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Volume 5

DEPARTMENT OF ENERGY

FY 2007 CONGRESSIONAL BUDGET REQUEST

ENVIRONMENTAL MANAGEMENT



FEBRUARY 2006

OFFICE OF CHIEF FINANCIAL OFFICER

VOLUME 5

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Table of Contents

	Page
Appropriation Account Summary	3
Overview	5
Defense Environmental Cleanup Appropriation Cleanup	107
Carlsbad	127
Idaho	137
Oak Ridge	173
Portsmouth/Paducah	205
Richland	237
River Protection	267
Savannah River	315
Closure Sites	369
NNSA Sites	405
West Valley Demonstration Project.....	457
All Other Sites.....	467
Headquarters Operations.....	509
Program Direction.....	517
Safeguards and Security.....	527
Technology Development and Deployment	543
Federal Contribution to the Uranium D&D Fund.....	551

The Department of Energy's FY 2007 Congressional Budget justification is available on the Office of Chief Financial Officer/CFO homepage at <http://www.mbe.doe.gov/budget/>

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

	FY 2005 Current Approp.	FY 2006 Current Approp.	FY 2007 Congressional Request	FY 2007 vs. FY 2006	
				\$	%
Discretionary Summary By Appropriation					
Energy And Water Development, And Related Agencies					
Appropriation Summary:					
Energy Programs					
Energy supply and Conservation.....	1,801,815	1,812,627	1,923,361	+110,734	+6.1%
Fossil energy programs					
Clean coal technology.....	-160,000	-20,000	—	+20,000	+100.0%
Fossil energy research and development.....	560,852	592,014	469,686	-122,328	-20.7%
Naval petroleum and oil shale reserves.....	17,750	21,285	18,810	-2,475	-11.6%
Elk Hills school lands fund.....	36,000	84,000	—	-84,000	-100.0%
Strategic petroleum reserve.....	126,710	207,340	155,430	-51,910	-25.0%
Northeast home heating oil reserve.....	4,930	—	4,950	+4,950	N/A
Strategic petroleum account.....	43,000	-43,000	—	+43,000	+100.0%
Total, Fossil energy programs.....	629,242	841,639	648,876	-192,763	-22.9%
Uranium enrichment D&D fund.....	495,015	556,606	579,368	+22,762	+4.1%
Energy information administration.....	83,819	85,314	89,769	+4,455	+5.2%
Non-Defense environmental cleanup.....	439,601	349,687	310,358	-39,329	-11.2%
Science.....	3,635,650	3,596,391	4,101,710	+505,319	+14.1%
Nuclear waste disposal.....	343,232	148,500	156,420	+7,920	+5.3%
Departmental administration.....	128,598	128,519	128,825	+306	+0.2%
Inspector general.....	41,176	41,580	45,507	+3,927	+9.4%
Total, Energy Programs.....	7,598,148	7,560,863	7,984,194	+423,331	+5.6%
Atomic Energy Defense Activities					
National nuclear security administration:					
Weapons activities.....	6,625,542	6,369,597	6,407,889	+38,292	+0.6%
Defense nuclear nonproliferation.....	1,507,966	1,614,839	1,726,213	+111,374	+6.9%
Naval reactors.....	801,437	781,605	795,133	+13,528	+1.7%
Office of the administrator.....	363,350	338,450	386,576	+48,126	+14.2%
Total, National nuclear security administration.....	9,298,295	9,104,491	9,315,811	+211,320	+2.3%
Environmental and other defense activities:					
Defense environmental cleanup.....	6,800,848	6,130,447	5,390,312	-740,135	-12.1%
Other defense activities.....	687,149	635,578	717,788	+82,210	+12.9%
Defense nuclear waste disposal.....	229,152	346,500	388,080	+41,580	+12.0%
Total, Environmental & other defense activities.....	7,717,149	7,112,525	6,496,180	-616,345	-8.7%
Total, Atomic Energy Defense Activities.....	17,015,444	16,217,016	15,811,991	-405,025	-2.5%
Power marketing administrations:					
Southeastern power administration.....	5,158	5,544	5,723	+179	+3.2%
Southwestern power administration.....	29,117	29,864	31,539	+1,675	+5.6%
Western area power administration.....	171,715	231,652	212,213	-19,439	-8.4%
Falcon & Amistad operating & maintenance fund.....	2,804	2,665	2,500	-165	-6.2%
Colorado River Basins.....	—	-23,000	-23,000	—	—
Total, Power marketing administrations.....	208,794	246,725	228,975	-17,750	-7.2%
Federal energy regulatory commission.....	—	—	—	—	—
Subtotal, Energy And Water Development and Related Agencies.....	24,822,386	24,024,604	24,025,160	+556	+0.0%
Uranium enrichment D&D fund discretionary payments.....	-459,296	-446,490	-452,000	-5,510	-1.2%
Excess fees and recoveries, FERC.....	-18,452	-15,542	-16,405	-863	-5.6%
Total, Discretionary Funding.....	24,344,638	23,562,572	23,556,755	-5,817	-0.0%

Environmental Management Overview

Appropriation Summary by Program

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Original Appropriation	FY 2006 ^a Adjustments	FY 2006 Current Appropriation	FY 2007 Request
Defense Environmental Cleanup					
Closure Sites					
Ashtabula	8,752	16,000	-159	15,841	295
Closure Sites Administration	0	0	0	0	25,896
Columbus.....	21,190	9,500	-95	9,405	0
Fernald.....	322,538	327,609	-3,265	324,344	258,877
Miamisburg.....	111,593	105,530	-1,052	104,478	34,869
Rocky Flats.....	645,679	569,950	-5,680	564,270	1,000
Total, Closure Sites	1,109,752	1,028,589	-10,251	1,018,338	320,937
Hanford Site					
2012 Completion Projects.....	514,015	445,148	-4,437	440,711	423,618
2035 Completion Projects.....	410,574	335,505	-3,343	332,162	381,098
Total, Hanford Site.....	924,589	780,653	-7,780	772,873	804,716
Idaho National Laboratory	534,060	538,225	-5,363	532,862	512,604
NNSA Sites					
California Site Support	746	550	-5	545	370
Kansas City Plant.....	3,478	4,526	-45	4,481	0
Lawrence Livermore National					
Laboratory	61,971	29,578	-295	29,283	11,580
Los Alamos National Laboratory...	116,252	142,209	-1,417	140,792	90,602
Nevada Off-Sites	0	2,846	-28	2,818	0
Nevada.....	97,700	85,024	-847	84,177	79,668
NNSA Service Center.....	9,502	8,304	-83	8,221	26,122
NNSA Sites & Nevada Off-Sites...	300	0	0	0	0
Pantex	24,016	19,654	-196	19,458	23,726
Sandia National Laboratories.....	20,084	9,769	-97	9,672	0
Total, NNSA Sites.....	334,049	302,460	-3,013	299,447	232,068
Oak Ridge	279,313	240,812	-2,399	238,413	159,862
Office of River Protection					
Tank Farm Activities	374,760	329,471	-3,284	326,187	274,127
Waste Treatment and					
Immobilization Plant	684,480	526,000	-5,241	520,759	690,000
Total, Office of River Protection.....	1,059,240	855,471	-8,525	846,946	964,127
Savannah River Site					
2012 Completion Projects.....	382,147	268,903	-2,679	266,224	236,132
2035 Completion Projects.....	415,821	377,887	-3,764	374,123	277,338
Tank Farm Activities	493,274	543,792	-5,419	538,373	570,924
Total, Savannah River Site.....	1,291,242	1,190,582	-11,862	1,178,720	1,084,394
Waste Isolation Pilot Plant	227,758	230,629	-2,298	228,331	213,278
Program Support					
Headquarters.....	24,892	32,600	-325	32,275	37,881

^a Reflects the 1 percent across-the-board rescission in FY 2006 (Public Law 109-148).

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Original Appropriation	FY 2006 ^a Adjustments	FY 2006 Current Appropriation	FY 2007 Request
Rocky Flats	0	246	-2	244	0
Total, Program Support.....	24,892	32,846	-327	32,519	37,881
Program Direction.....	270,016	243,816	-2,430	241,386	291,216
Safeguards and Security.....	262,942	287,223	-2,866	284,357	295,840
Technology Development and Deployment.....	58,207	30,065	-300	29,765	21,389
Federal Contribution to the Uranium Enrichment D&D Fund.....	459,296	451,000	-4,510	446,490	452,000
Total, Defense Environmental Cleanup.....	6,835,356	6,212,371	-61,924	6,150,447	5,390,312
Non-Defense Environmental Cleanup					
Fast Flux Test Reactor Facility D&D.....					
	45,715	46,113	-461	45,652	34,843
Gaseous Diffusion Plants					
Oak Ridge					
	7,923	4,885	-49	4,836	0
Paducah Gaseous Diffusion Plant.....					
	55,484	50,820	-508	50,312	35,201
Portsmouth Gaseous Diffusion Plant.....					
	179,755	78,911	-789	78,122	72,215
Total, Gaseous Diffusion Plants.....	243,162	134,616	-1,346	133,270	107,416
Small Sites					
Argonne National Laboratory					
	1,779	10,487	-105	10,382	10,726
Brookhaven National Laboratory ..					
	41,322	34,328	-343	33,985	28,272
California Site Support					
	98	100	-1	99	160
Energy Technology Engineering Center.....					
	18,238	9,000	-90	8,910	16,000
Idaho National Laboratory.....					
	0	5,274	-53	5,221	7,000
Inhalation Toxicology Laboratory					
	487	305	-3	302	2,931
Lab for Energy-Related Health Research.....					
	496	0	0	0	0
Lawrence Berkeley National Laboratory					
	4,038	3,900	-39	3,861	0
Los Alamos National Laboratory...					
	447	490	-5	485	1,025
Moab.....					
	7,711	28,006	-280	27,726	22,865
Stanford Linear Accelerator Center.....					
	2,480	3,500	-35	3,465	5,720
Total, Small Sites	77,096	95,390	-954	94,436	94,699
West Valley Demonstration Project					
	73,628	77,100	-771	76,329	73,400
Total, Non-Defense Environmental Cleanup.....	439,601	353,219	-3,532	349,687	310,358
Uranium Enrichment Decontamination and Decommissioning Fund D&D Activities					
Oak Ridge					
	228,330	245,071	-2,451	242,620	311,473

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Original Appropriation	FY 2006 ^a Adjustments	FY 2006 Current Appropriation	FY 2007 Request
Paducah Gaseous Diffusion Plant.....	96,280	105,000	-1,050	103,950	96,575
Portsmouth Gaseous Diffusion Plant.....	91,045	192,157	-1,921	190,236	151,320
Total, D&D Activities.....	415,655	542,228	-5,422	536,806	559,368
U/Th Reimbursements	79,360	20,000	-200	19,800	20,000
Total, Uranium Enrichment Decontamination and Decommissioning Fund.....	495,015	562,228	-5,622	556,606	579,368
Subtotal, Environmental Management	7,769,972	7,127,818	-71,078	7,056,740	6,280,038
Use of Prior Year (Defense)	-34,365	0	0	0	0
Reimbursable Work for Others (Safeguards & Security)	-143	0	0	0	0
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Project 05-D-405)	0	-20,000	0	-20,000	0
D&D Fund Offset	-459,296	-451,000	4,510	-446,490	-452,000
Total, Environmental Management	7,276,168	6,656,818	-66,568	6,590,250	5,828,038

Preface

Fifty years of nuclear weapons production and energy research generated millions of gallons of radioactive waste, 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 clean up the legacy waste and environmental contamination from these operations in a manner safe for the workers, protective of the environment, and respectful of the taxpayer.

EM Budget Structure

The Environmental Management Program, at the direction of Congress, is submitting a budget structure, new in FY 2006, that more clearly describes where environmental cleanup dollars are being spent. There are two significant changes to this structure. First, the number of appropriations has been reduced. The two former defense appropriations have been combined into one: the Defense Environmental Cleanup Appropriation. Similarly, the two former non-defense appropriations have been combined into the Non-Defense Environmental Cleanup Appropriation. The Uranium Enrichment Decontamination and Decommissioning Appropriation remains the same as in prior years. The second change is the utilization of, for the most part, a location/site-based display of the budget in FY 2007.

The table below shows the three appropriations in FY 2007 with the associated Congressional Control Points contained within those appropriations. Congress mandates the financial “boundaries” within the EM Program by establishment of these “base table” controls. Transferring funding between base table controls requires some type of notification or request to the Congress, be it through an internal (up to a specific dollar limit) or external (formal) reprogramming, or through an appropriation transfer.

FY 2007 EM Budget Structure
Base Table Control Points

- **Defense Environmental Cleanup**
 - Closure Sites
 - Hanford Site 2012 Completion Projects
 - Hanford Site 2035 Completion Projects
 - Idaho National Laboratory
 - NNSA Sites
 - Oak Ridge
 - Office of River Protection Tank Farm Activities
 - Office of River Protection Waste Treatment and Immobilization Plant
 - Savannah River Site 2012 Completion Projects
 - Savannah River Site 2035 Completion Projects
 - Savannah River Tank Farm Activities
 - Waste Isolation Pilot Plant
 - Program Support
 - Program Direction
 - Safeguards and Security
 - Technology Development and Deployment
 - Federal Contribution to the Uranium Enrichment D&D Fund
 - Individual Construction Line Items
- **Non-Defense Environmental Cleanup**
 - Fast Flux Test Reactor Facility D&D
 - Gaseous Diffusion Plants
 - Small Sites
 - West Valley Demonstration Project
 - Individual Construction Line Items
- **Uranium Enrichment D&D Fund**
 - Decontamination and Decommissioning Activities
 - Uranium / Thorium Reimbursements

The tables below reflect the FY 2006 Final Appropriation crosswalk from the FY 2005 Appropriation Structure to the FY 2006 Appropriation Structure.

New Budget Structure

	Defense Environmental Cleanup											Total Defense Environmental Cleanup		
	Closure Sites	Hanford Site	Idaho National Laboratory	NNSA Sites	Oak Ridge	Office of River Protection	Savannah River Site	Waste Isolation Pilot Plant	Program Support	Program Direction	S&S		TD&D	UE D&D
Previous Budget Structure														
<u>Defense Environmental Services</u>														
Community and Regulatory Support.....	4,681	15,257	3,511	4,324	5,613	466	7,583	36,184	0	0	0	0	0	77,619
Federal Contribution to the Uranium Enrichment D&D Fund.....	0	0	0	0	0	0	0	0	0	0	0	0	0	446,490
Non-Closure Environmental Activities.....	2,476	1,795	12,540	0	18,085	0	19,084	0	32,519	0	0	0	0	86,499
Program Direction.....	0	0	0	0	0	0	0	0	0	241,386	0	0	0	241,386
Subtotal, Defense Environmental Services.....	7,157	17,052	16,051	4,324	23,698	466	26,667	36,184	32,519	241,386	0	0	446,490	851,994
<u>Defense Site Acceleration Completion</u>														
2006 Accelerated Completions.....	1,011,181	0	0	30,191	50,894	0	0	0	0	0	0	0	0	1,092,266
2012 Accelerated Completions.....	0	440,711	516,811	83,993	107,793	520,759	266,224	0	0	0	0	0	0	1,936,291
2035 Accelerated Completions.....	0	315,110	0	180,939	56,028	325,721	885,829	192,147	0	0	0	0	0	1,955,774
Safeguards and Security.....	0	0	0	0	0	0	0	0	0	0	284,357	0	0	284,357
Technology Development and Deployment.....	0	0	0	0	0	0	0	0	0	0	0	29,765	0	29,765
Subtotal, Defense Site Acceleration Completion.....	1,011,181	755,821	516,811	295,123	214,715	846,480	1,152,053	192,147	0	0	284,357	29,765	0	5,298,453
Total, Defense	1,018,338	772,873	532,862	299,447	238,413	846,946	1,178,720	228,331	32,519	241,386	284,357	29,765	446,490	6,150,447

New Budget Structure

Fast Flux Test Reactor Facility D&D	Non-Defense Environmental Cleanup				Total Non-Defense Environmental Cleanup	Uranium Enrichment Decontamination and Decommissioning Fund		
	Gaseous Diffusion Plants	Small Sites	West Valley Demonstration Project	D&D Activities		U/Th Reimbursements	Total UE D&D Fund	
0	0	89	0	89	0	0	0	0
45,652	0	0	0	45,652	0	0	0	0
0	133,270	0	0	133,270	0	0	0	0
45,652	133,270	89	0	179,011	0	0	0	0
0	0	14,805	0	14,805	0	0	0	0
0	0	51,331	76,329	127,660	0	0	0	0
0	0	28,211	0	28,211	0	0	0	0
0	0	94,347	76,329	170,676	0	0	0	0
45,652	133,270	94,436	76,329	349,687	0	0	0	0
0	0	0	0	0	536,806	0	19,800	536,806
0	0	0	0	0	0	0	19,800	19,800
0	0	0	0	0	536,806	0	19,800	556,606

Previous Budget Structure

Non-Defense Environmental Services	
Community and Regulatory Support.....	
Environmental Cleanup Projects.....	
Non-Closure Environmental Activities.....	
Subtotal, Non-Defense Environmental Services.....	
Non-Defense Site Acceleration Completion	
2006 Accelerated Completions.....	
2012 Accelerated Completions.....	
2035 Accelerated Completions.....	
Subtotal, Non-Defense Site Acceleration Completion.....	
Total, Non-Defense	
Uranium Enrichment Decontamination and Decommissioning Fund	
D&D Activities.....	
U/Th Reimbursements.....	
Total, UE D&D Fund.....	

It should be noted that the budget display contained in this volume is slightly different than the list of base table control points above. This is because the budget shows all the activities at a geographic location, regardless of the Congressional controls, in order to give the reader a complete picture of the EM Program at that location. For example, the budget includes only one chapter for the Savannah River Site. That chapter includes all three Congressional control points: activities with 2012 and 2035 completion activities as well as all tank farm activities at the Savannah River Site. Similarly, there is only one section in the budget for the activities being conducted by the Richland Operations Office. This section includes Hanford Site 2012 and 2035 completion activities in the defense appropriation. It also includes the funding for the Fast Flux Test Reactor Facility in the non-defense appropriation. To help understand the relationship of the budget display to the base table control points, a table and introductory narrative is included in each of the site/location chapters of the budget.

FY 2007 EM Budget Structure
Chapters by Site / Location

- Carlsbad (Waste Isolation Pilot Plant)
- Idaho
- Oak Ridge (includes projects in Defense, Non-Defense Gaseous Diffusion Plants and UED&D appropriations)
- Portsmouth/Paducah Project Office (includes projects in Non-Defense Gaseous Diffusion Plants and UED&D appropriations)
- Richland (Hanford) (includes the Non-Defense Fast Flux Test Facility project)
- River Protection
- Savannah River
- Closure Sites
- NNSA Sites
- West Valley Demonstration Project
- All Other Sites (includes Argonne National Laboratory, Brookhaven National Laboratory, Consolidated Business Center Sites: California; Energy Technology Engineering Center; Inhalation Toxicology Laboratory; Los Alamos National Laboratory; Moab; Stanford Linear Accelerator Center)
- Headquarters Operations (includes Program Support and UED&D projects)
- Program Direction
- Safeguards and Security
- Technology Development and Deployment
- D&D Fund Deposit
- Appendix – PBS Subprojects

The following table represents a funding profile by the budget chapters as listed above.

