of new technologies and processes. Examples include: new ways to separate high activity contaminants from high-level wastes at or near the tanks, eliminating the need for large treatment plants to be modified; advanced methods for in-tank sludge washing and sludge heel retrieval; minimization of secondary waste generated; and new tools for characterizing and remediating hot spots in high-activity transuranic waste burial grounds. Such technologies must be delivered in time for implementation decisions during the life-cycle of a site cleanup schedule.

The highest priority needs identified by the sites that will require technical solutions fall into four major problem areas:

- Tank Waste (including High Level Waste)
- Groundwater and Soils
- Deactivation and Decommissioning
- Transuranic Waste

Tank Waste

The Department has approximately 91 million gallons of liquid waste stored in underground tanks and approximately 4,000 m^3 of solid waste derived from the liquids stored in bins. The current DOE estimated cost for retrieval, treatment and disposal of this waste exceeds $50 billion to be spent over several decades. The highly radioactive portion of this waste, located at the Office of River Protection, Idaho National Laboratory, and the Savannah River sites, must be treated and immobilized, and prepared for shipment to

(dollars in thousands)

FY 2006	FY 2007	FY 2008

a waste repository. Efforts will focus on improving: pre-treatment processes to reduce the amount of waste that must be disposed; retrieval technologies; vitrification performance; and breakthrough immobilization technologies. Technology Development and Deployment is needed in each of these areas to accelerate baseline schedules, reduce costs, improve safety, and reduce programmatic risks.

Projects that will be continued in FY 2008 from FY 2007 will include:

- Enhanced waste processing at Idaho, Hanford, and Savannah River;
- Low and medium curie waste pretreatment at Hanford;
- Improved in-situ characterization/monitoring methods at Hanford, Idaho, and Savannah River; and sludge heel retrieval at Savannah River;
- Advanced melter technology at Savannah River and other melter studies.

In FY 2008, other activities will focus on:

- Addressing the recommendations from the National Research Council of the National Academies of Sciences Final Report (April 2006) "Tank Waste Retrieval, Processing, and On-site Disposal at Three Department of Energy Sites."
- Options for improved chemical cleaning of tanks
- Emerging technologies to assist tank-waste removal, including robotic enhancements to current waste retrieval technologies
- Near- and long-term performance and monitoring of tank fill materials as they interact with the environment
- Addressing recommendations for improvements from the Nuclear Regulatory Commission's Technical Evaluation Reports for Savannah River's and Idaho's waste determinations under Section 3116 of the National Defense Authorization Act for FY 2005.

Groundwater and Soils

As a result of processes used for nuclear weapons production, vast areas of groundwater and soils were contaminated at DOE facilities. Plumes of contaminated groundwater are migrating beneath these facilities, resulting in large quantities of contaminated soil in those areas. The conventional method for cleaning up contaminated ground water (pump and treat) is limited in its effectiveness because it fails to dislodge all of the contamination from the subsurface. Improved methods must be developed which will accurately locate and characterize the source term, as well as remediating or removing the contaminant from the subsurface (groundwater and soils). Critical contaminants include chlorinated solvents, metals, and radionuclides.

Applied Research and Engineering activities support monitored natural attenuation, in-situ treatment, and characterization/monitoring. An understanding of processes that affect the long-term effectiveness of natural attenuation (in lieu of more intensive and aggressive remediation approaches) is crucial to gaining

(dollars in thousands)

FY 2006	FY 2007	FY 2008

confidence in planned site closure methods and regulatory acceptance. In-situ methods of treatment may be the only way to address remediation of persistent and toxic metals (mercury principally) and longer-lived radionuclides.

In FY 2008, the following activities are planned:

- Deploying technologies to mitigate or reduce contaminate movement toward and into the Columbia River.

- Providing research to improve data to reduce uncertainties in groundwater models and in understanding and characterization of contaminate migration in the soils and in the subsurface.

Deactivation and Decommissioning

As the DOE complex sites prepare for closure, a large number of buildings and facilities must be deactivated and decommissioned. These facilities contain many complex systems (e.g. ventilation), miles of contaminated pipelines, gloveboxes, and unique processing equipment that require labor intensive deactivation and decommissioning methods. Although many technologies currently exist to address various aspects of decontamination, technology development and/or adaptation are needed to address unique contaminated buildings and facilities, as well as, to increase efficiency and worker safety.