Funding by Budget Chapters

	(dollars in thousands)		
	FY 2005	FY 2006	FY 2007
Carlsbad.....	227,758	228,331	213,278
Idaho.....	534,060	538,083	519,604
Oak Ridge.....	515,566	485,869	471,335
Portsmouth/Paducah Project Office.....			
Paducah Gaseous Diffusion Plant.....	151,764	154,262	131,776
Portsmouth Gaseous Diffusion Plant.....	270,800	268,358	223,535
Total, Portsmouth/Paducah Project Office.....	422,564	422,620	355,311
Richland.....	970,304	818,525	839,559
River Protection.....	1,059,240	846,946	964,127
Savannah River.....	1,291,242	1,178,720	1,084,394
Closure Sites			
Ashtabula.....	8,752	15,841	295
Columbus.....	21,190	9,405	0
Consolidated Business Center.....	0	0	25,896
Fernald.....	322,538	324,344	258,877
Miamisburg.....	111,593	104,478	34,869
Rocky Flats Environmental Technology Site.....	637,377	558,773	1,000
Rocky Flats Field Office.....	8,302	5,741	0
Total, Closure Sites.....	1,109,752	1,018,582	320,937
NNSA Sites			
Kansas City Plant.....	3,478	4,481	0
Lawrence Berkeley National Laboratory.....	61,117	29,828	11,950
Los Alamos National Laboratory.....	116,699	141,277	91,627
Nevada Test Site.....	97,500	84,177	79,668
New Mexico Site Support.....	300	0	0
NNSA Service Center.....	4,051	1,744	1,622
Offsites.....	0	2,818	0
Pantex Plant.....	24,016	19,458	23,726
Sandia National Laboratory.....	20,084	9,672	0
Separations Process Research Unit.....	5,451	6,477	24,500
South Valley.....	1,800	0	0
Total, NNSA Sites.....	334,496	299,932	233,093
West Valley Demonstration Project.....	73,628	76,329	73,400

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
All Other Sites			
Argonne National Laboratory - East.....	1,779	10,382	10,726
Brookhaven National Laboratory.....	41,322	33,985	28,272
California Site Support.....	98	99	160
Energy Technology Engineering Center.....	18,238	8,910	16,000
Inhalation Toxicology Laboratory.....	487	302	2,931
Laboratory for Energy-Related Health Research.....	496	0	0
Lawrence Berkeley National Laboratory.....	4,038	3,861	0
Moab.....	7,711	27,726	22,865
Stanford Linear Accelerator Center.....	2,480	3,465	5,720
Total, All Other Sites.....	76,649	88,730	86,674
Headquarters Operations.....	104,252	52,075	57,881
Program Direction.....	270,016	241,386	291,216
Safeguards and Security.....	262,942	284,357	295,840
Technology Development and Deployment.....	58,207	29,765	21,389
D&D Fund Deposit.....	459,296	446,490	452,000
Total, Environmental Management.....	7,769,972	7,056,740	6,280,038

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 EM program has made significant progress in the last four years in shifting away from risk management to embracing a mission completion philosophy based on reducing risk and reducing environmental liability. As an established operating cleanup completion and risk reduction program, EM is demonstrating the importance of remaining steadfast to operating principles while staying focused on the mission. For example:

- EM is closing Fernald and Rocky Flats in 2006, along with up to seven additional sites (Miamisburg, Columbus, Ashtabula, Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory-Main Site, Sandia National Laboratories, and Kansas City Plant), to meet our pledge to closure.
- EM is constructing and operating facilities to treat radioactive liquid tank waste into a safe, stable form to enable ultimate disposition.
- EM is securing and storing nuclear material in a stable, safe configuration in secure locations to protect national security.
- EM is transporting and disposing of transuranic and low-level wastes in a safe and cost effective manner to reduce risk.
- EM is decontaminating and decommissioning facilities that provide no further value to reduce long-term liabilities and is remediating the surrounding environment.

- EM is fulfilling its commitments to reduce risk and complete cleanup across all sites for the generations to come.

With this ever-strengthening focus on cleanup completion and risk reducing results, safety still remains the utmost priority. EM will continue to maintain and demand the highest safety performance. All workers deserve to go home as healthy as they were when they came to the job in the morning. There is no schedule or milestone worth any injury to the work force.

EM will increase its concentration on project management. This will involve review of validated project baselines, schedules, and assumptions about effective identification and management of risks. 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. Another tool that will assist EM project management is the cleanup contracts. The contracts define EM workscope. The EM contracts also set expectations and standards, which in turn delineate the operating principles and requirements. EM's goal is to ensure that the site contracts are designed to drive outstanding performance. Finally, EM will strive for constant, real-time feedback of lessons learned to improve project planning and execution.

This budget request represents a new chapter in EM's cleanup strategy. As has been demonstrated in the past, EM's cleanup philosophy has proven to deliver results. Cleanup at as many as nine additional sites will be completed by the end of 2006, including the Rocky Flats, Fernald, Miamisburg, Columbus, Ashtabula, Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory-Main Site, Sandia National Laboratories, and Kansas City Plant. In addition to these important site closures, EM has completed many of the activities focused on addressing the highest risks in tank waste management and nuclear material stabilization. Given these accomplishments, it is now time for the EM program to implement this new stage of its cleanup program which is to focus resources on:

- Stabilizing radioactive tank waste in preparation for disposition (about 30 percent of the FY 2007 request);
- dispositioning transuranic and low-level wastes (about 15 percent of the FY 2007 request);
- storing and safeguarding nuclear materials (about 15 percent of the FY 2007 request);
- decontaminating and decommissioning excess facilities (about 20 percent of the FY 2007 request); and
- remediating major areas of our large sites (Hanford, Savannah River Site, Idaho National Laboratory, and Oak Ridge Reservation) (about 5 percent of the FY 2007 request).

EM will continue to maintain a focus on site completion, with an additional eight sites or areas (Argonne National Laboratory – East, Brookhaven National Laboratory, East Tennessee Technology Park at Oak Ridge, Energy Technology Engineering Center, Lawrence Livermore National Laboratory-Site 300; Inhalation Toxicology Laboratory, Pantex Plant; and the Stanford Linear Accelerator Center) projected to be completed in the 2007 to 2009 timeframe.

EM is committed to meet its goals and objectives. Nonetheless, with the size and complexity of a program such as EM, circumstances and conditions can change and thus alter previously expected outcomes. As circumstances change, we will adapt our methods to accomplish our mission. With this in mind, EM is identifying assumptions that have been taken into account in the preparation of the FY 2007 budget request. These assumptions are neither listed in priority order nor by their influence on the EM program. The planning assumptions are incorporated into sites' baselines that drive the planning and implementation of cleanup and risk reduction activities. The key assumptions are:

- The EM program will not be subject to new regulations, statutes, orders, or litigation that constrain the program's flexibility in accomplishing the goal of cleanup completion and risk reduction in a fiscally responsible manner while being protective of human health and the environment.
- EM can proceed with key aspects of its planned tank waste programs given the FY 2005 authorization legislation and resolution of the litigation related to waste incidental to reprocessing.
- No additional new mission requirements or responsibilities will be assigned to the EM program for FY 2007 or in future years. (EM will not assume additional workscope associated with excess facilities from other DOE programs.)
- Fluctuating budgetary requirements relative to market-based contractor pension plan contributions may affect planned accomplishments (milestones and metrics).
- Acquisition strategies will promote contractor efficiencies through competition, performance incentives and through use of appropriate contracting vehicles (such as Indefinite Quantity/Indefinite Delivery).

Benefits

As indicated above, EM's mission is to cleanup the environmental legacy of nuclear weapons production and nuclear energy research. Through its accelerated cleanup approach, EM is remediating sites and reducing the risks of the environmental contamination for future generations. Over the next five years, EM's goal is to continue to reduce the environmental liability associated with the EM program, consistent with the ideals previously discussed above in the Mission section.

Strategic Context

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

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

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

Strategic, General, and Program Goals

The Department's Strategic Plan identifies four strategic goals (one each for defense, energy, science, and environmental aspects of the mission) plus seven general goals that tie to the strategic goals. The three EM appropriations (Defense Environmental Cleanup, Non-Defense Environmental Cleanup, and Uranium Enrichment Decontamination and Decommissioning Fund) support the following goals:

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

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

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

Program Goal 06.18.00.00 (Environmental Management): Based on EM's accelerated risk reduction and site closure initiative, EM is targeting 87 and 100 geographic sites to be completed by the end of FY 2006 and FY 2012, respectively^a.

Contribution to General Goal

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

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

^a In the FY 2006 Congressional Budget Request, EM identified site completion targets of 86 by FY 2006 and 95 by FY 2012. The FY 2006 target has been adjusted as follows: addition of three National Nuclear Security Administration sites to complete in FY 2006 – Sandia National Laboratory, Kansas City Plant, and Lawrence Livermore National Laboratory Main Site. In addition, the completion date for Stanford Linear Accelerator Center is delayed until FY 2009. Additionally, the Inhalation Toxicology Laboratory previously identified as a 1997 completion is now projected to complete in 2008 due to continued EM work scope. This results in a modified FY 2006 target of 87 sites closures. The FY 2012 target has been adjusted as follows: addition of five National Nuclear Security Administration site completions by FY 2012. (In addition, to the above referenced FY 2006 site completions, Pantex Plant and Lawrence Livermore National Laboratory Site 300 will close by 2012.) This results in a modified FY 2012 target of 100 site completions. In FY 2005 EM transferred the Laboratory for Energy Related Health Research to the Office of Legacy Management and in FY 2007 EM is transferring six Nevada offsites to the Office of Legacy Management.

Funding by General and Program Goal

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
General Goal 6, Environmental Management			
Program Goal 06.18.00.00, Environmental Management			
Defense Environmental Cleanup			
Closure Sites	1,105,250	1,013,657	320,560
Hanford Site.....	911,465	757,616	786,384
Idaho National Laboratory.....	530,972	529,351	508,921
NNSA Sites.....	325,710	295,123	227,566
Oak Ridge.....	276,221	232,800	154,863
Office of River Protection.....	1,059,240	846,480	963,656
Program Support.....	24,892	32,519	37,881
Safeguards and Security.....	262,942	284,357	295,840
Savannah River Site.....	1,277,915	1,165,804	1,071,852
Technology Development and Deployment	58,207	29,765	21,389
Waste Isolation Pilot Plant.....	204,306	192,147	188,156
Total, General Goal 6 (Defense Environmental Cleanup) ...	6,037,120	5,379,619	4,577,068
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D	45,715	45,652	34,843
Gaseous Diffusion Plant	243,162	133,270	107,416
Small Sites	77,007	94,347	94,449
West Valley Demonstration Project.....	73,628	76,329	73,400
Total, General Goal 6 (Non-Defense Environmental Cleanup).....	439,512	349,598	310,108
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities.....	415,655	536,806	559,368
All Other			
Community and Regulatory Support.....	69,013	83,041	70,278
Federal Contribution to the Uranium Enrichment D&D Fund	459,296	446,490	452,000
Program Direction	270,016	241,386	291,216
U/Th Reimbursements	79,360	19,800	20,000
Total, General Goal 6 (All Other).....	877,685	790,717	833,494
Total, General Goal 6, Environmental Management.....	7,769,972	7,056,740	6,280,038

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 General Goal 6 and EM's Program Goal. These corporate performance measures are:

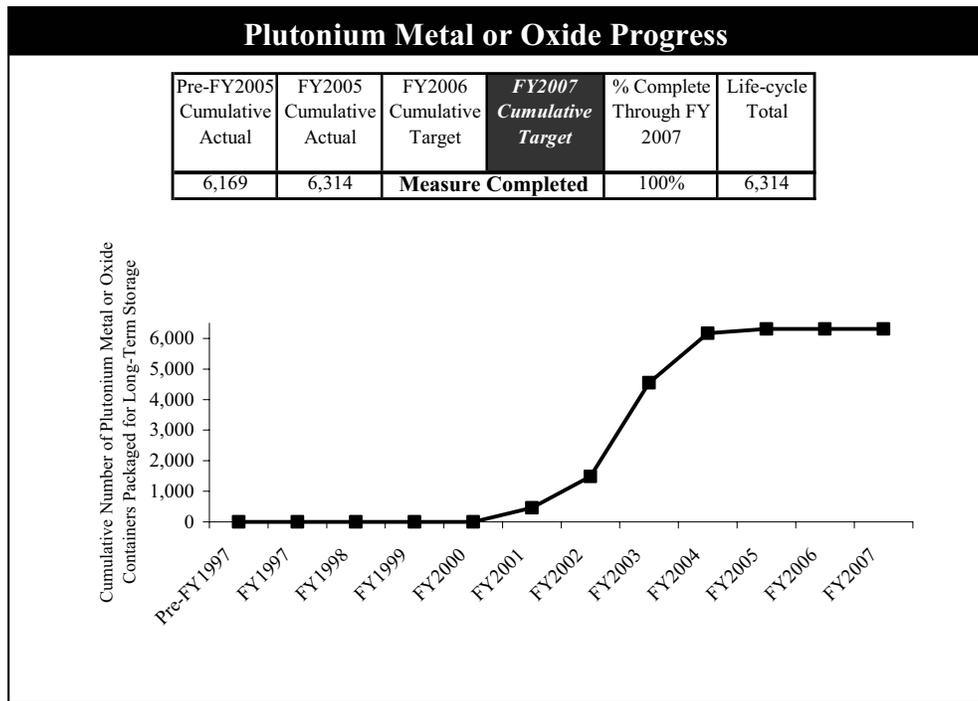
1. Certified DOE storage/treatment/disposal 3013 containers (or equivalent) of plutonium metal or oxide packaged ready for long-term storage;
2. Certified containers of enriched uranium packaged ready for long-term storage;
3. Plutonium or uranium residues packaged for disposition (kg of bulk material);
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 target 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. 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 PBS narratives. The following pages discuss corporate progress to date toward each of these measures, based on appropriations received and the funding profiles in this budget request.

Nuclear Materials

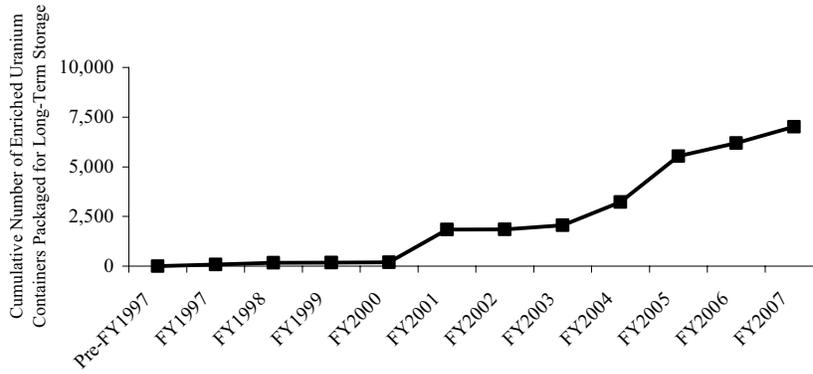
Reducing the inventory of high-risk nuclear materials by preparing it for long-term storage or disposition quantitatively measures EM's progress towards environmental, safety, and security risk reduction. The stabilization and packaging of nuclear materials indicates a reduction in an activity that is a major cost driver for the EM program. The following four corporate performance measures (and the identification of the sites which 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, Portsmouth Gaseous Diffusion Plant, Idaho National Laboratory, and Oak Ridge Reservation);
- Plutonium or uranium residues packaged for disposition (all work for this corporate performance measure has been completed); and
- Depleted and other uranium packaged for disposition (Oak Ridge Reservation, Paducah, and Portsmouth).



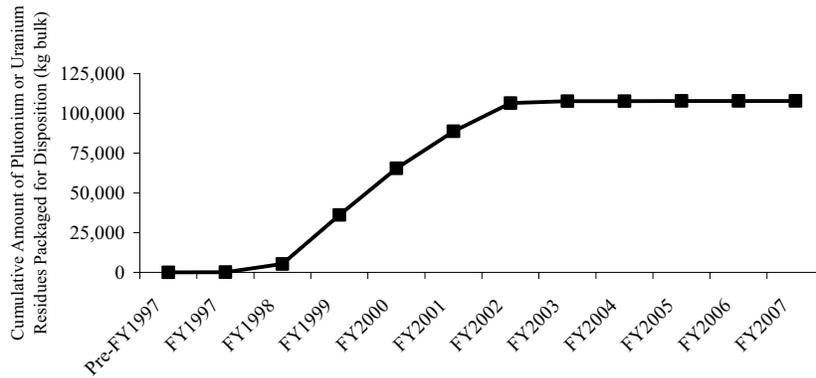
Enriched Uranium Progress

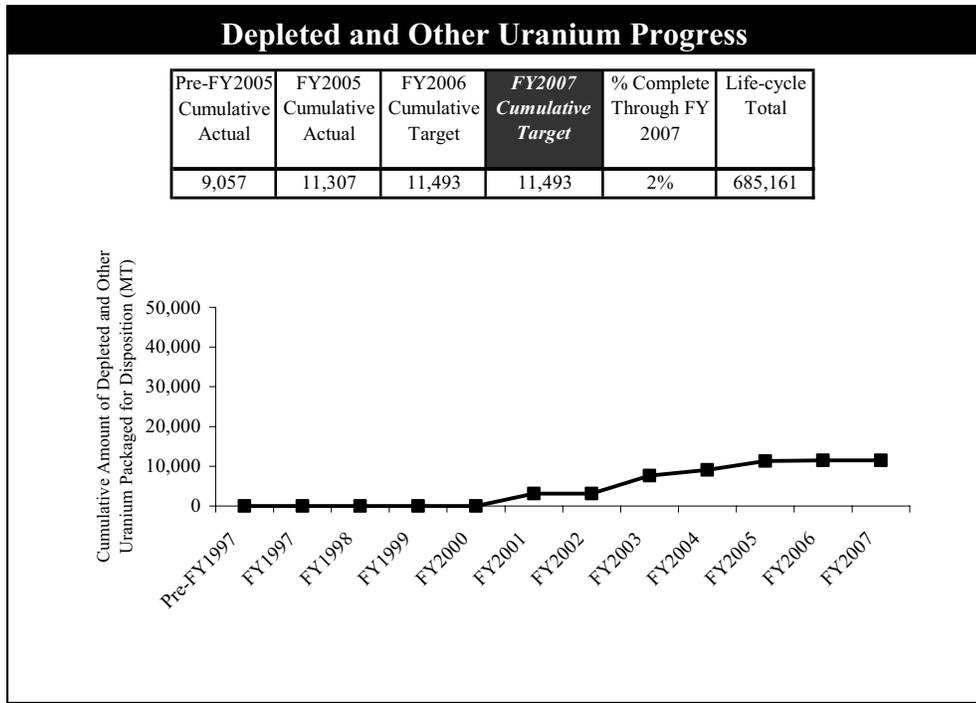
Pre-FY2005 Cumulative Actual	FY2005 Cumulative Actual	FY2006 Cumulative Target	<i>FY2007 Cumulative Target</i>	% Complete Through FY 2007	Life-cycle Total
3,228	5,541	6,201	7,011	77%	9,110



Plutonium or Uranium Residues Progress

Pre-FY2005 Cumulative Actual	FY2005 Cumulative Actual	FY2006 Cumulative Target	<i>FY2007 Cumulative Target</i>	% Complete Through FY 2007	Life-cycle Total
107,739	107,790	Measure Completed		100%	107,790





Liquid Waste

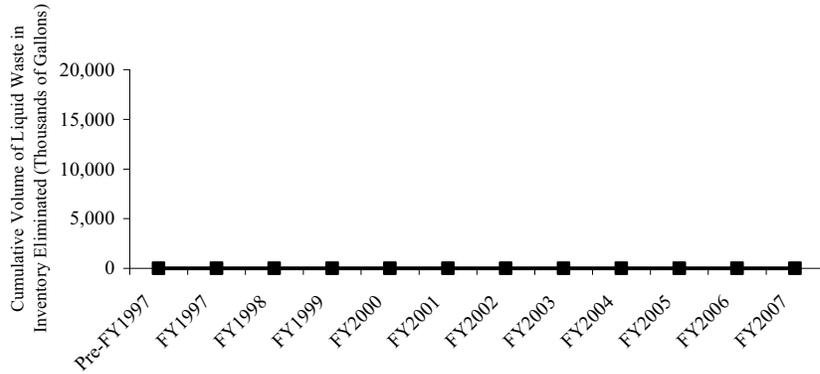
By reducing the amount of high risk radioactive liquid waste in the inventory and subsequent closing of the liquid waste tanks, EM is demonstrating tangible evidence of the program's goal to reduce the highest risks in the complex first. In addition to eliminating high-risk material, corresponding life-cycle 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 which 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, and Oak Ridge Reservation).