In FY 2008, activities will focus on:

- Providing technical assistance to the sites to identify emerging technologies, technical approaches, lessons learned from past and ongoing site closures
- Providing best practices from the commercial nuclear sector and international nuclear community that will improve safety and to reduce risk and cost associated with deactivation and decommissioning activities

Transuranic Waste

Retrieval, treatment, and assay of transuranic waste is critical to the EM Program. There are several key technologies that need to be improved to achieve efficient cleanup. These technologies will enhance characterization, transportation, and disposal activities at additional DOE sites. Development of characterization using Non Destructive Assay/Non-Destructive Examination assay instruments for large transuranic containers is a high priority item at all transuranic waste-handling sites as is the size reduction, repackaging, transportation, and storage of contact-handled and remote-handled transuranic waste. This transformational technology developed by the program is being deployed in FY 2007.

In FY 2008, there are no new activities planned.

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Small Business Innovative Research Program	**0**	**551**	**599**

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.[a]

[a] Excludes $718,000 ($641,000 for Small Business Innovation Research and $77,000 for Small Business Technical Transfer Programs) transferred to the Office of Science for award and administration of grants to small businesses.

Technical Assistance / External Technical Review Program	**1,500**	**1,500**	**0**

The Technical Assistance Program provides assistance to sites, to reduce the technical uncertainty and risks of site cleanup. This activity provides technical expertise, scientific problem-solving and technical solutions to support more precise quantification and confirmation of the technical bases for decision making at sites. The Technical Assistance activities are to provide immediate, short-term engineering and scientific advice and support to reduce technical problems impeding site cleanup. These activities will benchmark site technical baselines to identify the technical risk associated with site closure or completion; provide independent multidisciplinary expertise to resolve technical issues associated with accelerated cleanup; and/or provide technologies or technical alternatives for consideration by the site to reduce technological uncertainty. In addition, this activity also provides engineering and scientific expertise for external technical reviews of projects, programs and/or activities.

Total, Technology Development and Deployment	**29,047**	**21,389**	**21,389**

Key Accomplishments (FY 2006) / Planned Milestones (FY 2007/FY 2008)

Key Accomplishments (FY 2006)

Eliminating Technical Barriers to Accelerated Closure/Alternative Projects:

- Initiated nine projects to address groundwater contamination and protection of the Columbia River.
  - Five projects are targeted to address issues related to hexavalent chromium in the 100-D and 100-K Areas.
  - Two projects address strontium-90 in the 100-N area.
  - One project addresses uranium in the 300 Area.
  - One project addresses carbon tetrachloride in the 200 Area.
- Initiated 12 projects to evaluate and demonstrate new technologies or approaches for addressing high level waste or tank issues or groundwater remediation issues. Eight projects focus on high level waste issues: single-shell heel removal; tank heel removal; cold crucible induction melter; tank waste alumina recovery; high level waste treatment; cesium removal; aluminum and chromium removal; and submerged combustion melting. Four projects focus on groundwater issues: strontium immobilization; subsurface characterization; metals separation; and groundwater remediation.

- Completed applied research of 14 applied research projects supporting Monitored Natural Attenuation (MNA) and Enhanced Attenuation (EA) of Chlorinated Solvents. The work has been conducted in collaboration with state regulators and federal agencies. Key technical concepts and results of field research studies are being incorporated into technical regulatory guidance documents that are under development by regulators. These documents focus on the use of Enhanced Attenuation as a bridge between active source treatment and MNA for Chlorinated organic plumes and incorporates key technical concepts and selected research study results.

- Transferred key technical developments and selected research results from the MNA and EA for Chlorinated Solvents projects to the environmental technical community. Technical and panel sessions dedicated to the topic of advances in MNA and the introduction of the EA concept were held during the Fifth International Conference on Remediation of Chlorinated and Recalcitrant Compounds.

The following Alternative Projects were completed and results delivered to sites for implementation decisions:

- Alternatives for disposition of High-Level Waste Salt, Savannah River, South Carolina.

- Alternatives for Non-Destructive Characterization of large Transuranic Waste containers to allow shipping in Transuranic Waste Package Transporter III without resizing and/or repackaging, Savannah River, South Carolina and Carlsbad, New Mexico.

Technical Assistance/External Technical Review Program:

- Provide technical experts to analyze and make recommendations in response to worker safety concerns and suggestions at EM cleanup sites.

- Provide technical expertise to cleanup sites in the decontamination and demolition of facilities.

Planned Accomplishments (FY 2007)

Eliminating Technical Barriers to Accelerated Closure/Alternative Projects:

Tank Waste

- Select two to four of the most promising projects from the eight high level waste projects initiated in FY2006 to address issues related to high level waste or tanks.

- Develop methods to improve the removal of residual sludge heels from waste tanks at Savannah River.

- Develop methods to improve the removal of residual salt waste heels from waste tanks at the Office of River Protection and Savannah River.

- Increase waste loading of bulk vitrification low-activities waste glass at the Office of River Protection.

- Develop in-situ methods to characterize residuals left in waste tanks after retrieval at the Office of River Protection and Savannah River.

- Development methods to optimize the removal of non-radioactive components from tank waste sludge thereby reducing the amount of high-level waste glass produced at the Office of River Protection and the Savannah River sites.

- Develop methods for removing chromium from waste thereby reducing the amount of high-level waste glass produced at the Office of River Protection.

Groundwater and Soil

- Complete nine projects that will aggressively address the groundwater contamination from hexavalent chromium, strontium-90, uranium, and carbon tetrachloride.

- Select one to two of the most promising projects from the four groundwater projects initiated in FY2006 to address issues related to groundwater remediation.

- Develop low-cost equipment and methods for characterization and monitoring of soils contaminated by heavy metals at Hanford.

Transuranic Waste

- Provide transuranic waste box assay improvements using Non-Destructive Assay/Non-Destructive Examination assay instruments for size reduction, repackaging, transportation, and storage of remote-handle transuranic waste at Hanford and Idaho.

Technical Assistance/External Technical Review Program:

- Provide technical experts to analyze and make recommendations in response to worker safety concerns and suggestions at EM cleanup sites;

- Provide technical expertise to cleanup sites in the decontamination and demolition of facilities;

- Lessons learned in safety and decontamination and demolition from current closure sites will be applied to future closure sites.

Planned Accomplishments (FY 2008)

Eliminating Technical Barriers to Accelerated Closure/Alternative Projects:

Tank Waste

- Support applied research and engineering for advanced remediation technologies such as melters, waste removal and separation.

- Develop and deploy methods to improve waste loading in high-level waste glass

- Provide applied research and engineering and develop and deploy of innovative technologies focused on options for chemical cleaning of tanks

- Provide applied research and engineering and evaluate and deploy emerging technologies to assist in tank-waste removal or retrieval, including in-situ methods developed to characterize residuals left in high level waste tanks after retrieval; methods developed to improve removal of residual sludge heels from tanks; and optimized removal of non-radioactive components from sludge in tanks; and improved removal of residual salt waste heels from sludge in tanks.

- Support research and development to improve near- and long-term performance and monitoring of tank fill materials as they interact with the environment, including methods for improved confidence in performance of cementitious materials in tanks.

- Support research and development to reduce technical uncertainty associated with performance assessments.

Groundwater and Soil Remediation

- Support advanced remediation technologies such as: subsurface remediation.

- Deploy technologies to mitigate or reduce contaminate movement toward the Columbia River, specifically focus

contaminate movement of chromium, strontium, uranium, carbon tetrachloride, and technetium.

- Provide research to improve data to reduce uncertainties in groundwater models and in understanding and characterization of contaminate migration in the soils and in the subsurface.

Deactivation and Decommissioning

- Support development of technology(s) for real-time characterization and monitoring of beryllium at sites.

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Eliminating Technical Barriers to Accelerated Closure / Alternative Projects	
▪ Increase due to tank waste activities required to address recommendations from the National Research Council of the National Academies of Sciences final report.	1,452
Small Business Innovative Research Program	
▪ Increase due to mandated tax assessment (Public Law 102-564) for small businesses.	48
Technical Assistance / External Technical Review Program	
▪ Decrease due to workscope being transferred to PBS MS-HQ-0100.	-1,500
Total, Technology Development and Deployment	**0**

Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund

Overview

The Defense Environmental Cleanup, 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.

Benefits

This fund is responsible for maintaining, decontaminating, decommissioning, and 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.

The account also provides funding for reimbursement of licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites. The funding request for Uranium/Thorium is found in the Headquarters chapter of the budget.

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 be reduced.

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
Defense Environmental Cleanup			
Federal Contribution to the Uranium Enrichment D&D Fund			
HQ-DD-0100 / Federal Contribution to the Uranium Enrichment D&D Fund	446,490	452,000	463,000
Total, D&D Fund Deposit	446,490	452,000	463,000

Detailed Justification

	(dollars in thousands)		
	FY 2006	FY 2007	FY 2008
HQ-DD-0100 / Federal Contribution to the Uranium Enrichment D&D Fund (life-cycle estimate $4,670,588K)	**446,490**	**452,000**	**463,000**

The Energy Policy Act of 1992 created the Uranium Enrichment Decontamination and Decommissioning Fund to pay for the cost of cleanup of the gaseous diffusion facilities located in Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. The fund also covers the Federal cost to reimburse operating uranium or thorium processing site licensees for the costs of their environmental cleanup at designated sites, subject to a specific reimbursement limit. The Department compensates site owners on a per-ton basis for the restoration costs for those tailings attributable to the Federal Government. The Act authorizes annual 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 separative work unit purchases from the Department to total purchases from the Department including those produced for defense purposes, with the remainder to come from annual Congressional appropriations. The purpose of this activity is to provide the annual Federal contribution.