Note: There are no targets for the “Liquid Waste in Inventory Eliminated” performance measure through FY 2007. Facilities are currently being designed and constructed at Hanford, Savannah River, and Idaho that will ultimately allow progress on this measure.

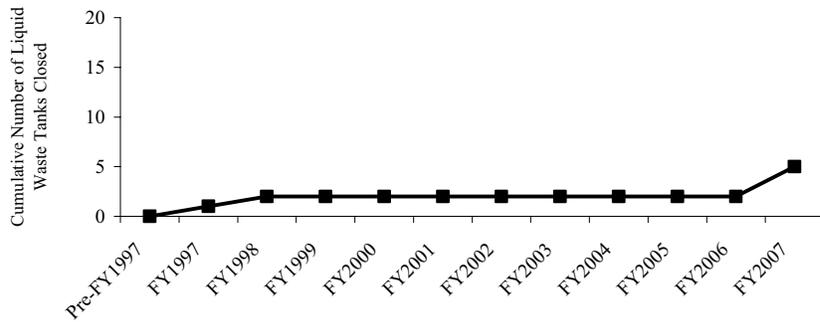
Liquid Waste in Inventory Progress

Pre-FY2005 Cumulative Actual	FY2005 Cumulative Actual	FY2006 Cumulative Target	<i>FY2007 Cumulative Target</i>	% Complete Through FY 2007	Life-cycle Total
0	0	0	0	0%	88,000



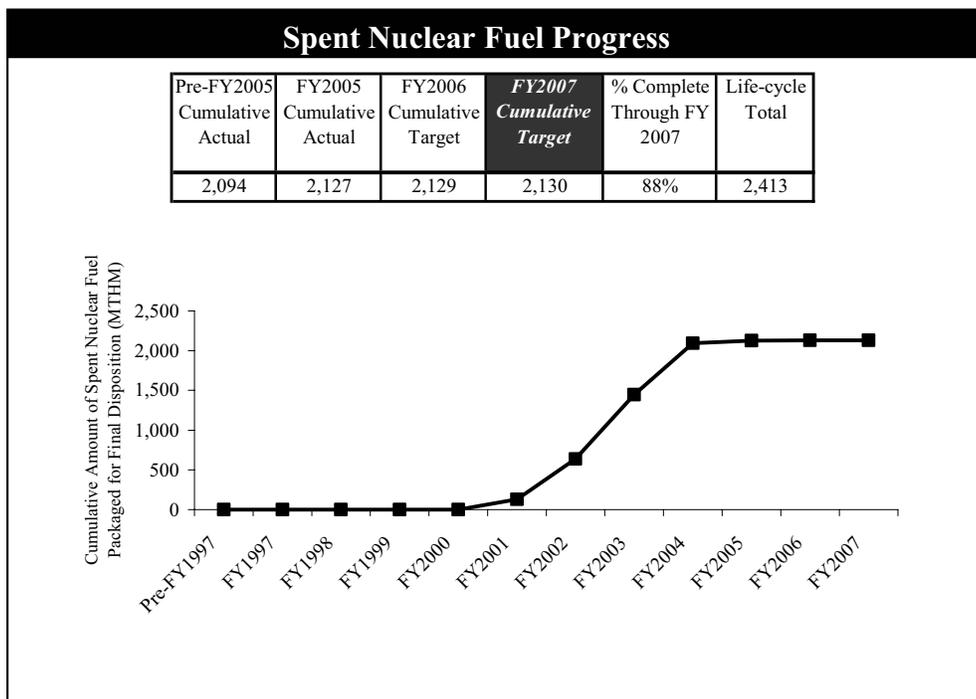
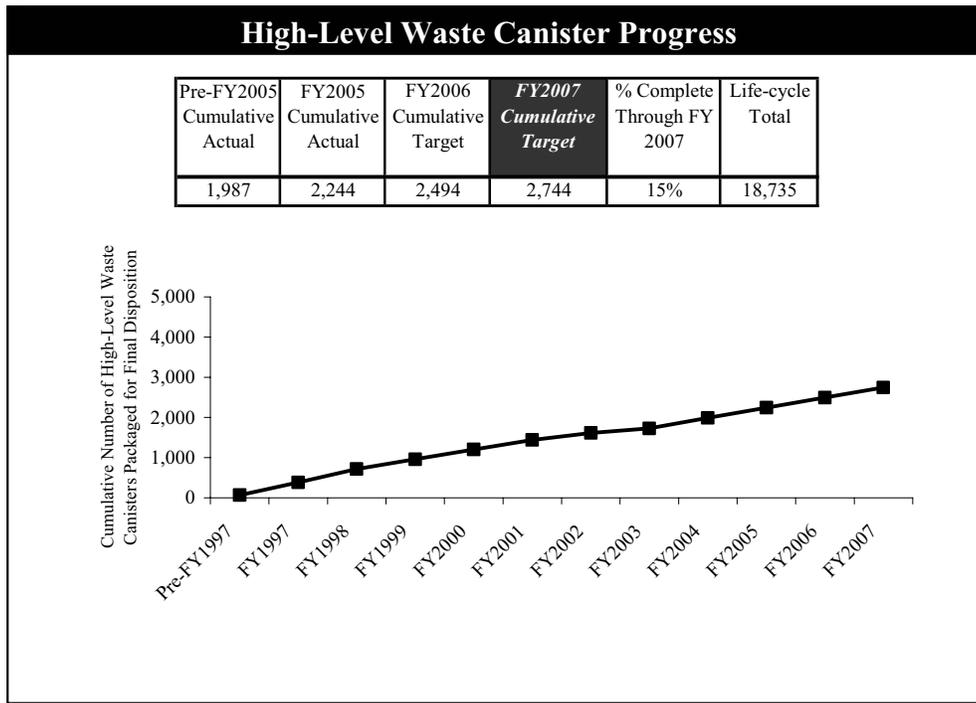
Liquid Waste Tank Progress

Pre-FY2005 Cumulative Actual	FY2005 Cumulative Actual	FY2006 Cumulative Target	<i>FY2007 Cumulative Target</i>	% Complete Through FY 2007	Life-cycle Total
2	2	2	5	2%	239



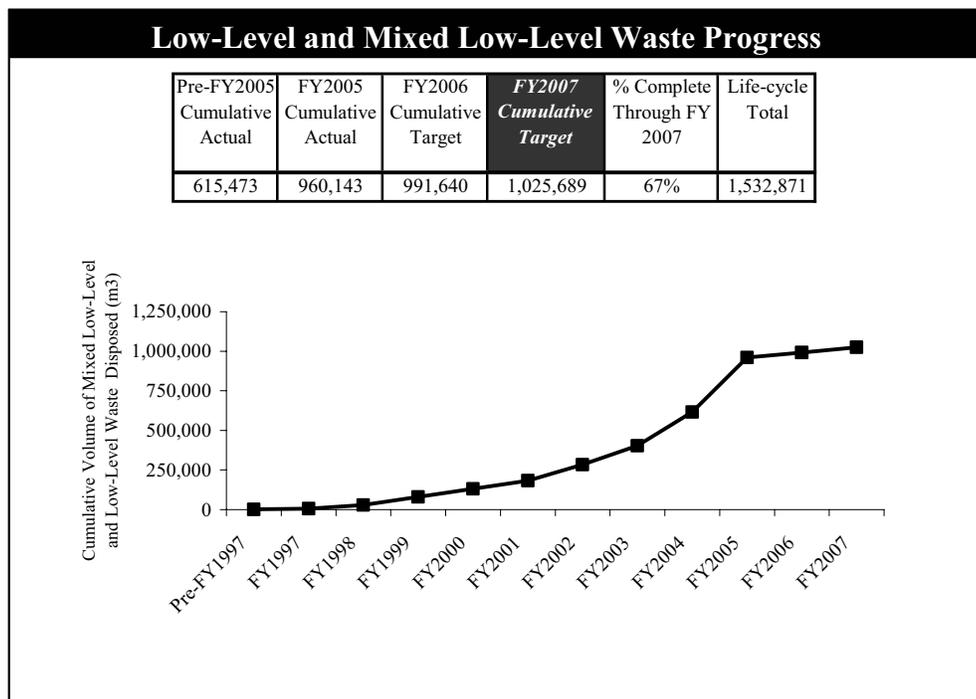
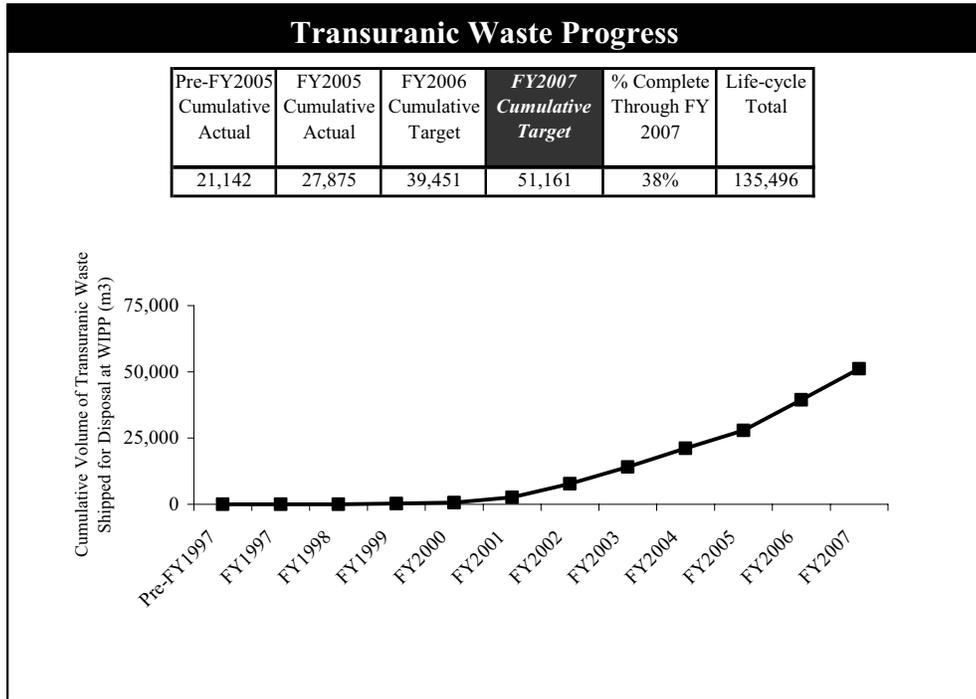
High-Level Waste and Spent Nuclear Fuel

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



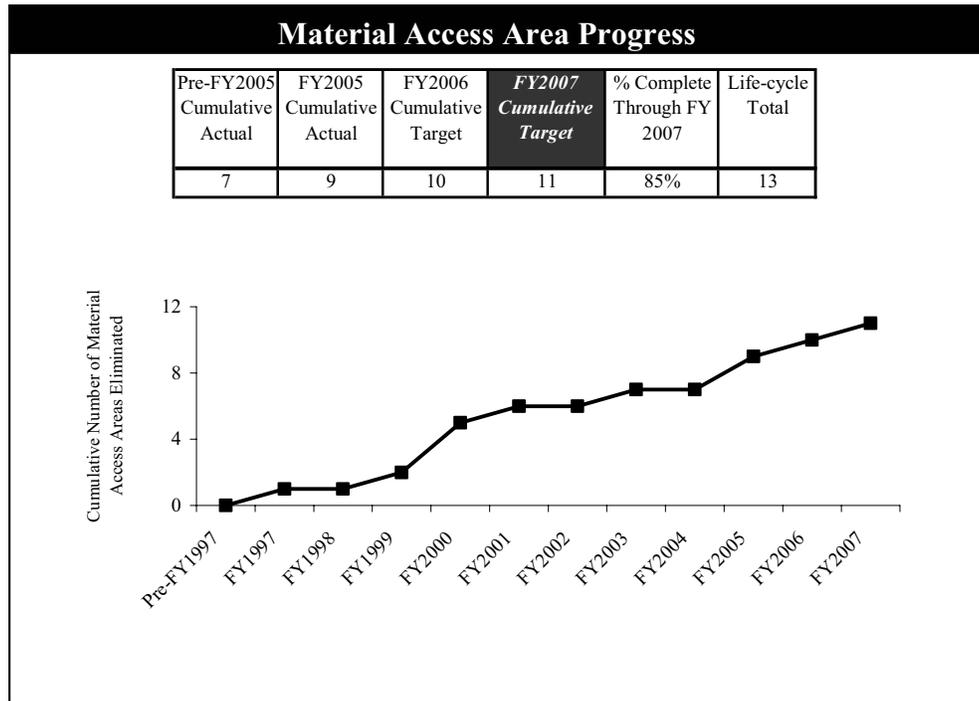
Transuranic Waste and Low-Level/Mixed Low-Level Waste

The shipment of transuranic waste to the Waste Isolation Pilot Plant measures a site's progress towards accelerating cleanup and reducing risk. 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/mixed low-level waste reflects the intensity of cleanup activities at a site. A number of sites contribute to the low-level waste/mixed low-level waste measure. The two corporate measures portrayed below demonstrate progress towards EM's ultimate goal of site completion.



Material Access Areas

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



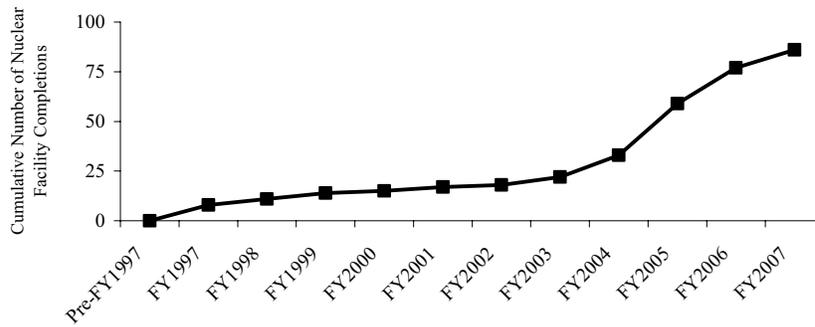
Facility Completions

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

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

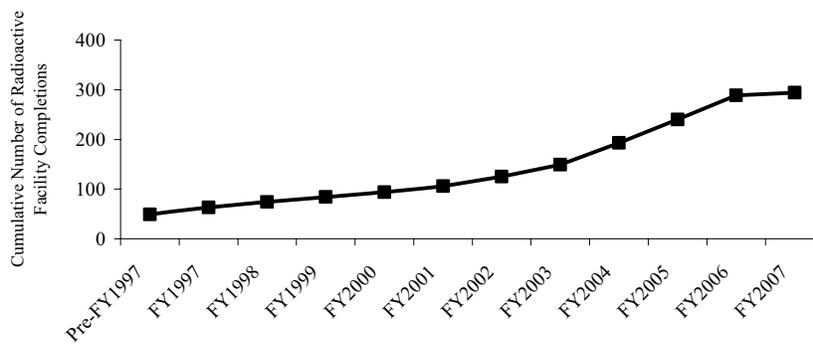
Nuclear Facility Progress

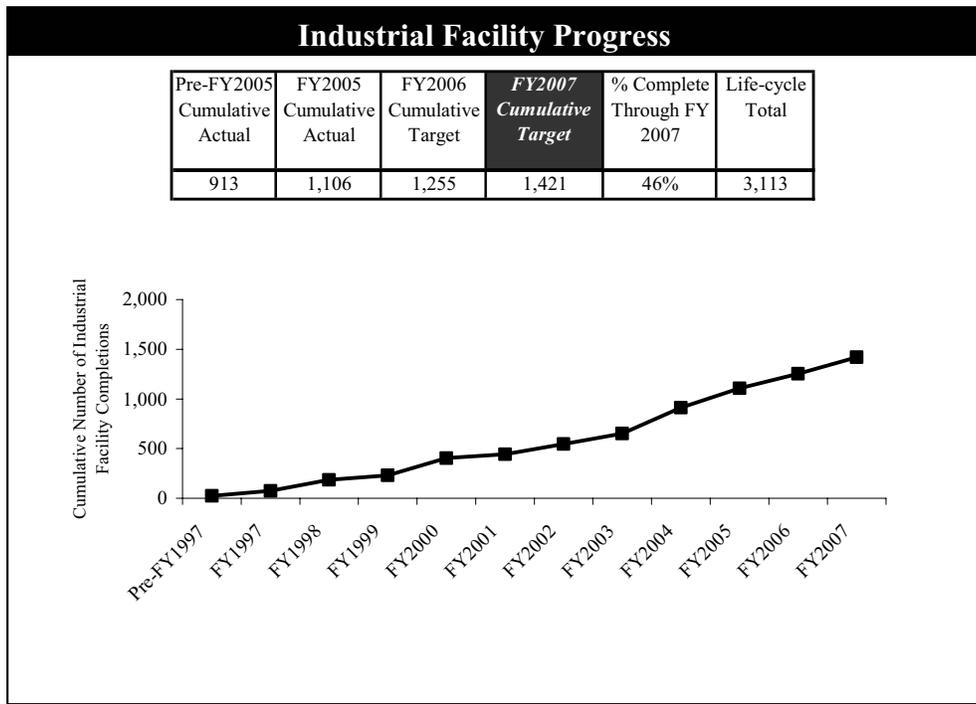
Pre-FY2005 Cumulative Actual	FY2005 Cumulative Actual	FY2006 Cumulative Target	<i>FY2007 Cumulative Target</i>	% Complete Through FY 2007	Life-cycle Total
33	59	77	86	17%	515



Radioactive Facility Progress

Pre-FY2005 Cumulative Actual	FY2005 Cumulative Actual	FY2006 Cumulative Target	<i>FY2007 Cumulative Target</i>	% Complete Through FY 2007	Life-cycle Total
193	240	289	294	36%	822





Geographic Sites and Remediation Completions

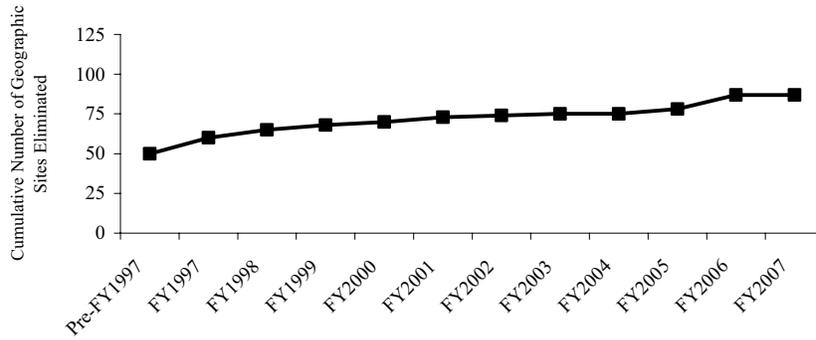
Completion of a geographic site best reflects EM's goal of accelerating cleanup and reducing risk. A geographic site in its entirety is considered complete when active remediation has been completed in accordance with the terms and conditions of cleanup agreements. Stewardship or non-EM activities may be on going after a site is completed. EM tracks cleanup responsibilities for 114 contaminated sites. In FY 2006, EM plans to complete as many as nine additional geographic sites. Seven sites (Energy Technology Engineering Center, Lawrence Livermore National Laboratory-Site 300; Pantex Plant; Argonne National Laboratory – East, Inhalation Toxicology Laboratory^a, Stanford Linear Accelerator Center, and Brookhaven National Laboratory) are projected to be completed in the 2007 to 2009 timeframe.

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

^a Inhalation Toxicology Laboratory previously identified as a 1997 completion. However, additional EM work continues and site completion is now forecast for 2008.