- Provide the FY 2008 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992.

Metrics	Complete Through FY 2006	Complete Through FY 2007	Complete Through FY 2008	Life-cycle Quantity	FY 2008 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2006)/Planned Milestones (FY 2007/FY 2008) • Make annual Federal contributions into the Fund as required by the Act. (FY 2006/September 2007/September 2008)					

Total, D&D Fund Deposit	**446,490**	**452,000**	**463,000**

Explanation of Funding Changes

	FY 2008 vs. FY 2007 ($000)
Defense Environmental Cleanup	
Federal Contribution to the Uranium Enrichment D&D Fund	
HQ-DD-0100 / Federal Contribution to the Uranium Enrichment D&D Fund	
▪ Increase reflects an inflationary factor and to meet the Government's commitment as established in the Energy Policy Act of 1992.	11,000
Total, D&D Fund Deposit	**11,000**

PBS Subprojects Summary

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Appro-priations	FY 2006	FY 2007	FY 2008	Unappro-priated Balance
Defense Environmental Cleanup						
Hanford Site						
04-EXP-1 A-8 Electrical Substation Upgrade, RL	14,766	9,134	4,432	1,315	0	0
Oak Ridge						
08-EXP-02 Management of Uranium 233 Stored at Building 3019, Oak Ridge National Laboratory, Oak Ridge, Tennessee	0	0	17,821	0	20,000	0
98-EXP EM Waste Management Facility, OR (98-PVT-5)	188,928	45,926	1,041	0	0	141,961
Total, Oak Ridge			18,862	0	20,000	
Office of River Protection						
94-D-407 Initial Tank Retrieval Systems, RL	230,561	28,537	17,492	0	0	184,532
Savannah River Site						
07-EXP-02 Interim Salt Processing System Modifications, Subproject Detail, Savannah River PBS SR-0014C	0	49,128	60,868	30,995	3,550	0

Interim Salt Processing System Modifications
Subproject Detail, Savannah River, South Carolina
(SR-0014C)

1. Significant Changes

This expense funded data sheet incorporates the Waste Transfer Line Phase II Subproject schedule changes.

2. Construction Schedule

	Fiscal Quarter				Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	
FY 2007 Budget Request	1Q 2004	1Q 2007	3Q 2004	2Q 2010	$160,895
FY 2008 Budget Request	1Q 2004	2Q 2009[a]	3Q 2004	2Q 2010	$160,895

3. Baseline and Validation Status

(dollars in thousands)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2008	144,145	16,750	N/A	160,895	TBD	160,895

4. Subproject Description, Justification and Scope

As part of the Savannah River legacy defense waste cleanup mission, the U. S. Department of Energy has developed a strategy to move forward in the short term with the removal, treatment and disposition of waste from the Savannah River Site tank farms to reduce risk to workers, the public, and the environment. The existing waste processing system is being modified to enable the limited removal, treatment and disposition of salt waste while building the Salt Waste Processing Facility. The Salt Waste Processing Facility is a new Savannah River Site facility to be designed to utilize the technologies monosodium titanate treatment to remove actinides and strontium from the salt waste and caustic side solvent extraction to remove radioactive cesium from the salt waste. The Salt Waste Processing Facility

[a] The Waste Transfer Line Subproject Phase II is a rough order of magnitude estimate which is included in the total of $160,895. The Waste Transfer Lines Phase II project schedule is currently forecasted to be available in the 2Q2008.

will not be operational until 2011, which is too late to prevent an interruption at the Defense Waste Processing Facility and delays in removing waste from older tanks. There are presently 37 million gallons of liquid radioactive waste stored in underground storage tanks at Savannah River Site. These tanks are nearing capacity for storage and processing of waste. Unless salt solution is soon removed from these tanks, capacity limitations will force DOE to decrease and eventually halt the on-going activities to remove and stabilize tank waste. These activities are key to reducing risk to workers, the public, and the environment. Chief among the activities in jeopardy are the processing of sludge waste at Defense Waste Processing Facility, removal of waste from aging tanks that lack full secondary containment, and tank closure.

Modifications to the existing waste processing system, to enable the limited removal, treatment and disposition of salt waste consist of the primary system projects listed below:

1. Actinide Removal Process,
2. Modular Caustic Side Solvent Extraction Unit,
3. Waste Transfer Lines.

In addition to the above, there are ancillary projects that deal primarily with individual tank infrastructure modifications necessary to facilitate movement of salt material through the above processing system.

Actinide Removal Process

The primary purpose of the Actinide Removal Process is to remove the actinides and strontium-90 from the waste stream utilizing the same technology to be used by the Salt Waste Processing Facility. Two preexisting buildings were modified to support the Actinide Removal Process.

The Actinide Removal Process project installed two monosodium titanate strike tanks, with associated waste transfer pumps, agitators, chilled water cooling coils, and associated jumpers. A chiller unit has been installed to maintain tank temperature for process control while the agitator is running. A process vessel vent system has been installed to provide ventilation for the strike tanks. A new valve box has been installed for transfers between buildings. The project has also provided a new 0.1 micron cross flow filter.

Salt solution is transferred from tank farms to one of the two monosodium strike tanks. Monosodium is added and the material is agitated. The solution is then transferred to where it is filtered to remove the monosodium/actinide solids. The filtration turns the monosodium sludge solution into a sludge feed and a decontaminated salt solution. The sludge feed will be transferred to the Defense Waste Processing Facility for processing, while the decontaminated salt solution is sent to the- Modular Caustic Side Solvent Extraction Unit for cesium removal prior to transfer to the Saltstone Processing Facility. The process may also be used bypassing the Modular Caustic Side Solvent Extraction Unit step in the process, sending instead the decontaminated salt solution directly to the Saltstone Processing Facility, as appropriate. The Actinide Removal Process is scheduled to complete testing in the 2Q FY 2007.

Modular Caustic Side Solvent Extraction Unit

The Modular Caustic Side Solvent Extraction Unit will provide a caustic side solvent extraction based cesium removal capability with a capacity matched to the Actinide Removal Process throughput. Modular Caustic Side Solvent Extraction Unit cesium strip product will be stabilized at the Defense Waste Processing Facility and the decontaminated salt solution will be treated and disposed of in the Saltstone Processing Facility and Saltstone Vaults. This operation will facilitate tank farm storage gain and support continued operation of the Defense Waste Processing Facility. An additional benefit from the operation of Modular Caustic Side Solvent Extraction Unit will be that the information gained may become useful for the operational optimization of the Salt Waste Processing Facility. The project will design, construct, test, and successfully startup the Modular Caustic Side Solvent Extraction Unit. The project will perform the necessary modifications to the existing H-Tank Farm utilities, infrastructure, including tie-ins to the existing waste transfer lines to support operation of the unit, receipt of feed from the Actinide Removal Process, and transfer of Modular Caustic Side Solvent Extraction Unit product streams to the Defense Waste Processing Facility and to Saltstone Processing Facility through the H-Tank Farm.

After processing salt waste in the Actinide Removal Process to remove actinides and strontium, the resulting decontaminated salt solution with no actinides (maximum 1.1 curies per gallon) will be transferred to Modular Caustic Side Solvent Extraction Unit to remove the cesium. This stream is received and fed into the extraction contactor bank of the caustic side solvent extraction unit process while solvent is fed from the opposite end of the contactor bank. The solvent and aqueous streams flow counter-current across the bank and concurrent in each contactor stage. Upon contact with the waste feed, the solvent extracts the cesium from the aqueous waste increasing the amount extracted in each successive contactor stage until the aqueous waste exiting the banks has undergone cesium decontamination (decontaminated salt solution) and the solvent exiting the contactor bank is laden with cesium. Solvent is stripped of the cesium and washed for reuse. The decontaminated salt solution is transferred to Saltstone Processing Facility through the H-Tank Farm and the cesium strip is transferred through the Low Point Pump Pit to the Defense Waste Processing Facility. A small amount of solvent carryover is expected in downstream facilities.

This modification can be divided into three major scopes: the Modular Caustic Side Solvent Extraction Unit, utilities and infrastructure tie-ins, and waste transfer system tie-ins.

Modular Caustic Side Solvent Extraction Unit

The Modular Caustic Side Solvent Extraction Unit will be located in the former H-Tank Farm Cold Feeds Area. Some of the existing tanks and related equipment will be utilized in the process. To make space in the area, two major tanks and related equipment were closed out through South Carolina Department of Health and Environmental Control and removed, along with other support systems. The Modular Caustic Side Solvent Extraction Unit consists of an underground area divided in cells to house process vessels mounted in modular frames for ease of installation. This underground process area will include salt solution receipt and feed systems, solvent systems, cesium strip and decontaminated salt solution hold and transfer systems, contactor drain systems, and cell sump system. An above grade shielded structure will house equipment and instrumentation required to enable the operation of a frame

mounted extraction, strip, wash and scrub contactor banks (18 contactors total), a strip aqueous heater, a strip solvent heater and a caustic wash tank. There will also be a sampler enclosure and a process vessel vent and enclosure ventilation systems. Modular Caustic Side Solvent Extraction Unit will allow very limited hands on maintenance; otherwise, certain sections of the Modular Caustic Side Solvent Extraction Unit will not be occupied during normal radiological operations.