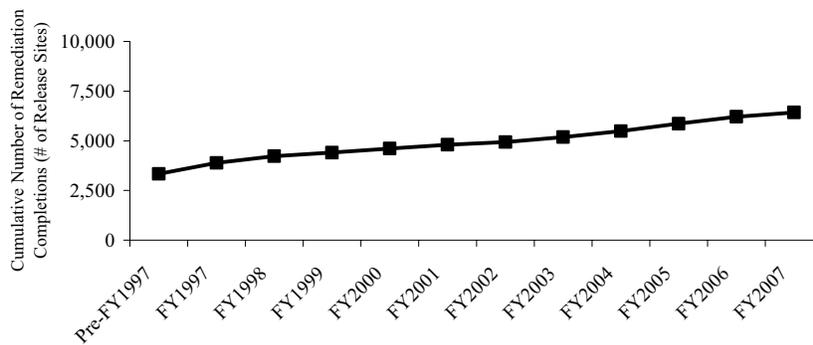
Geographic Sites Eliminated

Pre-FY2005 Cumulative Actual	FY2005 Cumulative Actual	FY2006 Cumulative Target	<i>FY2007 Cumulative Target</i>	% Complete Through FY 2007	Life-cycle Total
76	78	87	87	76%	114



Remediation Completion Progress

Pre-FY2005 Cumulative Actual	FY2005 Cumulative Actual	FY2006 Cumulative Target	<i>FY2007 Cumulative Target</i>	% Complete Through FY 2007	Life-cycle Total
5,486	5,858	6,204	6,426	61%	10,516



In addition, EM has established eight metrics (based on the 16 corporate performance measures), as well as a cost and schedule efficiency measure, to highlight selected cumulative program performance toward EM's acceleration goals. The following table depicts these eight metrics and progress toward them. These targets reflect the broad scope of cleanup challenges the program faces in completing its cleanup mission and forecast the most aggressive goals of the cleanup program. EM has not yet adjusted these targets to account for obstacles encountered during cleanup. However, in the future, as changes to individual cleanup project baselines are approved and revised schedules are established, EM will change these metrics through its formal configuration control process.

Measures	FY 2004 Cumulative	FY 2005 Cumulative	FY 2006 Cumulative	FY 2007 Cumulative
	Targets	Targets	Targets	Targets
Plutonium and Uranium Residues Packaged for Disposition	Package a cumulative total of 107,706 kg of PU/U residues. (Not an Annual Performance Plan measure in FY 2004)	Package a cumulative total of 107,989 kg of PU/U residues. (MET GOAL)	Measure Complete	Measure Complete
Transuranic Waste Shipped for Disposal at WIPP	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 40,711 cubic meters of transuranic waste. (GOAL NOT MET)	Ship for disposal at WIPP a cumulative total of 55,211 cubic meters of transuranic waste.	Ship for disposal at WIPP a cumulative total of 67,071 cubic meters of transuranic waste.
Liquid Waste Tanks Closed	Close a cumulative total of 12 liquid waste tanks. (Not an Annual Performance Plan measure in FY 2004)	Close a cumulative total of 20 liquid waste tanks. (GOAL NOT MET)	Close a cumulative total of 33 liquid waste tanks. (Not an Annual Performance Plan measure in FY 2006)	Close a cumulative total of 36 liquid waste tanks.
High-Level Waste Canisters Packaged	Package a cumulative total of 1,992 canisters of high-level waste. (Not an Annual Performance Plan measure in FY 2004)	Package a cumulative total of 2,227 canisters of high-level waste. (MET GOAL)	Package a cumulative total of 2,477 canisters of high-level waste.	Package a cumulative total of 2,727 canisters of high-level waste.
Release Sites Completed	Complete a cumulative total of 5,330 release sites. (MET GOAL)	Complete a cumulative total of 5,669 release sites. (MET GOAL)	Complete a cumulative total of 6,069 release sites.	Complete a cumulative total of 6,290 release sites.
Enriched Uranium Packaged for Disposition	Package for disposition a cumulative total of 3,055 containers of enriched uranium. (Not an Annual Performance Plan measure in FY 2004)	Package for disposition a cumulative total of 3,897 containers of enriched uranium. (MET GOAL)	Package for disposition a cumulative total of 5,877 containers of enriched uranium.	Package for disposition a cumulative total of 6,687 containers of enriched uranium.
Combined Radioactive and Nuclear Facility Completions	Complete a cumulative total of 194 combined nuclear and radioactive facilities. (Radioactive Facilities: NEARLY MET GOAL) (Nuclear Facilities: Not an Annual Performance Plan measure in FY 2004)	Complete a cumulative total of 299 combined nuclear and radioactive facilities. (Radioactive Facilities: NEARLY MET GOAL) (Nuclear Facilities: MET GOAL)	Complete a cumulative total of 357 combined nuclear and radioactive facilities.	Complete a cumulative total of 371 combined nuclear and radioactive facilities.
Efficiency Measure: Cost and Schedule Variance of Selected Projects	N/A	N/A	Remain within the limits of 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, externally validated, and under configuration control.	Remain within the limits of 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, externally validated, and under configuration control.

Means and Strategies

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

- Eliminate significant environmental, health and safety risks as soon as possible.
- Hold cleanup contractors accountable to high safety standards; and empower them to pursue the most direct path to success.
- Perform risk reduction and site closure in concert with regulators and stakeholders to determine the most appropriate remediation schedules and approaches.
- Continue to use management systems that establish clearly defined and demanding performance goals and drive accountability through performance plans, contracts, and project and risk management.
- Improve the acquisition approach by clearly identifying the work to be done and the Department's expectations, establishing proper incentives for its contracts, holding the contractor accountable and rewarding outstanding performance.
- Improve our management processes by implementing and integrating both industry-standards and DOE-directed project management systems.
- Streamline EM program activities to focus on expedited legacy 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.

In addition to some of the assumptions identified earlier, the following external factors could also 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.

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.

External Liaison Groups: EM solicits advice and guidance from 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. Beginning in FY 2007, the External Independent Reviews business line will be financed via the Working Capital Fund to achieve parity on how External Independent Reviews are funded and to standardize the administration of these critical activities. 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 2007 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.

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. In FY 2004, EM made significant progress towards meeting its goal to have resource-loaded baselines in place at each EM site which reflected 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, Carlsbad, 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. Nonetheless, EM has used past PART evaluations to help continue to focus the program on monitoring progress towards meeting its mission goals while performing work safely.

EM has applied project management principles to all cleanup projects with a Total Estimated Cost greater than \$20 million. In addition to line-item construction projects, EM is the only DOE program that is applying DOE Order 413.3 requirements to 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. With EM’s management to the EM site baselines, the program is essentially monitoring performance towards meeting its mission goals. With this significant achievement accomplished in FY 2006, EM will turn its focus on continuing to improve on its implementation of the program’s earned value management system (EVMS) to serve as a link between performance and cost (i.e., to more completely integrate performance expectations/accomplishments into the budget decision-making process). In addition, EM will be emphasizing project risk management as a method to better manage the uncertainties associated with achieving mission goals

Major FY 2005 Accomplishments

- The completion of physical cleanup at Rocky Flats in 2005.

Significant Policy or Program Shifts

The FY 2007 budget request proposes several shifts between programs.

- With the physical completion of cleanup work at Rocky Flats, this request transfers site responsibility from EM to the Office of Legacy Management. However, EM's request does include funding for Rocky Flats for the final filing of the Comprehensive Environmental Response, Compensation and Liability Act Record of Decision.
- With the planned physical completion of cleanup work at Fernald and Columbus, this request transfers responsibility from EM to the Office of Legacy Management (Fernald) or the private owner (Columbus).
- This request transfers the workscope associated with the Nevada Offsites (Project Chariot, Amchitka Island, and the Salmon Site; Central Nevada Test Area, Gasbuggy Site, Gnome Coach Site, Project Shoal Area, Rio Blanco Site, and the Rulison Site) from EM to the Office of Legacy Management.
- This request transfers the High Efficiency Particulate Air Filter Test Facility to the Office of Environment, Safety and Health.
- This request transfers the FTEs associated with the FY 2006 Congressional transfer of newly generated waste management responsibility at the Y-12 Plant in Oak Ridge, Tennessee, and the Lawrence Livermore National Laboratory in California from EM to the National Nuclear Security Administration.
- This request transfers long-term response activities at the Lawrence Berkeley National Laboratory to the Office of Science.
- This request transfers the Radiological Source Registry and Tracking System from EM to the Office of Security and Safety Performance Assurance.
- With completion of active remediation work in FY 2006 at Sandia National Laboratory, Kansas City Plant, and Lawrence Livermore National Laboratory-Main Site, in FY 2007 the National Nuclear Security Administration will assume responsibility for long-term response activities at these sites.

EM envisions that as cleanup work is completed over the next five years at sites with continuing missions, EM will transfer long term surveillance and monitoring activities and pensions and benefits to the cognizant program office or for those sites without a continuing mission to the Office of Legacy Management.

Corporate Performance Measures – EM Totals

	Cumulative FY 2005 Target	Cumulative FY 2006 Target	Cumulative FY 2007 Target
Geographic Sites Eliminated (number of sites)	78	87	87
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)	5,541	6,201	7,011
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	107,790	107,790	107,790
Depleted and Other Uranium packaged for disposition (Metric Tons).....	11,307	11,493	11,493
Liquid Waste Tanks closed (Number of Tanks).....	2	2	5
High-Level Waste packaged for final disposition (Number of Containers)	2,244	2,494	2,744
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal).....	2,127	2,129	2,130
Transuranic Waste shipped for disposal at WIPP (Cubic meters)...	27,875	39,451	51,161
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	960,143	991,640	1,025,689
Material Access Areas eliminated (Number of Material Access Areas)	9	10	11
Nuclear Facility Completions (Number of Facilities)	59	77	86
Radioactive Facility Completions (Number of Facilities).....	240	289	294
Industrial Facility Completions (Number of Facilities).....	1,106	1,255	1,421
Remediation Complete (Number of Release Sites).....	5,858	6,204	6,426

Note: There are no targets in FY 2005, FY 2006, and FY 2007 for the “Liquid Waste in Inventory Eliminated” performance measure. For this reason the measure does not appear in the above table.

In preparation of the FY 2007 budget, EM used performance data in making management and budget decisions. The following examples illustrate how budget decisions were influenced by program performance.

This budget request increases funding for the K Basins closure activity under the Richland Spent Nuclear Fuel Stabilization and Disposition project at Hanford. K Basins sludge containerization activities have encountered higher debris quantities than anticipated and extremely persistent water clouding due to suspension of submicron particulates mobilized during sludge collection activities, resulting in missed Tri-Party Agreement compliance milestones as well as commitments under the Defense Nuclear Facilities Safety Board Recommendation 2000-1 Implementation Plan. In response, EM has requested increased FY 2007 project funding for changes in sludge collection techniques, including installation of multiple pumping systems to collect sludge simultaneously, use of underwater cameras to overcome poor visibility, improvement of sludge vacuum system end effectors, removal of all fuel racks and significant quantities of debris from the basin to minimize interference with sludge vacuuming, and manufacture of special tooling to facilitate sludge collection in difficult basin conditions. This funding will ensure successful implementation of these project initiatives.

This budget request also reflects several examples in which funding has been decreased or held constant, in recognition of poor or slower-than-expected implementation performance. EM's request does not support any FY 2007 funding for the Idaho National Laboratory's dry fuel storage project to pay a facility economic price adjustment for fuel packaging operations. EM considered the contractor's delay in securing the necessary facility license, and determined it was unlikely the contractor could begin packaging operations in FY 2007 and therefore the price adjustment was not warranted in FY 2007.

Also, this budget request provides the contractually designated funding in FY 2007 for the Waste Treatment Plant at the Office of River Protection of \$690M (although the requested funding is significantly higher than the FY 2006 funding as appropriated). Until the issues (e.g., seismic design) and uncertainties are resolved, and a revised cost and schedule performance estimate is established, funding requirements cannot be accurately estimated at this time. Additionally, progress in the tank farms has been hindered due to performance issues. A reconfirmation of the path forward for tank farm activities, integrated with the Waste Treatment Plant schedules, needs to be conducted. Thus, funding has been decreased for the tank farm activities until the tank waste plans are reconfirmed.

Progress on the Savannah River Site Salt Waste Processing Facility has been hindered by additional design requirements driven by personnel confinement safety concerns. The Department has agreed with the design changes recommended by the Defense Nuclear Facilities Safety Board and this budget request includes additional funding to complete facility design in FY 2008 and limited construction funds to support site preparation and long-lead procurement.

The EM budget requests a significant decrease in FY 2007 funding for cleanup of the Los Alamos National Laboratory in New Mexico, despite the contractor-projected funding requirements to comply with the newly signed Consent Order. EM and NNSA management have been concerned with the progress of real, on-the-ground cleanup and risk reduction at this Laboratory. The Los Alamos National Laboratory has yet to formulate a cleanup cost, scope and schedule baseline for EM validation.

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.

Indirect-Funded Maintenance and Repair

EM Site	FY 2005	FY 2006	FY 2007
Carlsbad	0	0	0
East Tennessee Technology Park	0	0	0
Idaho National Laboratory	7,602	7,722	7,987
Paducah	80	81	84
Portsmouth	2,127	2,486	2,574
Richland Operations Office	2,270	2,110	2,075
Office of River Protection	0	0	0
Savannah River	6,883	6,998	7,260
	18,962	19,397	19,120

Direct-Funded Maintenance and Repair

EM Site	FY 2005	FY 2006	FY 2007
Carlsbad	9,893	10,739	11,038
East Tennessee Technology Park	12,524	5,787	2,686
Idaho National Laboratory	12,271	12,464	12,892
Paducah	1,895	1,924	1,993
Portsmouth	15,383	12,156	10,592
Richland Operations Office	68,193	51,601	50,437
Office of River Protection	26,911	25,800	27,920
Savannah River	6,101	6,203	6,435
	153,171	126,674	123,994

ANCILLARY TABLES

Detailed Funding Table

(dollars in thousands)

	FY 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
Defense Environmental Cleanup			
Closure Sites			
Operating	1,109,752	1,018,338	320,937
Hanford Site			
2012 Completion Projects			
Operating	514,015	440,711	423,618
2035 Completion Projects			
Operating	410,574	332,162	381,098
Subtotal, Hanford Site	924,589	772,873	804,716
Idaho National Laboratory			
Operating	509,359	470,025	481,604
Construction:			
04-D-414 / 04-02 PED: Sodium Bearing Waste Treatment, ID	24,701	9,108	0
06-D-401 / Sodium Bearing Waste Treatment Project, Idaho National Laboratory (INL), Idaho	0	53,729	31,000
Subtotal, Construction	24,701	62,837	31,000
Subtotal, Idaho National Laboratory	534,060	532,862	512,604
NNSA Sites			
Operating	334,049	299,447	232,068
Oak Ridge			
Operating	279,313	238,413	159,862
Office of River Protection			
Waste Treatment and Immobilization Plant			
Construction:			
01-D-16A / Low Activity Waste Facility, RL.....	0	161,376	77,800
01-D-16B / Analytical Laboratory, RL.....	0	44,552	21,800
01-D-16C / Balance of Facilities, RL	0	64,352	48,900
01-D-16D / High Level Waste Facility, RL.....	0	102,964	253,700
01-D-16E / Pretreatment Facility, RL.....	0	147,515	287,800
01-D-416 / Waste Treatment and Immobilization Plant, RL	684,480	0	0
Subtotal, Construction	684,480	520,759	690,000
Tank Farm Activities			
Operating	374,760	326,187	274,127
Subtotal, Office of River Protection.....	1,059,240	846,946	964,127

(dollars in thousands)

	FY 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
Savannah River Site			
2012 Completion Projects			
Operating	358,696	247,809	211,897
Construction:			
04-D-414 / 04-01 PED: 3013 Container Surveillance Capability in 235-F, SR	2,976	18,415	2,935
04-D-423 / 3013 Container Surveillance Capability in 235-F, SR.....	20,475	0	21,300
Subtotal, Construction	23,451	18,415	24,235
Subtotal, 2012 Completion Projects	382,147	266,224	236,132
2035 Completion Projects			
Operating	415,821	374,123	277,338
Tank Farm Activities			
Operating	400,537	495,983	507,724
Construction:			
03-D-414 / 03-01 PED: Salt Waste Processing Facility Alternative, SR.....	23,469	34,990	37,500
04-D-408 / Glass Waste Storage Building #2, SR	43,476	6,905	0
05-D-405 / Salt Waste Processing Facility, SR.....	25,792	495	25,700
Subtotal, Construction	92,737	42,390	63,200
Subtotal, Tank Farm Activities	493,274	538,373	570,924
Subtotal, Savannah River Site.....	1,291,242	1,178,720	1,084,394
Waste Isolation Pilot Plant			
Operating	227,758	228,331	213,278
Program Support			
Operating	24,892	32,519	37,881
Program Direction			
Operating	270,016	241,386	291,216
Safeguards and Security			
Operating	262,942	284,357	295,840
Technology Development and Deployment			
Operating	58,207	29,765	21,389
Federal Contribution to the Uranium Enrichment D&D Fund			
Operating	459,296	446,490	452,000
Subtotal, Defense Environmental Cleanup	6,835,356	6,150,447	5,390,312
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D			
Operating	45,715	45,652	34,843

	(dollars in thousands)		
	FY 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
Gaseous Diffusion Plants			
Operating	143,962	48,325	74,860
Construction:			
02-U-101 / Depleted Uranium Hexafluoride Conversion Project, Paducah, KY & Portsmouth, OH	99,200	84,945	32,556
Subtotal, Gaseous Diffusion Plants	243,162	133,270	107,416
Small Sites			
Operating	77,096	94,436	94,699
West Valley Demonstration Project			
Operating	73,628	76,329	73,400
Subtotal, Non-Defense Environmental Cleanup	439,601	349,687	310,358
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities			
Operating	415,655	536,806	559,368
U/Th Reimbursements			
Operating	79,360	19,800	20,000
Subtotal, Uranium Enrichment Decontamination and Decommissioning Fund	495,015	556,606	579,368
Subtotal, Environmental Management	7,769,972	7,056,740	6,280,038
Use of Prior Year (Defense)	-34,365	0	0
Reimbursable Work for Others (Safeguards & Security)	-143	0	0
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Project 05-D-405)	0	-20,000	0
D&D Fund Offset	-459,296	-446,490	-452,000
Total, Environmental Management	7,276,168	6,590,250	5,828,038

Funding Summary by Office

(dollars in thousands)

Site	FY 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
Carlsbad.....	227,758	228,331	213,278
Idaho.....	534,060	538,083	519,604
Oak Ridge.....	515,566	485,869	471,335
Portsmouth/Paducah Project Office.....	422,564	422,620	355,311
Richland	970,304	818,525	839,559
River Protection.....	1,059,240	846,946	964,127
Savannah River.....	1,291,242	1,178,720	1,084,394
NNSA Sites	334,496	299,932	233,093
Closure Sites.....	1,109,752	1,018,582	320,937
Headquarters Operations	104,252	52,075	57,881
West Valley Demonstration Project	73,628	76,329	73,400
All Other Sites	76,649	88,730	86,674
Program Direction	270,016	241,386	291,216
Safeguards and Security	262,942	284,357	295,840
D&D Fund Deposit.....	459,296	446,490	452,000
Technology Development & Deployment.....	58,207	29,765	21,389
Subtotal, Environmental Management	7,769,972	7,056,740	6,280,038
Offsets	-493,804	-466,490	-452,000
Total, Environmental Management	7,276,168	6,590,250	5,828,038

Life-Cycle Costs by Site^a

	Completion Date (Calendar Year)	Life-Cycle Costs (thousands of current-year Dollars) ^b
Kansas City Plant	2006	28,367
Lawrence Livermore National Laboratory - Main Site	2006	398,693
Sandia National Laboratories - NM.....	2006	228,387
Ashtabula Environmental Management Project	2006	144,350
Columbus Environmental Management Project - West Jefferson	2006	145,814
Fernald Environmental Management Project	2006	3,597,865
Miamisburg Environmental Management Project.....	2006 ^c	1,814,644
Rocky Flats Environmental Technology Site	2006	10,252,572
Lawrence Berkeley National Laboratory.....	2006	35,977
Lawrence Livermore National Laboratory - Site 300.....	2008	123,832
Pantex Plant.....	2008	188,662
Inhalation Toxicology Laboratory	2008 ^d	11,101
Argonne National Laboratory - East.....	2009	78,048
Brookhaven National Laboratory	2009	419,946
Stanford Linear Accelerator Center.....	2009	49,536
Energy Technology Engineering Center.....	2009	206,635
Central Nevada Test Area.....	2010	^e
Project Shoal Area.....	2010	^e
Rio Blanco Site.....	2010	^e
Moab.....	2011	602,212
Rulison Site	2012	^e
West Valley Demonstration Project	2012	1,268,444
Gasbuggy Site.....	2014	^e
Gnome-Coach Site.....	2014	^d
Separations Process Research Unit.....	2014	247,033
General Electric Vallecitos Nuclear Center.....	2014	^f
Los Alamos National Laboratory	2015	1,480,265
Oak Ridge Reservation	2015	6,917,654

^a In 2005 EM completed closure of the Salmon Site and physical completion of the Amchitka Site (awaiting regulator approval). Site list has been adjusted to reflect transfer of the Laboratory for Energy-Related Health Research to the Office of Legacy Management.