Utilities and infrastructure tie-ins – Electrical power will be obtained by installing a new transformer and connecting to an existing 13.8 kV distribution feeder. The Modular Caustic Side Solvent Extraction Unit will connect to the existing domestic water system for operation of a safety shower in the area. This Unit will also utilize the existing instrument air system.

Waste Transfer System tie-ins - The Modular Caustic Side Solvent Extraction Unit will tie-in to existing transfer lines to receive feed from the Actinide Removal Process and to permit transfers to the Saltstone Processing Facility feed tank in H-Tank Farm, and to the Defense Waste Processing Facility (through the Low Point Pump Pit). Any modifications in Low Point Pump Pit to receive the Modular Caustic Side Solvent Extraction Unit transfer of cesium strip will be performed by the Waste Transfer Lines.

Waste Transfer Lines

Currently there is a critical shortage of storage space in the High Level Waste tank farm system. In addition, transfers are restricted due to the complex chemical compositions of the waste in the tanks and the limited infrastructure in the tank farms. New waste transfer infrastructure is required to provide transfer routes to the Defense Waste Processing Facility, for the Actinide Removal Process, and to support the Modular Caustic Side Solvent Extraction Unit operations. New waste transfer infrastructure is also required to support the Salt Waste Processing Facility when it becomes operational. The transfer infrastructure needed to support these processes comprises the scope of the Waste Transfer Line project. Since Actinide Removal Process and Modular Caustic Side Solvent Extraction Unit are planned to become operational in advance of the Salt Waste Processing Facility the Waste Transfer Lines scope is defined in two phases. Phase I, in general, consists of jumpers and associated appurtenances to be installed in the Low Point Pump Pit and Defense Waste Processing Facility. Cost and schedule baseline was finalized on March 6, 2006. Phase II, in general, consists of jumpers and associated appurtenances to be installed in the Low Point Pump Pit, and the Defense Waste Processing Facility. Phase II scope also includes physical tie-ins of transfer lines to support the Salt Waste Processing Facility influent and effluent transfers. Phase II baseline is under development. Cost and schedule baseline will be completed in 2Q FY 2008.

The three projects included in this project data sheet are at different stages of project execution. A Critical Decision-0 package for Modular Caustic Side Solvent Extraction Unit was approved on July 7, 2006. The Modular Caustic Side Solvent Extraction, Actinide Removal Process and the Waste Transfer Lines-Phase I, are scheduled to be completed in the 2Q FY 2008. The Waste Transfer Lines-Phase II, is forecasted for completion in the 2Q FY 2010.

5. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2003	495	495	495
2004	11,610	11,610	11,610
2005	37,023	37,023	37,023
2006	60,868	60,868	60,868
2007	30,995	30,995	30,995
2008	3,550	3,550	3,550
Outyears	16,354	16,354	16,354
Total	160,895	160,895	160,895

6. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC (Design/Facility Mods & Other) ……	124,241	3,550	16,354	0	0	0	0	144,145
OPC Other than D&D……	16,750	0	0	0	0	0	0	16,750
Total, Project Costs.....	140,991	3,550	16,354	0	0	0	0	160,895

7. **Related Operations and Maintenance Funding Requirements**

Start of Operation or Beneficial Occupancy (fiscal year)	N/A
Expected Useful Life (number of years)	N/A
Expected Future Start of D&D for New Construction (fiscal quarter)	N/A

Total Budget Authority

(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC …….....	124,241	3,550	16,354	0	0	0	0	144,145
OPC…….	16,750	0	0	0	0	0	0	16,750
Other……..	0	0	0	0	0	0	0	0
Total……...……	140,991	3,550	16,354	0	0	0	0	160,895

8. Required D&D Information

N/A

9. Acquisition Approach

The project acquisition strategy included the use of two separate contractors to perform conceptual design, which reduced project risk. The use of two contractors enhanced technology deployment, optimized design and resulted in a significantly reduced cost estimate for project execution. Both contractors identified and managed technical and program risks through completion of conceptual design. Following completion of conceptual design, the Department selected one of the two contractors to perform preliminary and final design, construction, commissioning, and one year of operations. Design services were obtained through a competed contract with an Engineering, Procurement, and Construction contractor. The negotiated contract is a Cost-Plus-Incentive Fee arrangement, which also includes construction and commissioning services. Management and Operating contractor staff will be involved in areas concerning high-level waste system interfaces, feed and product specification, security, etc.

Uranium-233 Down Blending and Disposition Project
Oak Ridge National Laboratory, Oak Ridge, Tennessee

(OR-0011Z)

1. Significant Changes

In FY 2006, this project transferred from the Office of Nuclear Energy to the Office of Environmental Management (EM). It was determined that this project did not align with the current mission of the Office of Nuclear Energy. The project was on hold through much of FY 2006 while EM evaluated the appropriate path forward. This datasheet will establish the initial EM estimate for the project as the scope of work is presently defined.