^b Comparable (in current year dollars) to the FY 2005 environmental liability estimates, on which the Department's FY 2005 financial statements are based. Financial statements are reported in constant dollars.

^c Miamisburg site completion date may be delayed beyond the end of 2006 due to Congressional direction to remediate Operable Unit-1.

^d Inhalation Toxicology Laboratory was previously listed as a 1997 completion. However, additional EM work continues and site has been added back with a 2008 completion date.

^e Nevada offsites life-cycle cost cannot be credibly separated from and are included in the Nevada Test Range estimate.

^f Life-cycle estimate assumes that the Department has no further cleanup obligations at this site.

	Completion Date (Calendar Year)	Life-Cycle Costs (thousands of current-year Dollars) ^b
Portsmouth Gaseous Diffusion Plant.....	2025	8,014,945
Savannah River Site.....	2025	32,054,002
Nevada Test Site.....	2027	2,349,520
Tonopah Test Range Area	2027	^a
Paducah Gaseous Diffusion Plant.....	2030	7,315,583
Waste Isolation Pilot Plant	2035	6,260,554
Idaho National Laboratory.....	2035	15,254,856
Hanford Site.....	2035	60,010,727

^a Nevada offsites life-cycle cost cannot be credibly separated from and are included in the Nevada Test Range estimate.

Environmental Management Federal Staffing

(Full-Time Equivalents)

	FY 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
Carlsbad.....	42	50	50
Chicago.....	16	11	5
Consolidated Business Center	43	142	150
Headquarters Operations	306	290	293
Idaho.....	66	67	67
Nevada Site Office	28	30	30
NNSA Sites	58	45	45
Oak Ridge.....	103	85	83
Ohio.....	68	36	22
Portsmouth/Paducah Project Office.....	29	44	45
Richland	271	245	245
River Protection.....	104	110	115
Rocky Flats.....	28	5	0
Savannah River.....	359	348	345
Total, Full-Time Equivalents.....	1,521	1,508	1,495

Funding by Site

(dollars in thousands)

	FY 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
Carlsbad			
Carlsbad Field Office	23,452	36,184	25,122
Waste Isolation Pilot Plant	204,306	192,147	188,156
Total, Carlsbad	227,758	228,331	213,278
Idaho			
Argonne National Laboratory-West	0	120	0
Idaho National Laboratory.....	534,060	537,963	519,604
Total, Idaho	534,060	538,083	519,604
Oak Ridge			
East Tennessee Technology Park	242,575	253,430	321,567
Oak Ridge National Laboratory	43,390	51,780	40,500
Oak Ridge Reservation.....	186,341	140,505	69,268
Y-12 Plant.....	43,260	40,154	40,000
Total, Oak Ridge	515,566	485,869	471,335
Portsmouth/Paducah Project Office			
Paducah Gaseous Diffusion Plant.....	151,764	154,262	131,776
Portsmouth Gaseous Diffusion Plant.....	270,800	268,358	223,535
Total, Portsmouth/Paducah Project Office	422,564	422,620	355,311
Richland			
Hanford Site	957,180	803,268	821,227
Richland Operations Office	13,124	15,257	18,332
Total, Richland	970,304	818,525	839,559
River Protection			
River Protection.....	1,059,240	846,946	964,127
Savannah River			
Savannah River National Laboratory	50,900	49,207	43,300
Savannah River Operations Office	13,327	12,916	12,542
Savannah River Site	1,227,015	1,116,597	1,028,552
Total, Savannah River	1,291,242	1,178,720	1,084,394

(dollars in thousands)

	FY 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
NNSA Sites			
California Site Support	746	545	370
Kansas City Plant	3,478	4,481	0
Lawrence Livermore National Laboratory	61,971	29,283	11,580
Los Alamos National Laboratory	116,699	141,277	91,627
Nevada Test Site.....	97,700	84,177	79,668
New Mexico Site Support.....	300	0	0
NNSA Service Center.....	9,502	8,221	26,122
Offsites	0	2,818	0
Pantex Plant.....	24,016	19,458	23,726
Sandia National Laboratory	20,084	9,672	0
Total, NNSA Sites	334,496	299,932	233,093
Closure Sites			
Ashtabula.....	8,752	15,841	295
Columbus.....	21,190	9,405	0
Consolidated Business Center	0	0	25,896
Fernald.....	322,538	324,344	258,877
Miamisburg	111,593	104,478	34,869
Rocky Flats Environmental Technology Site	637,377	558,773	1,000
Rocky Flats Field Office	8,302	5,741	0
Total, Closure Sites	1,109,752	1,018,582	320,937
Headquarters Operations			
Headquarters.....	104,252	52,075	57,881
West Valley Demonstration Project			
West Valley Demonstration Project	73,628	76,329	73,400
All Other Sites			
Argonne National Laboratory-East.....	1,779	10,382	10,726
Brookhaven National Laboratory	41,322	33,985	28,272
California Site Support	98	99	160
Energy Technology Engineering Center	18,238	8,910	16,000
Inhalation Toxicology Laboratory	487	302	2,931
Laboratory for Energy-Related Health Research.....	496	0	0
Lawrence Berkeley National Laboratory.....	4,038	3,861	0
Moab.....	7,711	27,726	22,865
Stanford Linear Accelerator Center.....	2,480	3,465	5,720
Total, All Other Sites.....	76,649	88,730	86,674

(dollars in thousands)

	FY 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
Program Direction			
Program Direction	270,016	241,386	291,216
Safeguards and Security			
Carlsbad Field Office	4,072	4,181	4,324
East Tennessee Technology Park	21,850	28,567	22,889
Fernald.....	1,157	1,377	1,216
Hanford Site	56,457	81,335	77,836
Miamisburg	524	0	0
Paducah Gaseous Diffusion Plant.....	7,760	10,904	8,707
Portsmouth Gaseous Diffusion Plant.....	16,009	17,664	15,642
Richland Operations Office	1,972	0	0
Rocky Flats Environmental Technology Site	16,455	3,168	0
Savannah River Site	136,191	135,379	163,626
West Valley Demonstration Project	495	1,782	1,600
Total, Safeguards and Security	262,942	284,357	295,840
D&D Fund Deposit			
D&D Fund Deposit.....	459,296	446,490	452,000
Technology Development & Deployment			
Technology Development and Deployment	58,207	29,765	21,389
Subtotal, Environmental Management	7,769,972	7,056,740	6,280,038
Use of Prior Year (Defense)	-34,365	0	0
Reimbursable Work for Others (Safeguards & Security)	-143	0	0
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Project 05-D-405)	0	-20,000	0
D&D Fund Offset	-459,296	-446,490	-452,000
Total, Environmental Management	7,276,168	6,590,250	5,828,038

Corporate Measures Totals by Site ^a

	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
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Carlsbad

Waste Isolation Pilot Plant

Geographic Sites Eliminated (number of sites)	0	0	0	0	1
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Idaho

Argonne National Laboratory-West

Geographic Sites Eliminated (number of sites)	1	1	1	1	1
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Remediation Complete (Number of Release Sites)...	37	37	37	37	37
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Idaho National Laboratory

Geographic Sites Eliminated (number of sites)	0	0	0	0	1
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Enriched Uranium packaged for disposition (Number of Containers).....	641	910	935	1,110	1,510
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High-Level Waste packaged for final disposition (Number of Containers).....	0	0	0	0	4,200
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Industrial Facility Completions (Number of Facilities).....	100	112	115	118	242
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Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	0	900
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Liquid Waste Tanks closed (Number of Tanks).....	0	0	0	3	11
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Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	36,842	44,461	50,116	55,261	98,550
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Material Access Areas eliminated (Number of Material Access Areas).....	0	1	1	1	1
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Nuclear Facility Completions (Number of Facilities)	14	20	20	20	86
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Radioactive Facility Completions (Number of Facilities)	14	17	17	18	37
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Remediation Complete (Number of Release Sites)...	148	160	160	166	270
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Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal).....	0	0	1	2	253
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Transuranic Waste shipped for disposal at WIPP (Cubic meters)	3,746	6,338	15,342	24,352	65,009
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Idaho Operations Office

Remediation Complete (Number of Release Sites)...	233	233	233	233	233
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Maxey Flats

Geographic Sites Eliminated (number of sites)	1	1	1	1	1
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Monticello Remedial Action Project

Geographic Sites Eliminated (number of sites)	1	1	1	1	1
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^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 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
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Pinellas Plant

Geographic Sites Eliminated (number of sites)	1	1	1	1	1
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Oak Ridge

East Tennessee Technology Park

Industrial Facility Completions (Number of Facilities)	105	160	230	298	573
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)	2	4	6	6	8
Radioactive Facility Completions (Number of Facilities)	1	1	5	6	16
Remediation Complete (Number of Release Sites) ...	19	28	35	67	167

FUSRAP

Geographic Sites Eliminated (number of sites)	25	25	25	25	25
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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)	5,056	5,880	6,732	7,594	8,849
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	80	178

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
Industrial Facility Completions (Number of Facilities)	2	2	2	2	25
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	40,910	56,604	58,128	58,740	67,423
Nuclear Facility Completions (Number of Facilities)	0	0	2	2	2
Radioactive Facility Completions (Number of Facilities)	2	2	15	15	29
Remediation Complete (Number of Release Sites) ...	55	58	111	112	114
Transuranic Waste shipped for disposal at WIPP (Cubic meters)	0	0	271	396	1,224

Weldon Spring Site

Geographic Sites Eliminated (number of sites)	1	1	1	1	1
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	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
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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

Portsmouth/Paducah Project Office

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	0	453,312
Enriched Uranium packaged for disposition (Number of Containers).....	0	0	0	0	182
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,687	8,685	8,801	9,626	16,391
Radioactive Facility Completions (Number of Facilities).....	0	0	0	0	2
Remediation Complete (Number of Release Sites) ...	87	87	87	87	237

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	0	205,567
Enriched Uranium packaged for disposition (Number of Containers).....	0	0	0	0	1,450
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	17,298	26,474	28,081	28,740	29,402
Remediation Complete (Number of Release Sites) ...	149	149	150	150	163

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
Enriched Uranium packaged for disposition (Number of Containers).....	1,648	2,958	2,958	2,958	2,958
Industrial Facility Completions (Number of Facilities).....	202	233	238	246	855
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	40,282	43,524	44,732	48,086	53,636
Material Access Areas eliminated (Number of Material Access Areas).....	0	0	1	1	2
Nuclear Facility Completions (Number of Facilities)	11	15	26	30	172
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).....	9	20	29	30	415
Remediation Complete (Number of Release Sites) ...	327	365	407	440	1,618

	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal).....	2,090	2,123	2,124	2,124	2,124
Transuranic Waste shipped for disposal at WIPP (Cubic meters)	764	1,288	1,295	1,309	28,369

River Protection

River Protection

High-Level Waste packaged for final disposition (Number of Containers).....	0	0	0	0	9,200
Industrial Facility Completions (Number of Facilities)	0	0	0	0	102
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	2,500	2,500	310,000
Nuclear Facility Completions (Number of Facilities)	0	0	0	0	18
Radioactive Facility Completions (Number of Facilities)	0	0	0	0	28
Remediation Complete (Number of Release Sites) ...	5	5	5	5	322

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)	5,957	8,207	8,393	8,393	23,182
Enriched Uranium packaged for disposition (Number of Containers).....	939	1,673	2,308	2,943	3,010
High-Level Waste packaged for final disposition (Number of Containers).....	1,712	1,969	2,219	2,469	5,060
Industrial Facility Completions (Number of Facilities)	124	164	189	276	816
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	0	33,100
Liquid Waste Tanks closed (Number of Tanks).....	2	2	2	2	51
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	71,391	79,158	86,530	104,530	219,526
Material Access Areas eliminated (Number of Material Access Areas).....	0	1	1	2	3
Nuclear Facility Completions (Number of Facilities)	5	7	8	13	195
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	774	919	919	919	919
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk).....	401	452	452	452	452
Radioactive Facility Completions (Number of Facilities)	1	2	4	5	40
Remediation Complete (Number of Release Sites) ...	317	324	335	348	515
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal).....	3	3	3	3	36

	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
Transuranic Waste shipped for disposal at WIPP (Cubic meters)	2,965	3,687	4,527	5,367	15,326

NNSA Sites

Kansas City Plant

Geographic Sites Eliminated (number of sites)	0	0	1	1	1
Remediation Complete (Number of Release Sites) ...	42	42	43	43	43

Lawrence Livermore National Laboratory

Geographic Sites Eliminated (number of sites)	0	0	1	1	2
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,589	5,253	5,305	5,305	5,305
Remediation Complete (Number of Release Sites) ...	175	181	188	192	193
Transuranic Waste shipped for disposal at WIPP (Cubic meters)	0	143	143	143	230

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) ...	1,343	1,398	1,460	1,480	2,124
Transuranic Waste shipped for disposal at WIPP (Cubic meters)	606	771	2,171	3,571	9,200

Nevada Test Site

Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Remediation Complete (Number of Release Sites) ...	719	780	839	857	2,002
Transuranic Waste shipped for disposal at WIPP (Cubic meters)	108	348	402	723	788

Offsites

Geographic Sites Eliminated (number of sites)	1	3	3	3	10
Remediation Complete (Number of Release Sites) ...	40	47	47	47	80

Pantex Plant

Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Industrial Facility Completions (Number of Facilities)	2	3	4	4	4
Remediation Complete (Number of Release Sites) ...	81	101	132	218	237

Sandia National Laboratory

Geographic Sites Eliminated (number of sites)	1	1	2	2	2
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	8	8	8	8	8
Radioactive Facility Completions (Number of Facilities)	1	1	1	1	1
Remediation Complete (Number of Release Sites) ...	193	244	263	263	263

	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
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Separations Process Research Unit

Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Nuclear Facility Completions (Number of Facilities)	0	0	0	0	4
Remediation Complete (Number of Release Sites) ...	0	0	0	6	6
Transuranic Waste shipped for disposal at WIPP (Cubic meters)	0	0	0	0	50

Y-12 Plant

Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	14,383	16,252	18,544	20,840	23,563
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Closure Sites

Ashtabula

Geographic Sites Eliminated (number of sites)	0	0	1	1	1
Industrial Facility Completions (Number of Facilities)	1	1	7	7	7
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	104	104	104	104	104
Radioactive Facility Completions (Number of Facilities)	20	20	25	25	25
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	0	1	1	1
Radioactive Facility Completions (Number of Facilities)	12	14	14	14	14
Remediation Complete (Number of Release Sites) ...	1	1	2	2	2

Fernald

Geographic Sites Eliminated (number of sites)	0	0	1	1	1
Industrial Facility Completions (Number of Facilities)	0	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)	25	28	29	29	29
Remediation Complete (Number of Release Sites) ...	2	2	4	6	6

Miamisburg

Geographic Sites Eliminated (number of sites)	0	0	1	1	1
Industrial Facility Completions (Number of Facilities)	83	97	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)	0	7	8	8	8
Radioactive Facility Completions (Number of Facilities)	2	10	11	11	11

	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
Remediation Complete (Number of Release Sites) ...	118	146	183	184	184
Ohio Field Office					
High-Level Waste packaged for final disposition (Number of Containers).....	275	275	275	275	275
Rocky Flats Environmental Technology Site					
Geographic Sites Eliminated (number of sites)	0	0	1	1	1
Industrial Facility Completions (Number of Facilities).....	258	297	317	317	317
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	314,175	602,188	602,188	602,188	602,188
Material Access Areas eliminated (Number of Material Access Areas).....	7	7	7	7	7
Nuclear Facility Completions (Number of Facilities)	1	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).....	27	42	54	54	54
Remediation Complete (Number of Release Sites) ...	277	333	336	336	336
Transuranic Waste shipped for disposal at WIPP (Cubic meters)	12,953	15,300	15,300	15,300	15,300
<u>Headquarters Operations</u>					
Grand Junction					
Geographic Sites Eliminated (number of sites)	2	2	2	2	2
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)	4,549	10,353	18,392	20,688	20,688
<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	66	68	69	78
Remediation Complete (Number of Release Sites) ...	443	443	443	443	443
Brookhaven National Laboratory					

	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
Geographic Sites Eliminated (number of sites)	0	0	0	0	1
Radioactive Facility Completions (Number of Facilities)	6	10	10	10	10
Remediation Complete (Number of Release Sites) ...	72	78	78	78	78
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	24	24	24
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,055	1,055	1,335	1,335	1,335
Radioactive Facility Completions (Number of Facilities)	4	4	4	4	6
Remediation Complete (Number of Release Sites) ...	4	4	4	4	10
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	0	1
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	165	165	165	165	165
Remediation Complete (Number of Release Sites) ...	9	9	9	9	9

	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Life-cycle Estimates
Laboratory for Energy-Related Health Research					
Geographic Sites Eliminated (number of sites)	0	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	948
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) ...	161	174	181	181	181
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
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
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
Remediation Complete (Number of Release 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 2005 Appropriation	FY 2006 Appropriation	FY 2007 Request
NM Stabilization & Disposition.....	791,840	670,125	443,695
Non-Nuclear Facility D&D	71,534	99,723	3,010
Nuclear Facility D&D	1,202,634	1,123,946	1,151,177
Operate Waste Disposal Facility	183,739	165,718	164,208
Other:			
Community and Regulatory Support.....	36,689	51,813	41,255
Fed. Contribution to the UE D&D Fund	459,296	446,490	452,000
Other.....	267,425	137,528	183,289
Program Direction	270,016	241,386	291,216
Technology Development	58,207	29,765	21,389
Rad Liquid Waste Stabilization & Disposition	1,035,491	1,018,207	949,094
Rad Liquid Waste Stabilization & Disposition - Major Construction	684,480	520,759	690,000
Safeguards & Security	262,942	284,357	295,840
SNF Stabilization & Disposition	275,002	121,211	129,152
Soil & Water Remediation	1,040,972	1,350,950	744,377
SW Stabilization & Disposition	1,100,457	757,506	687,396
Waste & Material Transportation.....	29,248	37,256	32,940
Subtotal, Environmental Management	7,769,972	7,056,740	6,280,038
Offsets	-493,804	-466,490	-452,000
Total, Environmental Management.....	7,276,168	6,590,250	5,828,038

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

(dollars in thousands)

Office / Installation	Project Number	Project Name	Life-cycle (current \$) ^a	Prior Year (FY97-04)	Budget Authority			Unappropriated balance ^{bc}	Completion Date ^d
					FY 2005 Approp	FY 2006 Approp	FY 2007 Request		
<u>Carlsbad</u>									
WIPP	CB-0080	Operate Waste Disposal Facility-WIPP	4,532,834	1,299,176	148,816	116,773	132,026	2,836,043	9/30/2035
WIPP	CB-0081	Central Characterization Project	436,775	0	26,242	38,118	23,190	349,225	9/30/2035
WIPP	CB-0090	Transportation-WIPP	822,523	184,325	29,248	37,256	32,940	538,754	9/30/2030
CBFO	CB-0100	US/Mexico/Border/Material Partnership Initiative	11,431	11,429	0	0	0	2	9/30/2006
CBFO	CB-0101	Economic Assistance to the State of New Mexico	254,310	71,592	23,452	36,184	25,122	97,960	9/30/2011
CBFO	CB-0900	Pre-2004 Completions	7,137	40,605	0	0	0	See Note c	9/30/2003
Subtotal, Carlsbad			6,065,010	1,607,127	227,758	228,331	213,278	3,821,984	
<u>Idaho</u>									
ANL-W	CH-ANLW-0030	Soil and Water Remediation-Argonne National Laboratory-West	8,615	7,569	0	120	0	926	9/30/2003

^a Associated lifecycle cost for this project has been comparably adjusted to its follow-on PBS.

^b The accurate unappropriated balance cannot be determined until EM conducts the next lifecycle cost estimate for this project.

^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 lifecycle 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)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}	
INL	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	102,169	53,308	22,701	12,540	0	13,620	9/30/2025
INL	HQ-SNF-0012Y	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	See Note a	222,623	9,718	0	0	See Note b	9/30/2004
INL	HQ-SNF-0012Y-ID	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	180,800	0	0	0	0	180,800	9/30/2004
INL	ID-0011	NM Stabilization and Disposition	11,433	5,063	4,369	1,540	1,000	See Note b	9/30/2009
INL	ID-0012B-D	SNF Stabilization and Disposition-2012 (Defense)	580,189	441,659	18,524	18,967	18,415	82,624	9/30/2012
INL	ID-0012B-N	SNF Stabilization and Disposition-2012 (Non-Defense)	See Note a	0	0	5,101	7,000	See Note b	9/30/2012
INL	ID-0012C	SNF Stabilization and Disposition-2035	1,218,682	45,651	0	0	0	1,173,031	9/30/2035
INL	ID-0013	Solid Waste Stabilization and Disposition	2,558,486	1,360,621	118,288	138,620	193,910	747,047	9/30/2012
INL	ID-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012	2,336,807	880,157	70,935	154,113	104,514	1,127,088	9/30/2012

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority			Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}			
INL	ID-0014B-T	Radioactive Liquid Tank Waste Stabilization and Disposition-HLW Legis Proposal	See Note a	0	96,522	0	0	0	0	See Note b	9/30/2012
INL	ID-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035	2,953,554	34,761	0	0	0	0	2,918,793		9/30/2035
INL	ID-0030B	Soil and Water Remediation-2012	1,559,003	700,241	126,202	159,880	120,510	452,170			9/30/2012
INL	ID-0030C	Soil and Water Remediation-2035	1,849,995	31,223	1,984	0	0	1,816,788			9/30/2035
INL	ID-0040B	Nuclear Facility D&D-2012	127,803	59,902	21,795	4,976	67,562	See Note b			9/30/2012
INL	ID-0040C	Nuclear Facility D&D-2035	11,213	0	0	0	0	11,213			9/30/2035
INL	ID-0050B	Non-Nuclear Facility D&D-2012	284,774	66,078	39,934	38,715	3,010	137,037			9/30/2012
INL	ID-0050C	Non-Nuclear Facility D&D-2035	998,092	0	0	0	0	998,092			9/30/2035
INL	ID-0100	Idaho Community and Regulatory Support	171,608	44,645	3,088	3,511	3,683	116,681			9/30/2035
ID Ops	ID-0900	Pre-2004 Completions (Defense)	310,248	271,513	0	0	0	38,735			9/30/2003
GJO	ID-GJ-0032	Soil and Water Remediation-Pinellas	See Note a	31,619	0	0	0	0	See Note b		9/30/1997
Maxey Flats	ID-GJ-0100	Maxey Flats	See Note a	20,715	0	0	0	0	See Note b		9/30/2004
Subtotal, Idaho			15,263,471	4,277,348	534,060	538,083	519,604	9,814,645			

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}	
ORNL	HQ-SW-0013X	Solid Waste Stabilization and Disposition-Science Current Generation	See Note a	77,340	18,220	18,085	0	See Note b	9/30/2005
ORNL	HQ-SW-0013X-OR	Solid Waste Stabilization and Disposition-Science Current Generation	153,649	0	0	0	18,544	135,105	9/30/2005
Y-12	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation	298,699	187,820	19,619	0	0	91,260	9/30/2008
EFTP	OR-0011Y	NM Stabilization and Disposition-EFTP Uranium Facilities Management	51,013	38,407	7,923	4,836	0	See Note b	9/30/2008
ORNL	OR-0011Z	Downblend of U-233 in Building 3019	17,821	0	0	17,821	0	0	9/30/2006
ORR	OR-0013A	Solid Waste Stabilization and Disposition-2006	439,770	406,187	40,362	4,584	0	See Note b	9/30/2006
ORR	OR-0013B	Solid Waste Stabilization and Disposition-2012	938,626	686,930	48,356	67,679	48,888	86,773	9/30/2015
ORR	OR-0030	Soil and Water Remediation-Melton Valley	290,408	221,825	73,512	46,310	0	See Note b	9/30/2006
ORR	OR-0031	Soil and Water Remediation-Offsites	70,540	32,016	7,405	16,319	15,381	See Note b	9/30/2008

Environmental Management/
Overview

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority			
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}	Completion Date ^d		
ETTP	OR-0040	Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)	1,826,784	843,701	216,732	205,225	275,764	285,362	9/30/2009		
Y-12	OR-0041	Nuclear Facility D&D-Y-12	989,745	235,612	23,641	40,154	40,000	650,338	9/30/2015		
ORNL	OR-0042	Nuclear Facility D&D-Oak Ridge National Laboratory	636,993	174,521	25,170	15,874	21,956	399,472	9/30/2015		
ETTP	OR-0043	Nuclear Facility D&D-East Tennessee Technology Park (Defense)	106,051	55,262	7,776	5,974	10,094	26,945	9/30/2009		
ORR	OR-0100	Oak Ridge Reservation Community & Regulatory Support (Defense)	133,777	52,894	3,092	5,613	4,999	67,179	9/30/2015		
ORR	OR-0101	Oak Ridge Contract/Post-Closure Liabilities/Administration	116,200	129,362	12,160	0	0	See Note b	9/30/2015		
ETTP	OR-0102	East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration	367,623	83,578	10,144	37,395	35,709	200,797	9/30/2009		
ORR	OR-0103	Oak Ridge Reservation Community & Regulatory Support (D&D Fund)	43,844	2,866	1,454	0	0	39,524	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		

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Budget Authority					Completion Date ^d	
			Costs	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request		Unappropriated balance ^{bc}
Multiple	OR-0900-N	Pre-2004 Completions (Non-Defense)	617,796	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			7,116,167	3,882,550	515,566	485,869	471,335	1,982,755	
<u>Portsmouth/Paducah Project Office</u>									
Paducah	PA-0011	NM Stabilization and Disposition-Paducah Uranium Facilities Management	48,739	22,408	4,892	2,396	2,501	16,542	9/30/2019
Paducah	PA-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	1,213,406	57,760	50,592	47,916	32,700	1,024,438	9/30/2030
Paducah	PA-0013	Solid Waste Stabilization and Disposition	280,459	145,835	36,728	14,197	23,831	59,868	9/30/2010
Paducah	PA-0040	Nuclear Facility D&D-Paducah	5,506,397	399,589	45,592	85,936	69,022	4,906,258	9/30/2010
Paducah	PA-0100	Paducah Community and Regulatory Support (Non-Defense)	10,203	10,273	0	0	0	See Note b	9/30/2010
Paducah	PA-0101	Paducah Contract/Post-Closure Liabilities/Administrati on (Non-Defense)	-1,856	11,416	0	0	0	See Note b	9/30/2003
Paducah	PA-0102	Paducah Contract/Post-Closure Liabilities/Administrati on (D&D Fund)	115,562	31,954	11,654	1,477	1,299	69,178	9/30/2019

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}	
Paducah	PA-0103	Paducah Community and Regulatory Support (D&D Fund)	32,470	7,252	2,306	2,340	2,423	18,149	9/30/2019
Portsmouth	PO-0011	NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management	194,276	58,305	17,811	10,431	19,515	88,214	9/30/2025
Portsmouth	PO-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	852,578	45,831	56,149	47,916	32,700	669,982	9/30/2025
Portsmouth	PO-0013	Solid Waste Stabilization and Disposition	358,428	212,709	51,213	51,985	19,410	23,111	9/30/2006
Portsmouth	PO-0040	Nuclear Facility D&D-Portsmouth	5,450,055	254,618	38,936	137,363	131,202	4,887,936	9/30/2025
Portsmouth	PO-0041	Nuclear Facility D&D-Portsmouth GCEP	80,000	24,130	19,840	19,775	20,000	See Note b	9/30/2007
Portsmouth	PO-0101	Portsmouth Cold Standby	370,236	291,313	85,955	0	0	See Note b	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)	12,233	12,298	616	600	410	See Note b	9/30/2009
Portsmouth	PO-0104	Portsmouth Community and Regulatory Support (D&D Fund)	7,772	546	280	288	298	6,360	10/1/2003

(dollars in thousands)

Office / Installation	Project Number	Project Name	Budget Authority					Completion Date ^d	
			Costs	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request		Unappropriated balance ^{bc}
Portsmouth	PO-0900	Pre-2004 Completions	See Note a	2,000	0	0	0	See Note c	9/30/2003
Subtotal, Portsmouth/Paducah Project Office			14,530,958	1,612,128	422,564	422,620	355,311	11,770,036	
Richland									
Hanford	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	5,410	0	991	1,795	0	2,624	9/30/2025
Hanford	RL-0011	NM Stabilization and Disposition-PFP	2,219,100	949,803	194,083	196,688	81,651	796,875	9/30/2009
Hanford	RL-0012	SNF Stabilization and Disposition	2,206,382	1,639,110	155,390	57,896	81,069	272,917	9/30/2010
Hanford	RL-0013	Solid Waste Stabilization and Disposition-200 Area	See Note a	890,062	187,213	165,448	0	See Note b	9/30/2035
Hanford	RL-0013B	Solid Waste Stabilization and Disposition-2012	245,253	0	0	0	39,876	205,377	9/30/2035
Hanford	RL-0013C	Solid Waste Stabilization and Disposition-2035	5,812,172	0	0	0	188,989	5,623,183	9/30/2035
Hanford	RL-0030	Soil and Water Remediation-Groundwater/Vadose Zone - 2035	1,640,988	251,910	79,535	73,753	75,973	1,159,817	9/30/2035
Hanford	RL-0040	Nuclear Facility D&D-Remainder of Hanford - 2035	7,047,090	627,685	126,165	70,106	94,270	6,128,864	9/30/2035
Hanford	RL-0041	Nuclear Facility D&D-River Corridor Closure Project	4,247,531	1,063,019	164,542	176,722	221,022	2,622,226	9/30/2012

Environmental Management/Overview

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Budget Authority					Completion Date ^d	
			Costs	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request		Unappropriated balance ^{bc}
Hanford	RL-0042	Nuclear Facility D&D-Fast Flux Test Facility Project	811,172	142,670	45,715	45,652	34,843	542,292	9/30/2018
Hanford	RL-0043	HAMMER Facility	7,425	0	0	7,425	0	0	9/30/2006
Hanford	RL-0044	B-Reactor Museum	1,980	0	0	1,980	0	0	9/30/2006
Hanford	RL-0080	Operate Waste Disposal Facility	85,514	52,489	3,546	5,803	3,534	20,142	9/30/2035
RL Ops	RL-0100	Richland Community and Regulatory Support	806,349	96,343	13,124	15,257	18,332	663,293	9/30/2035
RL Ops	RL-0900	Pre-2004 Completions	130,581	129,698	0	0	0	883	9/30/2003
Subtotal, Richland			25,266,947	5,842,789	970,304	818,525	839,559	18,038,493	

River Protection

ORP	HQ-HLW-0014X	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	See Note a	38,715	0	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	93,802	0	0	0	0	93,802		9/30/2035
ORP	ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	26,323,717	2,782,108	342,967	325,721	273,656	22,599,265		9/30/2032

(dollars in thousands)

Office / Installation	Project Number	Project Name	Life-cycle (current \$) ^a	Prior Year (FY97-04)	Budget Authority				Unappropriated balance ^{bc}	Completion Date ^d
					FY 2005 Approp	FY 2006 Approp	FY 2007 Request	FY 2007 Request		
ORP	ORP-0014-T	Radioactive Liquid Tank Waste Stabilization and Disposition-HLW Legis Proposal	See Note a	0	31,793	0	0	0	See Note b	9/30/2035
ORP	ORP-0060	Major Construction-Waste Treatment Plant	6,095,479	2,944,374	684,480	520,759	690,000	1,255,866		7/31/2011
ORP	ORP-0100	River Protection Community and Regulatory Support	7,950	0	0	466	471	7,013		9/30/2032
Subtotal, River Protection			32,520,948	5,765,197	1,059,240	846,946	964,127	23,955,946		

Savannah River

SRS	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	76,405	118,782	11,240	13,751	0	See Note b		9/30/2025
SRS	SR-0011A	NM Stabilization and Disposition-2006	131,350	145,186	0	0	0	See Note b		9/30/2004
SRS	SR-0011B	NM Stabilization and Disposition-2012	5,579,817	2,758,342	382,147	266,224	232,468	1,940,636		9/30/2014
SRS	SR-0011C	NM Stabilization and Disposition-2035	1,780,348	448,088	73,874	74,357	41,160	1,142,869		9/30/2020
SRS	SR-0012	SNF Stabilization and Disposition	1,485,657	217,388	10,404	11,161	22,668	1,224,036		9/30/2020
SRS	SR-0013	Solid Waste Stabilization and Disposition	1,893,281	626,302	103,924	111,867	85,276	965,912		9/30/2025

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority			
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}	Completion Date ^d		
SRS	SR-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012	321,397	0	0	0	0	321,397	9/30/2012		
Multiple	SR-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035	See Note a	3,287,994	331,974	538,373	570,924	See Note b	9/30/2020		
SRS	SR-0014C-T	Radioactive Liquid Tank Waste Stabilization and Disposition-HLW Legis Proposal	See Note a	0	161,300	0	0	See Note b	9/30/2025		
SRS	SR-0030	Soil and Water Remediation	2,645,826	835,410	126,220	93,425	103,150	1,487,621	9/30/2025		
SRS	SR-0040	Nuclear Facility D&D	See Note a	273,144	76,832	56,646	0	See Note b	9/30/2025		
SRS	SR-0040B	Nuclear Facility D&D - 2012	66,864	0	0	0	3,664	63,200	9/30/2025		
SRS	SR-0040C	Nuclear Facility D&D - 2035	2,907,633	0	0	0	12,542	2,895,091	9/30/2025		
SR Ops	SR-0100	Non-Closure Mission Support	352,879	170,376	6,761	5,333	5,000	165,409	9/30/2025		
SR Ops	SR-0101	Savannah River Community and Regulatory Support	172,993	57,992	6,566	7,583	7,542	93,310	9/30/2025		
SR Ops	SR-0900	Pre-2004 Completions	198,078	365,779	0	0	0	See Note c	9/30/2003		
Subtotal, Savannah River			17,612,528	9,304,783	1,291,242	1,178,720	1,084,394	10,299,481			

(dollars in thousands)

Office / Installation	Project Number	Project Name	Budget Authority					Unappropriated balance ^{bc}	Completion Date ^d
			Costs	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request		
LLNL	HQ-SW-0013Y	Solid Waste Stabilization and Disposition-NNSA Current Generation	207,632	62,555	26,415	0	0	118,662	9/30/2006
NV Offsites	NV-0030	Soil and Water Remediation-Nevada Offsites	115,819	0	0	2,818	0	113,001	9/30/2027
CSS	VL-FAO-0100-D	Nuclear Material Stewardship (Defense)	108,180	108,466	300	0	0	See Note b	10/1/2004
Small Sites	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	83,819	79,521	4,051	1,744	1,622	See Note b	9/30/2015
CSS	VL-FAO-0900	Pre-2004 Completions	232,749	219,063	0	0	0	13,686	9/30/2003
CBC	VL-FOO-0013B-D	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense)	15,724	14,270	476	486	90	402	9/30/2008
CBC	VL-FOO-0100-D	Oakland Community and Regulatory Support (Defense)	4,470	5,383	270	59	280	See Note b	9/30/2008
KCP	VL-KCP-0030	Soil and Water Remediation-Kansas City Plant	28,367	21,287	3,478	4,481	0	See Note b	9/30/2006
LANL	VL-LANL-0013	Solid Waste Stabilization and Disposition-LANL Legacy	433,465	209,453	40,148	42,374	44,592	96,898	9/30/2011

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority			
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}	Completion Date ^d		
LANL	VL-LANL-0030	Soil and Water Remediation-LANL	1,011,398	450,413	76,104	98,418	28,310	358,153	9/30/2015		
LANL	VL-LANL-0040-D	Nuclear Facility D&D-LANL (Defense)	17,700	0	0	0	17,700	0	9/30/2010		
LANL	VL-LANL-0040-N	Nuclear Facility D&D-LANL (Non-Defense)	17,702	880	447	485	1,025	14,865	9/30/2011		
LLNL	VL-LLNL-0013	Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory	67,789	151,618	9,095	0	0	See Note b	9/30/2006		
LLNL	VL-LLNL-0030	Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site	123,272	94,222	13,980	16,038	0	See Note b	9/30/2006		
LLNL	VL-LLNL-0031	Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300	123,832	78,378	10,881	13,245	11,580	9,748	9/30/2008		
NTS	VL-NV-0013	Solid Waste Stabilization and Disposition-Nevada Test Site	71,983	54,101	9,093	8,430	4,430	See Note b	9/30/2007		
Multiple	VL-NV-0030	Soil and Water Remediation-Nevada Test Site	1,934,283	526,980	81,354	68,202	67,180	1,190,567	9/30/2027		
NTS	VL-NV-0080	Operate Waste Disposal Facility-Nevada	140,719	53,134	5,135	5,024	5,458	71,968	9/30/2021		
NTS	VL-NV-0100	Nevada Community and Regulatory Support	86,716	26,948	1,918	2,521	2,600	52,729	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		

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority			
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}	Completion Date ^d		
Pantex	VL-PX-0030	Soil and Water Remediation-Pantex	170,312	105,690	19,308	14,357	19,394	11,563	9/30/2008		
Pantex	VL-PX-0040	Nuclear Facility D&D-Pantex	18,350	4,618	4,708	5,101	4,332	See Note b	9/30/2007		
SNL	VL-SN-0030	Soil and Water Remediation-Sandia	228,387	199,603	20,084	9,672	0	See Note b	9/29/2006		
NNSA SC	VL-SPRU-0040	Nuclear Facility D&D-Separations Process Research Unit	247,033	11,376	5,451	6,477	24,500	199,229	9/30/2014		
NTS	VL-SV-0100	South Valley Superfund	9,007	5,407	1,800	0	0	1,800	9/30/2003		
Subtotal, NNSA Sites			5,513,662	2,565,924	334,496	299,932	233,093	2,253,271			
Closure Sites											
CBC	CBC-0100-FN	CBC Post Closure Administration - Fernald	8,696	0	0	0	8,696	0	9/30/2070		
CBC	CBC-0100-MD	CBC Post Closure Administration - Mound	11,200	0	0	0	11,200	0	9/30/2070		
CBC	CBC-0100-RF	CBC Post Closure Administration - Rocky Flats	6,000	0	0	0	6,000	0	9/30/2070		
RFFO	CBC-RF-0102	Rocky Flats Future Use	2,431	0	0	244	0	2,187	12/15/2006		
Ashtabula	OH-AB-0030	Soil and Water Remediation-Ashtabula	144,350	113,548	8,752	15,841	295	5,914	12/31/2006		
Columbus	OH-CL-0040	Nuclear Facility D&D-West Jefferson	145,814	124,908	21,190	9,405	0	See Note b	9/30/2006		
Fernald	OH-FN-0013	Solid Waste Stabilization and Disposition-Fernald	1,593,936	1,398,305	164,212	47,633	0	See Note b	9/30/2006		