2. Design, Construction, and D&D Schedule

(fiscal quarter)

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
FY 2008	1Q 2004	3Q 2009	3Q 2009	3Q 2011	N/A	N/A

3. Baseline and Validation Status

(dollars in thousands)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2008[a]	218,686	14,756	N/A	233,442	TBD	233,422

This project is at pre-Critical Decision-2 (baseline validation) and, therefore, the cost and schedule estimates are not yet approved by the Department for configuration control purposes. The Total Project Cost is estimated to be in the range of $252,000,000 to $375,000,000.

[a] The project was on hold through much of FY 2006 while EM evaluated the appropriate path forward. The costs of facility operations and facility shutdown are not included here; they are reported in Section 7 – Related Operations and Maintenance Funding Requirements. Also, project contingency ($25,673,000) is not included in this estimate.

4. Project Description, Justification, and Scope

The project has been developed by the Department of Energy (DOE) to resolve legacy safety and security issues associated with the inventory and its storage facility, including the safety issues that were identified by the Defense Nuclear Facilities Safety Board (DNFSB) in Recommendation 97-1, "Safe Storage of Uranium-233." Blending down this material will support National non-proliferation goals by making the material unsuitable for use in weapons and reducing security costs at the Oak Ridge National Laboratory.

Accordingly, this project will:

- Meet the requirements of Defense Nuclear Facilities Safety Board Recommendation 97-1, which addresses the storage, inspection, and repackaging of the ^{233}U maintained at Oak Ridge Laboratories.
- Following processing, disposition of the Building 3019 inventory at an approved disposal site, presumably the Waste Isolation Pilot Plant or the Nevada Test Site; and
- Shutdown the Building 3019 Complex in preparation for final decontamination and decommissioning (D&D).

The Department developed a three-phased approach to allow for systematic decision-making and to increase the Department's flexibility. The base contract award consisted only of Phase I/Planning and Design. On October 9, 2003, a contract was awarded to Isotek Systems, LLC (Isotek), a limited-liability corporation formed by Duratek Federal Services, Inc., Nuclear Fuel Services, Inc., and Burns and Roe Enterprises, Inc., to perform Phase I of the work. Phase II/Project Implementation and Phase III/ Building 3019 Complex Shutdown are contract options that may be unilaterally exercised by the Department.

In FY 2006, this project transferred from the Office of Nuclear Energy to the Office of EM. In the Conference Report (109-275) accompanying the Energy and Water Development Appropriations Act for 2006, the conferees directed, "the Department to provide a report within 60 days of enactment of this Act that details the Department's path forward in managing this material." The Department delivered a report to Congress in February 2006 that discusses alternatives to safely disposition the Building 3019 inventory. After delivery of the report to Congress, DOE directed Isotek to begin a re-baselining effort to reflect the change in approach from long-term storage to final disposition of the material, address all material in the inventory, and to delete thorium extraction from the baseline. This revised baseline ($379,166,000) was independently reviewed and validated by the Office of Engineering and Construction Management on November 1, 2006. The baseline includes $233,442,000 of total project costs; unfunded contingency of $25,673,000; and facility operations of $120,051,000. However, the Acquisition Executive has not yet approved the baseline (Critical Decision-2). This approval of Critical Decision-2 is expected in 2007.

Phase I - Planning and Design:

Phase I consists of detailed project planning, process and facility modification designs, development of safety documentation, and development of detailed Phase II cost estimates. Phase I is being conducted on a cost-plus-fixed-fee basis. Currently, the Oak Ridge National Laboratory contractor operates the Building 3019 Complex, although transition to Isotek is planned in FY 2007.

At the end of Phase I of the project, DOE will determine whether to proceed with Phase II/Project Implementation based on the following:

- The acceptability of the safety analysis, security plan, management plans and final design;
- The acceptability of the detailed cost estimate to complete the project, as determined by an independent cost analysis ("should cost analysis") by DOE using the contractor's design and processing approach;
- The overall performance of the contractor in meeting the DOE cost, schedule, and safety requirements; and
- The confirmation of existing National Environmental Policy Act (NEPA) documentation supporting the planned activities.

Based on the evaluation of the work conducted under Phase I of the project (deliverables, contractor performance, and project costs) and the NEPA review, DOE can choose either to terminate the project or unilaterally exercise the option to implement Phase II.

Phase II - Project Implementation

During Phase II, the contractor will begin the necessary facility modifications and processing equipment installation. Total estimated cost and total project cost data reflect estimates for Phase I design costs and Phase II modifications to the Building 3019 Complex costs and are consistent with the validated cost estimate. Following the completion of Phase II, the contractor would begin the program activities of down-blending the enriched ^{233}U with depleted uranium, and shipment of containers of down-blended material to an approved disposal site. Execution of the program activities during Phase II would satisfy all of the requirements of the inspection and repackaging program that DOE agreed is necessary to resolve Defense Nuclear Facilities Safety Board Recommendation 97-1.