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}	
Fernald	OH-FN-0030	Soil and Water Remediation-Fernald	1,382,730	695,339	125,279	214,835	258,500	88,777	12/31/2006
Fernald	OH-FN-0050	Non-Nuclear Facility D&D-Fernald	283,310	159,129	31,600	61,008	0	31,573	9/30/2006
Fernald	OH-FN-0100	Fernald Post-Closure Administration	298,750	0	0	0	0	298,750	9/30/2070
Fernald	OH-FN-0101	Fernald Community and Regulatory Support	13,988	9,957	1,447	868	377	1,339	9/30/2007
Miamisburg	OH-MB-0013	Solid Waste Stabilization and Disposition-Miamisburg	281,578	180,609	54,358	64,774	0	See Note b	9/30/2006
Miamisburg	OH-MB-0030	Soil and Water Remediation-Miamisburg	156,953	92,787	28,092	36,745	4,519	See Note b	12/31/2006
Miamisburg	OH-MB-0040	Nuclear Facility D&D-Miamisburg	482,423	451,343	28,110	2,167	0	803	9/30/2006
Miamisburg	OH-MB-0100	Miamisburg Post-Closure Administration	844,738	0	0	0	30,350	814,388	9/30/2070
Miamisburg	OH-MB-0101	Miamisburg Community and Regulatory Support	9,466	6,292	1,033	792	0	1,349	9/30/2006
OH FO	OH-OPS-0900-D	Pre-2004 Completions (Defense)	57,866	199,950	0	0	0	See Note c	9/30/2003
RFETS	RF-0011	NM Stabilization and Disposition	471,415	259,773	0	0	0	211,642	2/24/2004
RFETS	RF-0013	Solid Waste Stabilization and Disposition	824,494	860,009	178,499	1,980	0	See Note b	10/13/2005
RFETS	RF-0030	Soil and Water Remediation	2,138,418	1,282,898	192,090	424,080	1,000	238,350	12/15/2006

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority			Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}			
RFETS	RF-0040	Nuclear Facility D&D-North Side Facility Closures	1,923,493	1,760,713	179,775	121,823	0	See Note b	10/15/2005		
RFETS	RF-0041	Nuclear Facility D&D-South Side Facility Closures	778,537	704,438	87,013	10,890	0	See Note b	10/15/2005		
RFFO	RF-0100	Rocky Flats Environmental Technology Site Contract Liabilities	3,755,536	37,397	6,280	2,476	0	3,709,383	9/30/2070		
RFFO	RF-0101	Rocky Flats Community and Regulatory Support	36,556	30,175	2,022	3,021	0	1,338	9/30/2006		
Subtotal, Closure Sites			15,652,678	8,367,570	1,109,752	1,018,582	320,937	5,405,793			
<u>Headquarters Operations</u>											
HQ	HQ-MS-0100	Policy, Management, and Technical Support	1,910,867	680,751	24,892	32,275	37,881	1,135,068	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	562,146	315,437	79,360	19,800	20,000	127,549	9/30/2015		
Subtotal, Headquarters Operations			2,473,013	1,032,462	104,252	52,075	57,881	1,262,617			
<u>West Valley Demonstration Project</u>											
WVDP	OH-WV-0012	SNF Stabilization and Disposition-West Valley	32,319	33,967	0	0	0	See Note b	9/30/2004		

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority				Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}				
WVDP	OH-WV-0013	Solid Waste Stabilization and Disposition-West Valley	229,350	104,113	40,214	19,305	19,500	46,218			9/30/2008	
WVDP	OH-WV-0014	Radioactive Liquid Tank Waste Stabilization and Disposition-West Valley High-Level Waste Storage	361,894	0	0	0	0	361,894			9/30/2012	
WVDP	OH-WV-0040	Nuclear Facility D&D-West Valley	597,511	290,096	33,414	57,024	53,900	163,077			9/30/2008	
Subtotal, West Valley Demonstration Project			1,221,074	428,176	73,628	76,329	73,400	571,189				
All Other Sites												
BNL	BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory	262,675	168,706	31,595	6,646	6,643	49,085			9/30/2005	
BNL	BRNL-0040	Nuclear Facility D&D-Brookhaven Graphite Research Reactor	102,009	43,642	5,575	19,921	13,703	19,168			9/30/2009	
BNL	BRNL-0041	Nuclear Facility D&D-High Flux Beam Reactor	51,969	3,550	4,103	7,369	7,776	29,171			9/30/2009	
BNL	BRNL-0100	Brookhaven Community and Regulatory Support	3,293	2,789	49	49	150	256			9/30/2009	

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority			Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}			
CBC	CBC-CA-0013B-N	Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense)	6,690	0	0	59	60	6,571	9/30/2014		
CBC	CBC-CA-0100-N	Oakland Community and Regulatory Support (Non-Defense)	2,360	0	0	40	100	2,220	9/30/2008		
ETEC	CBC-ETEC-0040	Nuclear Facility D&D-Energy Technology Engineering Center	206,635	0	0	8,910	16,000	181,725	9/30/2009		
ITL	CBC-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory	11,101	0	0	302	2,931	7,868	9/30/2008		
LBNL	CBC-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory	35,977	0	0	3,861	0	32,116	9/30/2006		
Moab	CBC-MOAB-0031	Soil and Water Remediation-Moab	602,212	0	0	27,726	22,865	551,621	9/30/2011		
SLAC	CBC-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center	49,536	0	0	3,465	5,720	40,351	9/30/2009		
ANL-E	CH-ANLE-0030	Soil and Water Remediation-Argonne National Laboratory-East	30,240	29,509	401	411	426	See Note b	9/30/2005		
ANL-E	CH-ANLE-0040	Nuclear Facility D&D-Argonne National Laboratory-East	47,808	28,005	1,378	9,971	10,300	See Note b	9/30/2009		
CH Ops	CH-OPS-0900	Pre-2004 Completions	98,780	108,447	0	0	0	See Note c	9/30/2003		

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs		Budget Authority				Completion Date ^d	
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}		
PPPL	CH-PPPL-0030	Soil and Water Remediation-Princeton Site A/B	309	1,130	0	0	0	0	See Note b	9/30/2004
Moab	HQ-GJ-0031	Soil and Water Remediation-Moab	See Note a	13,679	7,711	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	0	See Note b	12/15/2006
ID Ops	ID-0900-N	Pre-2004 Completions (Non-Defense)	See Note a	19,468	0	0	0	0	See Note c	9/30/2003
GJO	ID-GJ-0030	Soil and Water Remediation-Monticello	See Note a	106,992	0	0	0	0	See Note b	9/30/2005
GJO	ID-GJ-0033	Soil and Water Remediation-UMTRA	See Note a	59,291	0	0	0	0	See Note b	9/30/2006
GJO	ID-GJ-0101-N	Complex-Wide Stewardship Activities (Non-Defense)	See Note a	78,500	0	0	0	0	See Note b	9/30/2070
HQ-LM	Legacy Mgmt	Office of Legacy Management (Non-Defense)	See Note a	28,189	0	0	0	0	See Note b	
LEHR	LEHR-0040	Nuclear Facility D&D-Laboratory for Energy-Related Health Research	38,671	0	0	0	0	0	38,671	9/30/2005
OH FO	OH-OPS-0900-N	Pre-2004 Completions (Non-Defense)	396,924	259,675	0	0	0	0	137,249	9/30/2003
ORR	OR-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	See Note a	13,306	0	0	0	0	See Note b	9/30/2035

(dollars in thousands)

Office / Installation	Project Number	Project Name	Costs					Budget Authority			Completion Date ^d
			Life-cycle (current \$) ^a	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	Unappropriated balance ^{bc}			
ETEC	VL-EETEC-0040	Nuclear Facility D&D- Energy Technology Engineering Center	See Note a	137,230	18,238	0	0	0	See Note b	9/30/2009	
CBC	VL-FOO-0013B-N	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non- Defense)	See Note a	10,281	58	0	0	0	See Note b	9/30/2014	
CBC	VL-FOO-0100-N	Oakland Community and Regulatory Support (Non-Defense)	See Note a	3,695	40	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	0	See Note c	10/1/2002	
GA	VL-GA-0012	SNF Stabilization and Disposition-General Atomics	15,205	14,355	0	0	0	850		9/30/2003	
ITL	VL-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory	See Note a	6,237	487	0	0	0	See Note b	9/30/2008	
LBNL	VL-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory	See Note a	26,730	4,038	0	0	0	See Note b	9/30/2006	
LEHR	VL-LEHR-0040	Nuclear Facility D&D- Laboratory for Energy- Related Health Research	See Note a	39,610	496	0	0	0	See Note b	9/30/2005	
SLAC	VL-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center	See Note a	14,783	2,480	0	0	0	See Note b	9/30/2009	
Subtotal, All Other Sites			1,983,233	1,242,953	76,649	88,730	86,674	1,096,922			

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Budget Authority					Completion Date ^d	
			Costs	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request		Unappropriated balance ^{bc}
<u>Program Direction</u>									
PD	HQ-PD-0100	Program Direction	7,443,622	2,759,736	270,016	241,386	291,216	3,881,268	9/30/2035
PD	HQ-PD-0101	Program Direction-Homeland Security	33,410	33,410	0	0	0	0	9/30/2002
Subtotal, Program Direction			7,477,032	2,793,146	270,016	241,386	291,216	3,881,268	
<u>Safeguards and Security</u>									
CBFO	CB-0020	Safeguards and Security	195,544	12,240	4,072	4,181	4,324	170,727	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
GJO	ID-GJ-0020	Safeguards and Security-Grand Junction	See Note a	1,441	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	16,455	16,692	1,157	1,377	1,216	See Note b	12/31/2006
Miamisburg	OH-MB-0020	Safeguards and Security-Miamisburg	28,286	28,450	524	0	0	See Note b	9/30/2006
WVDP	OH-WV-0020	Safeguards and Security-West Valley	47,370	8,941	495	1,782	1,600	34,552	9/30/2035
ETTP	OR-0020	Safeguards and Security	100,186	61,662	21,850	28,567	22,889	See Note b	9/30/2015
Paducah	PA-0020	Safeguards and Security	110,203	21,859	7,760	10,904	8,707	60,973	9/30/2030

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Budget Authority					Completion Date ^d	
			Costs	Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request		Unappropriated balance ^{bc}
Portsmouth	PO-0020	Safeguards and Security	689,367	55,795	16,009	17,664	15,642	584,257	9/30/2025
RFETS	RF-0020	Safeguards and Security	318,123	163,927	16,455	3,168	0	134,573	12/15/2006
Multiple	RL-0020	Safeguards and Security	2,222,832	236,022	58,429	81,335	77,836	1,769,210	9/30/2035
SRS	SR-0020	Safeguards and Security	3,062,071	453,720	136,191	135,379	163,626	2,173,155	9/30/2025
Subtotal, Safeguards and Security			6,790,437	1,176,818	262,942	284,357	295,840	4,927,447	
<u>D&D Fund Deposit</u>									
D&D Deposit	HQ-DD-0100	Federal Contribution to the Uranium Enrichment D&D Fund	4,677,902	3,303,876	459,296	446,490	452,000	16,240	9/30/2007
<u>Technology Development & Deployment</u>									
Tech. Dev.	HQ-TD-0100	Technology Development	2,265,529	1,745,624	58,207	29,765	21,389	410,544	9/30/2035
Subtotal, Environmental Management			166,430,589	54,948,471	7,769,972	7,056,740	6,280,038	99,508,631	
Use of Prior Year (Defense).....				-724,160	-34,365	0	0		
Privatization Prior Year Rescission				-15,329	0	0	0		
Reimbursable Work for Others (Safeguards & Security).....				-10,242	-143	0	0		
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Proj 05-D-405)				0	0	-20,000	0		
Use of Prior Year (D&D Fund).....				-3,000	0	0	0		
Use of Prior Year (Non-Defense)				-62,185	0	0	0		

**Environmental Management/
Overview**

FY 2007 Congressional Budget

(dollars in thousands)

Office / Installation	Project Number	Project Name	Life-cycle (current \$) ^a	Budget Authority					Unappropriated balance ^{bc}	Completion Date ^d
				Prior Year (FY97-04)	FY 2005 Approp	FY 2006 Approp	FY 2007 Request	0		
Dupont Pension Fund.....			-71,799	0	0	0	0	0		
D&D Fund Offset			-3,303,876	-459,296	-446,490	-452,000				
Total, Environmental Management			166,430,589	50,757,880	7,276,168	6,590,250	5,828,038	99,508,631		

Corporate Performance Measure Quantities by Project Baseline Summary^{abc}

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Idaho								
Argonne National Laboratory-West	CH-ANLW-0030	Soil and Water Remediation-Argonne National Laboratory-West						
		Remediation Complete (Number of Release Sites)	37	37	37	37	0	37
Idaho National Laboratory	HQ-SNF-0012X-ID	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository						
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	0	0	1	2	251	253
Idaho National Laboratory	ID-0011	NM Stabilization and Disposition						
		Enriched Uranium packaged for disposition (Number of Containers)	641	910	935	1,110	400	1,510
		Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	0	0	0
		Material Access Areas eliminated (Number of Material Access Areas)	0	1	1	1	0	1
Idaho National Laboratory	ID-0013	Solid Waste Stabilization and Disposition						
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)	3,746	6,338	15,342	24,352	39,899	64,251

^aLife-cycle estimates for release sites, facilities, and high-level waste canisters include pre-1997 actuals. Quantities for all other measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begins in 1998.

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

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

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	36,842	44,461	50,116	55,261	22,169	77,430
Idaho National Laboratory	ID-0014B	Radioactive Liquid Tank Waste Stabilization and Disposition-2012	0	0	0	0	900	900
		Liquid Waste in Inventory eliminated (Thousands of Gallons)						
		Liquid Waste Tanks closed (Number of Tanks)	0	0	0	3	8	11
Idaho National Laboratory	ID-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035						
		High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	0	4,200	4,200
Idaho National Laboratory	ID-0030B	Soil and Water Remediation-2012						
		Remediation Complete (Number of Release Sites)	148	160	160	166	47	213
Idaho National Laboratory	ID-0030C	Soil and Water Remediation-2035						
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)	0	0	0	0	758	758
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	0	0	0	21,120	21,120
		Remediation Complete (Number of Release Sites)	0	0	0	0	57	57
Idaho National Laboratory	ID-0040B	Nuclear Facility D&D-2012						
		Nuclear Facility Completions (Number of Facilities)	14	20	20	20	0	20
Idaho National Laboratory	ID-0040C	Nuclear Facility D&D-2035						
		Nuclear Facility Completions (Number of Facilities)	0	0	0	0	66	66

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Idaho National Laboratory	ID-0050B	Non-Nuclear Facility D&D-2012	14	17	17	18	9	27
		Radioactive Facility Completions (Number of Facilities)						
Idaho National Laboratory	ID-0050C	Industrial Facility Completions (Number of Facilities)	100	112	115	118	9	127
		Non-Nuclear Facility D&D-2035						
Idaho Operations Office	ID-0900	Radioactive Facility Completions (Number of Facilities)	0	0	0	0	10	10
		Industrial Facility Completions (Number of Facilities)	0	0	0	0	115	115
Oak Ridge National Laboratory	HQ-SW-0013X-OR	Pre-2004 Completions (Defense)	233	233	233	233	0	233
		Remediation Complete (Number of Release Sites)						
East Tennessee Technology Park	OR-0011Y	Solid Waste Stabilization and Disposition- Science Current Generation	5,056	5,880	6,732	7,594	1,255	8,849
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)						
Oak Ridge Reservation	OR-0013A	NM Stabilization and Disposition-ETTP Uranium Facilities Management	93	93	93	93	0	93
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)						
Oak Ridge Reservation	OR-0013B	Nuclear Facility Completions (Number of Facilities)	0	2	4	4	0	4
		Solid Waste Stabilization and Disposition-2006						
Environmental Management/Overview		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	33,127	48,584	48,584	48,584	0	48,584
		Solid Waste Stabilization and Disposition-2012						

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)	0	0	271	396	828	1,224
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	7,783	8,020	9,544	10,156	8,683	18,839
		Radioactive Facility Completions (Number of Facilities)	0	0	0	0	14	14
		Industrial Facility Completions (Number of Facilities)	0	0	0	0	23	23
Oak Ridge Reservation	OR-0030	Soil and Water Remediation-Melton Valley Nuclear Facility Completions (Number of Facilities)	0	0	2	2	0	2
		Radioactive Facility Completions (Number of Facilities)	2	2	15	15	0	15
		Industrial Facility Completions (Number of Facilities)	2	2	2	2	0	2
		Remediation Complete (Number of Release Sites)	50	53	106	106	0	106
Oak Ridge Reservation	OR-0031	Soil and Water Remediation-Offsites Remediation Complete (Number of Release Sites)	5	5	5	6	2	8
East Tennessee Technology Park	OR-0040	Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,178	5,178	5,178	5,178	0	5,178
		Nuclear Facility Completions (Number of Facilities)	2	2	2	2	2	4
		Radioactive Facility Completions (Number of Facilities)	1	1	5	6	7	13
		Industrial Facility Completions (Number of Facilities)	103	156	224	289	223	512
		Remediation Complete (Number of Release Sites)	19	28	35	67	100	167

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Y-12 Plant	OR-0041	Nuclear Facility D&D-Y-12						
		Industrial Facility Completions (Number of Facilities)	1	1	1	1	1	2
		Remediation Complete (Number of Release Sites)	28	28	28	28	110	138
Oak Ridge National Laboratory	OR-0042	Nuclear Facility D&D-Oak Ridge National Laboratory						
		Nuclear Facility Completions (Number of Facilities)	0	0	0	0	15	15
		Radioactive Facility Completions (Number of Facilities)	3	3	3	3	23	26
		Industrial Facility Completions (Number of Facilities)	7	7	7	7	18	25
		Remediation Complete (Number of Release Sites)	80	80	80	80	98	178
East Tennessee Technology Park	OR-0043	Nuclear Facility D&D-East Tennessee Technology Park (Defense)						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	32,979	32,979	32,979	32,979	0	32,979
		Radioactive Facility Completions (Number of Facilities)	0	0	0	0	3	3
Oak Ridge Operations Office	OR-0900-D	Industrial Facility Completions (Number of Facilities)	2	4	6	9	52	61
		Pre-2004 Completions (Defense)						
		Remediation Complete (Number of Release Sites)	74	74	74	74	0	74
Oak Ridge Operations Office	OR-0900-N	Pre-2004 Completions (Non-Defense)						
		Industrial Facility Completions (Number of Facilities)	3	3	3	3	0	3
		Remediation Complete (Number of Release Sites)	23	23	23	23	0	23

**Environmental Management/
Overview**

FY 2007 Congressional Budget

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
<u>Portsmouth/Paducah</u>								
<u>Project Office</u>								
Paducah Gaseous Diffusion Plant	PA-0011	NM Stabilization and Disposition-Paducah Uranium Facilities Management	0	0	0	0	182	182
		Enriched Uranium packaged for disposition (Number of Containers)						
Paducah Gaseous Diffusion Plant	PA-0011X	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	0	0	0	0	453,312	453,312
		Depleted and Other Uranium packaged for disposition (Metric Tons)						
Paducah Gaseous Diffusion Plant	PA-0013	Solid Waste Stabilization and Disposition	5,687	8,685	8,801	9,626	6,765	16,391
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)						
Paducah Gaseous Diffusion Plant	PA-0040	Nuclear Facility D&D-Paducah	0	0	0	0	2	2
		Radioactive Facility Completions (Number of Facilities)						
Paducah Gaseous Diffusion Plant	PA-0900	Pre-2004 Completions	86	86	86	86	150	236
		Remediation Complete (Number of Release Sites)						
Portsmouth Gaseous Diffusion Plant	PO-0011	Remediation Complete (Number of Release Sites)	1	1	1	1	0	1
		NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management						
Portsmouth Gaseous Diffusion Plant	PO-0011X	Enriched Uranium packaged for disposition (Number of Containers)	0	0	0	0	1,450	1,450
		NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion						
Portsmouth Gaseous Diffusion Plant		Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	0	205,567	205,567