During Phase II, the contractor would also be responsible for operation of the Building 3019 Complex, including the characterization, packaging, transportation and disposal of secondary wastes (*e.g.*, personal protection equipment, construction debris, liquid residues, etc.)

During Phase II, the contractor would also be required to develop transition plans to place the Building 3019 Complex in a safe and stable shutdown configuration prior to transfer to the DOE decommissioning program. The contractor would also be required to develop a post-transition surveillance and maintenance plan. These plans would ensure that any contamination present is adequately contained, and that potential hazards to workers, the public, and the environment are minimized and controlled.

Upon completion of Phase II/Project Implementation processing activities, the contractor would be required to clean up all processing systems and equipment, including the removal and disposal of unattached solid waste materials and residual process materials in accordance with criteria specified by DOE. After clean-up has been completed, the contractor would characterize these systems and equipment and provide the characterization data to DOE.

Phase III - Building 3019 Complex Shutdown

Phase III will consist of performance of facility stabilization to ready the facility for decommissioning. The estimated duration of Phase III is 6 months.

Compliance with Project Management Order

- Critical Decision – 0: Approve Mission Need – November 2006
- Critical Decision – 1: Approve Preliminary Baseline Range – November 2006
- Critical Decision – 2: Approve Performance Baseline – 4Q FY07
- Critical Decision – 3A: Approve Start of Long Lead Procurement and Dismantling – 2Q FY07
- Critical Decision – 3B: Approve Start of Construction – 3Q FY09
- Critical Decision – 4: Approve Start of Operations – 4Q FY12

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
Prior Years [a]	22,694	22,694	19,853
FY 2006 [b]	17,821	17,821	8,689
FY 2007	0	0	11,973
FY 2008	20,000	20,000	18,000
FY 2009	57,600	57,600	50,000
FY 2010	32,700	32,700	42,000
FY 2011	25,300	25,300	25,600
FY 2012	22,944	22,944	22,944
Outyears	19,627	19,627	19,627
Total TEC	218,686	218,686	218,686

[a] Prior Year funds were provided to Defense Programs and the Office of Nuclear Energy.
[b] Funding in FY 2006 and funding beyond is reflected in PBS OR-0011Z.

7. Schedule of Project Costs
(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC (Design/Facility Mods & Other) ……	40,515	18,000	50,000	42,000	25,600	22,944	19,627	218,686
OPC Other than D&D……	0	0	400	1,200	2,800	10,356	0	14,756
Total, Project Costs.....	40,515	18,000	50,400	43,200	28,400	33,300	19,627	233,442

7. **Related Operations and Maintenance Funding Requirements**

Start of Operation or Beneficial Occupancy (fiscal year)	N/A
Expected Useful Life (number of years)	N/A
Expected Future Start of D&D for New Construction (fiscal quarter)	N/A

The TEC and TPC addresses the planning and design, facility modifications, and procurement and installation of processing equipment necessary to begin the program activities of uranium down-blending in the Building 3019 Complex. The preliminary baseline also includes and additional $120,051,000 for down-blending operations, interim material storage, facility shutdown and $25,673,000 of unfunded contingency. The project's baseline funding profile assumes that the cost of disposal of the processed material is borne by the receiver site; therefore, there is no funding is requested in PBS OR-0011Z for these activities. There is no incremental safeguards and security cost included in the estimate. The Safeguards and Security costs are funded by the Office of Science.

Total Budget Authority
(dollars in thousands)

	Prior Years	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Outyears	Total
TEC …….....	40,515	20,000	57,600	32,700	25,300	22,944	19,627	218,686
OPC…….	0	0	400	1,200	2,800	10,356	0	14,756
Other……..	0	0	0	0	0	0	120,051	120,051
Total……...……	40,515	20,000	58,000	33,900	28,100	33,300	139,678	353,493

a/ In addition to this BA requirement, the preliminary baseline also includes $25,673,000 of unfunded contingency.

8. Required D&D Information

N/A

9. Acquisition Approach

The DOE Oak Ridge Office (ORO) is responsible for implementation of the ^{233}U project (including selection of principal contractor) and approval of specified procurement actions. Project deliverables are performed under a negotiated contract which was awarded on the basis of competitive bidding. A dedicated Federal Project Director at ORO oversees the efforts of the selected contractor, Isotek Systems, LLC. In addition, an Integrated Project Team, including members and support from Headquarters and potential receiver sites, has been established. An updated Acquisition Strategy for this project was approved by the Acquisition Executive on November 3, 2006.