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Portsmouth Gaseous Diffusion Plant	PO-0013	Solid Waste Stabilization and Disposition	17,298	26,474	28,081	28,740	662	29,402
Portsmouth Gaseous Diffusion Plant	PO-0040	Low-Level and Mixed Low-Level Waste disposed (Cubic meters) Nuclear Facility D&D-Portsmouth						
Portsmouth Gaseous Diffusion Plant	PO-0900	Remediation Complete (Number of Release Sites) Pre-2004 Completions	19	19	20	20	13	33
Portsmouth Gaseous Diffusion Plant		Remediation Complete (Number of Release Sites)	130	130	130	130	0	130
<u>Richland</u>								
Hanford Site	RL-0011	NM Stabilization and Disposition-PFP						
		Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	3,100	3,100	3,100	3,100	0	3,100
		Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	3,437	3,437	3,437	3,437	0	3,437
		Material Access Areas eliminated (Number of Material Access Areas)	0	0	1	1	1	2
		Nuclear Facility Completions (Number of Facilities)	9	12	15	18	42	60
Hanford Site	RL-0012	SNF Stabilization and Disposition						
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2,088	2,117	2,117	2,117	0	2,117
Hanford Site	RL-0013C	Solid Waste Stabilization and Disposition-2035						
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)	764	1,288	1,295	1,309	27,060	28,369
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	40,282	43,524	44,732	48,086	5,550	53,636

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Hanford Site	RL-0040	Nuclear Facility D&D-Remainder of Hanford -2035	2	3	10	10	88	98
		Nuclear Facility Completions (Number of Facilities)						
		Radioactive Facility Completions (Number of Facilities)	3	12	19	19	300	319
		Industrial Facility Completions (Number of Facilities)	184	194	195	199	364	563
		Remediation Complete (Number of Release Sites)	5	16	21	21	836	857
Hanford Site	RL-0041	Nuclear Facility D&D-River Corridor Closure Project	1,648	2,958	2,958	2,958	0	2,958
		Enriched Uranium packaged for disposition (Number of Containers)						
		Depleted and Other Uranium packaged for disposition (Metric Tons)	3,100	3,100	3,100	3,100	0	3,100
		Nuclear Facility Completions (Number of Facilities)	0	0	1	2	12	14
		Radioactive Facility Completions (Number of Facilities)	6	8	10	11	62	73
		Industrial Facility Completions (Number of Facilities)	18	39	43	47	245	292
		Remediation Complete (Number of Release Sites)	322	349	386	419	342	761
Hanford Site	RL-0042	Nuclear Facility D&D-Fast Flux Test Facility Project	400	400	400	400	0	400
		Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)						
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	3	6	7	7	0	7
		Radioactive Facility Completions (Number of Facilities)	0	0	0	0	23	23

River Protection

**Environmental Management/
Overview**

FY 2007 Congressional Budget

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
River Protection	ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition						
		Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	0	54,000	54,000
		Liquid Waste Tanks closed (Number of Tanks)	0	0	0	0	177	177
		High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	0	9,200	9,200
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	0	2,500	2,500	307,500	310,000
		Nuclear Facility Completions (Number of Facilities)	0	0	0	0	18	18
		Radioactive Facility Completions (Number of Facilities)	0	0	0	0	28	28
		Industrial Facility Completions (Number of Facilities)	0	0	0	0	102	102
		Remediation Complete (Number of Release Sites)	5	5	5	5	317	322
Savannah River								
Savannah River Site	SR-0011B	NM Stabilization and Disposition-2012						
		Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	774	919	919	919	0	919
		Enriched Uranium packaged for disposition (Number of Containers)	939	1,673	2,308	2,943	67	3,010
		Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	401	452	452	452	0	452
		Depleted and Other Uranium packaged for disposition (Metric Tons)	5,957	8,207	8,393	8,393	14,789	23,182
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	3	3	3	3	33	36
		Material Access Areas eliminated (Number of Material Access Areas)	0	1	1	2	0	2

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Savannah River Site	SR-0011C	NM Stabilization and Disposition-2035	0	0	0	0	1	1
		Material Access Areas eliminated (Number of Material Access Areas)						
Savannah River Site	SR-0013	Solid Waste Stabilization and Disposition	2,965	3,687	4,527	5,367	9,959	15,326
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	71,185	78,952	86,324	104,324	114,996	219,320
Savannah River Site	SR-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035						
		Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	0	33,100	33,100
		Liquid Waste Tanks closed (Number of Tanks)	2	2	2	2	49	51
		High-Level Waste packaged for final disposition (Number of Containers)	1,712	1,969	2,219	2,469	2,591	5,060
Savannah River Site	SR-0030	Soil and Water Remediation						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	206	206	206	206	0	206
		Remediation Complete (Number of Release Sites)	317	324	335	348	167	515
Savannah River Site	SR-0040B	Nuclear Facility D&D - 2012						
		Nuclear Facility Completions (Number of Facilities)	5	7	8	13	27	40
		Radioactive Facility Completions (Number of Facilities)	1	2	4	5	2	7
		Industrial Facility Completions (Number of Facilities)	124	164	189	276	23	299
Savannah River Site	SR-0040C	Nuclear Facility D&D - 2035						
		Nuclear Facility Completions (Number of Facilities)	0	0	0	0	155	155

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
		Radioactive Facility Completions (Number of Facilities)	0	0	0	0	33	33
		Industrial Facility Completions (Number of Facilities)	0	0	0	0	517	517
<u>NNSA Sites</u>								
Lawrence Livermore National Laboratory	HQ-SW-0013Y-LLNL	Solid Waste Stabilization and Disposition-NNSA Current Generation	0	18	18	18	87	105
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	2,029	2,546	2,546	2,546	0	2,546
Y-12 Plant	HQ-SW-0013Y-Y12	Solid Waste Stabilization and Disposition-NNSA Current Generation	14,383	16,252	18,544	20,840	2,723	23,563
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)						
Offsites	NV-0030	Soil and Water Remediation-Nevada Offsites	40	47	47	47	33	80
		Remediation Complete (Number of Release Sites)						
Kansas City Plant	VL-KCP-0030	Soil and Water Remediation-Kansas City Plant						
		Remediation Complete (Number of Release Sites)	42	42	43	43	0	43
Los Alamos National Laboratory	VL-LANL-0013	Solid Waste Stabilization and Disposition-LANL Legacy	606	771	2,171	3,571	5,629	9,200
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	483	483	483	483	0	483
Los Alamos National Laboratory	VL-LANL-0030	Soil and Water Remediation-LANL	5,426	5,426	5,426	5,426	0	5,426
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)						

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Los Alamos National Laboratory	VL-LANL-0040-N	Remediation Complete (Number of Release Sites) Nuclear Facility D&D-LANL (Non-Defense)	1,343	1,398	1,460	1,480	644	2,124
Lawrence Livermore National Laboratory	VL-LLNL-0013	Radioactive Facility Completions (Number of Facilities) Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory	0	0	0	0	1	1
Lawrence Livermore National Laboratory	VL-LLNL-0030	Transuranic Waste shipped for disposal at WIPP (Cubic meters) Low-Level and Mixed Low-Level Waste disposed (Cubic meters) Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site	0	125	125	125	0	125
Lawrence Livermore National Laboratory	VL-LLNL-0030	Remediation Complete (Number of Release Sites)	1,560	2,707	2,759	2,759	0	2,759
Lawrence Livermore National Laboratory	VL-LLNL-0031	Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300	112	117	120	120	0	120
Nevada Test Site	VL-NV-0013	Remediation Complete (Number of Release Sites) Solid Waste Stabilization and Disposition-Nevada Test Site	63	64	68	72	1	73
Nevada Test Site	VL-NV-0030	Transuranic Waste shipped for disposal at WIPP (Cubic meters) Soil and Water Remediation-Nevada Test Site	108	348	402	723	65	788
Pantex Plant	VL-PX-0030	Remediation Complete (Number of Release Sites) Soil and Water Remediation-Pantex	719	780	839	857	1,145	2,002
Pantex Plant	VL-PX-0040	Remediation Complete (Number of Release Sites) Nuclear Facility D&D-Pantex	81	101	132	218	19	237

**Environmental Management/
Overview**

FY 2007 Congressional Budget

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity	
Sandia National Laboratory	VL-SN-0030	Industrial Facility Completions (Number of Facilities)	2	3	4	4	0	4	
		Soil and Water Remediation-Sandia							
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	8	8	8	8	0	0	8
		Radioactive Facility Completions (Number of Facilities)	1	1	1	1	0	0	1
		Remediation Complete (Number of Release Sites)	193	244	263	263	0	0	263
Separations Process Research Unit	VL-SPRU-0040	Nuclear Facility D&D-Separations Process Research Unit							
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)	0	0	0	0	50	50	
		Nuclear Facility Completions (Number of Facilities)	0	0	0	0	4	4	
		Remediation Complete (Number of Release Sites)	0	0	0	6	0	0	6
Ashtabula	OH-AB-0030	Soil and Water Remediation-Ashtabula							
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	104	104	104	104	0	0	104
		Radioactive Facility Completions (Number of Facilities)	20	20	25	25	0	0	25
		Industrial Facility Completions (Number of Facilities)	1	1	7	7	0	0	7
		Remediation Complete (Number of Release Sites)	0	0	3	3	0	0	3
Columbus	OH-CL-0040	Nuclear Facility D&D-West Jefferson							
		Nuclear Facility Completions (Number of Facilities)	0	0	1	1	0	0	1

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
		Radioactive Facility Completions (Number of Facilities)	12	14	14	14	0	14
		Remediation Complete (Number of Release Sites)	1	1	2	2	0	2
Fernald	OH-FN-0013	Solid Waste Stabilization and Disposition-Fernald						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	7,085	7,085	7,085	7,085	0	7,085
		Remediation Complete (Number of Release Sites)	2	2	4	4	0	4
Fernald	OH-FN-0030	Soil and Water Remediation-Fernald						
		Remediation Complete (Number of Release Sites)	0	0	0	2	0	2
Fernald	OH-FN-0050	Non-Nuclear Facility D&D-Fernald						
		Radioactive Facility Completions (Number of Facilities)	25	28	29	29	0	29
		Industrial Facility Completions (Number of Facilities)	0	1	1	1	0	1
Miamisburg	OH-MB-0013	Solid Waste Stabilization and Disposition-Miamisburg						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,947	3,947	3,947	3,947	0	3,947
Miamisburg	OH-MB-0030	Soil and Water Remediation-Miamisburg						
		Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	0	0	0
		Remediation Complete (Number of Release Sites)	118	146	183	184	0	184
Miamisburg	OH-MB-0040	Nuclear Facility D&D-Miamisburg						
		Nuclear Facility Completions (Number of Facilities)	0	7	8	8	0	8
		Radioactive Facility Completions (Number of Facilities)	2	10	11	11	0	11

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Ohio Field Office		Industrial Facility Completions (Number of Facilities)	83	97	116	116	0	116
	OH-OPS-0900-N	Pre-2004 Completions (Non-Defense)						
		High-Level Waste packaged for final disposition (Number of Containers)	275	275	275	275	0	275
Rocky Flats Environmental Technology Site	RF-0011	NM Stabilization and Disposition						
		Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	1,895	1,895	1,895	1,895	0	1,895
		Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	103,901	103,901	103,901	103,901	0	103,901
Rocky Flats Environmental Technology Site	RF-0013	Solid Waste Stabilization and Disposition						
		Transuranic Waste shipped for disposal at WIPP (Cubic meters)	12,953	15,300	15,300	15,300	0	15,300
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	314,175	602,188	602,188	602,188	0	602,188
Rocky Flats Environmental Technology Site	RF-0030	Soil and Water Remediation						
		Remediation Complete (Number of Release Sites)	277	333	336	336	0	336
Rocky Flats Environmental Technology Site	RF-0040	Nuclear Facility D&D-North Side Facility Closures						
		Material Access Areas eliminated (Number of Material Access Areas)	6	6	6	6	0	6
		Nuclear Facility Completions (Number of Facilities)	1	6	6	6	0	6
		Radioactive Facility Completions (Number of Facilities)	12	19	22	22	0	22

**Environmental Management/
Overview**

FY 2007 Congressional Budget

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity	
Rocky Flats Environmental Technology Site	RF-0041	Industrial Facility Completions (Number of Facilities)	118	136	141	141	0	141	
		Nuclear Facility D&D-South Side Facility Closures							
		Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	1	0	1	
		Radioactive Facility Completions (Number of Facilities)	15	23	32	32	0	32	
		Industrial Facility Completions (Number of Facilities)	140	161	176	176	0	176	
West Valley									
<u>Demonstration Project</u>									
West Valley Demonstration Project	OH-WV-0013	Solid Waste Stabilization and Disposition-West Valley							
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	4,549	10,353	18,392	20,688	0	20,688	
<u>All Other Sites</u>									
Brookhaven National Laboratory	BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory							
		Radioactive Facility Completions (Number of Facilities)	0	3	3	3	0	3	
		Remediation Complete (Number of Release Sites)	71	77	77	77	0	77	
Brookhaven National Laboratory	BRNL-0040	Nuclear Facility D&D-Brookhaven Graphite Research Reactor							
		Radioactive Facility Completions (Number of Facilities)	6	7	7	7	0	7	
		Remediation Complete (Number of Release Sites)	1	1	1	1	0	1	
California Site Support	CBC-CA-0013B-N	Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense)							

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
Energy Technology Engineering Center	CBC-ETEC-0040	Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	83	83	83	83	0	83
		Nuclear Facility D&D-Energy Technology Engineering Center	1,055	1,055	1,335	1,335	0	1,335
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	4	4	4	4	2	6
		Radioactive Facility Completions (Number of Facilities)	24	24	24	24	0	24
Inhalation Toxicology Laboratory	CBC-ITL-0030	Remediation Complete (Number of Release Sites)	4	4	4	4	6	10
		Soil and Water Remediation-Inhalation Toxicology Laboratory	165	165	165	165	0	165
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	9	9	9	9	0	9
		Remediation Complete (Number of Release Sites)	161	174	181	181	0	181
Lawrence Berkeley National Laboratory	CBC-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory	17	17	17	17	3	20
		Remediation Complete (Number of Release Sites)	161	174	181	181	0	181
Stanford Linear Accelerator Center	CBC-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center	17	17	17	17	3	20
		Remediation Complete (Number of Release Sites)	161	174	181	181	0	181
Argonne National Laboratory-East	CH-ANLE-0030	Soil and Water Remediation-Argonne National Laboratory-East	443	443	443	443	0	443
		Remediation Complete (Number of Release Sites)	443	443	443	443	0	443
Argonne National Laboratory-East	CH-ANLE-0040	Nuclear Facility D&D-Argonne National Laboratory-East						

**Environmental Management/
Overview**

FY 2007 Congressional Budget

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
		Radioactive Facility Completions (Number of Facilities)	66	66	68	69	9	78
Chicago Operations Office	CH-OPS-0900	Pre-2004 Completions						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	537	537	537	537	0	537
		Remediation Complete (Number of Release Sites)	30	30	30	30	0	30
Laboratory for Energy-Related Health Research	LEHR-0040	Nuclear Facility D&D-Laboratory for Energy-Related Health Research						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	944	944	944	944	4	948
		Industrial Facility Completions (Number of Facilities)	1	1	1	1	0	1
		Remediation Complete (Number of Release Sites)	16	16	16	16	0	16
New Mexico Site Support	VL-FAO-0900	Pre-2004 Completions						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,319	1,319	1,319	1,319	0	1,319
		Remediation Complete (Number of Release Sites)	155	155	155	155	0	155
California Site Support	VL-FOO-0900-N	Pre-2004 Completions (Non-Defense)						
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	189	189	189	189	0	189
		Remediation Complete (Number of Release Sites)	3	3	3	3	0	3
General Atomics	VL-GA-0012	SNF Stabilization and Disposition-General Atomics						
		Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	1	1	1	1	0	1
		Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,716	1,716	1,716	1,716	0	1,716

**Environmental Management/
Overview**

FY 2007 Congressional Budget

Office / Installation	Project Number	Project Name / Measure	Complete Through 2004	Complete Through 2005	Targeted Completion Through 2006	Targeted Completion Through 2007	Balance Remaining	Life-Cycle Quantity
South Valley	VL-SV-0100	Remediation Complete (Number of Release Sites)	2	2	2	2	0	2
		South Valley Superfund						
		Remediation Complete (Number of Release Sites)	1	1	1	1	0	1

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; [\$6,192,371,000] \$5,390,312,000 to remain available until expended (*Energy and Water Development Appropriations Act, 2006*).

Explanation of Change

None.

Defense Environmental Cleanup Appropriation Funding Profile by Subprogram

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Original Appropriation	FY 2006 ^a Adjustments	FY 2006 Current Appropriation	FY 2007 Request
Defense Environmental Cleanup					
Closure Sites					
Ashtabula	8,752	16,000	-159	15,841	295
Closure Sites Administration					
	0	0	0	0	25,896
Columbus	21,190	9,500	-95	9,405	0
Fernald	322,538	327,609	-3,265	324,344	258,877
Miamisburg	111,593	105,530	-1,052	104,478	34,869
Rocky Flats	645,679	569,950	-5,680	564,270	1,000
Total, Closure Sites	1,109,752	1,028,589	-10,251	1,018,338	320,937
Hanford Site					
2012 Completion Projects	514,015	445,148	-4,437	440,711	423,618
2035 Completion Projects	410,574	335,505	-3,343	332,162	381,098
Total, Hanford Site	924,589	780,653	-7,780	772,873	804,716
Idaho National Laboratory.....	534,060	538,225	-5,363	532,862	512,604
NNSA Sites					
California Site Support.....	746	550	-5	545	370
Kansas City Plant	3,478	4,526	-45	4,481	0
Lawrence Livermore National Laboratory					
	61,971	29,578	-295	29,283	11,580
Los Alamos National Laboratory					
	116,252	142,209	-1,417	140,792	90,602
Nevada Off-Sites.....	0	2,846	-28	2,818	0
Nevada	97,700	85,024	-847	84,177	79,668
NNSA Service Center	9,502	8,304	-83	8,221	26,122
NNSA Sites & Nevada Off-Sites					
	300	0	0	0	0
Pantex.....	24,016	19,654	-196	19,458	23,726
Sandia National Laboratories					
	20,084	9,769	-97	9,672	0
Total, NNSA Sites	334,049	302,460	-3,013	299,447	232,068
Oak Ridge.....	279,313	240,812	-2,399	238,413	159,862
Office of River Protection					
Tank Farm Activities.....	374,760	329,471	-3,284	326,187	274,127
Waste Treatment and Immobilization Plant.....					
	684,480	526,000	-5,241	520,759	690,000
Total, Office of River Protection.....	1,059,240	855,471	-8,525	846,946	964,127
Savannah River Site					
2012 Completion Projects	382,147	268,903	-2,679	266,224	236,132
2035 Completion Projects	415,821	377,887	-3,764	374,123	277,338
Tank Farm Activities.....	493,274	543,792	-5,419	538,373	570,924

^a Reflects a 1 percent across-the-board rescission in accordance with P.L. 109-148, Department of Defense Appropriations Act, 2006.

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Original Appropriation	FY 2006 ^a Adjustments	FY 2006 Current Appropriation	FY 2007 Request
Total, Savannah River Site	1,291,242	1,190,582	-11,862	1,178,720	1,084,394
Waste Isolation Pilot Plant	227,758	230,629	-2,298	228,331	213,278
Program Support					
Headquarters	24,892	32,600	-325	32,275	37,881
Rocky Flats	0	246	-2	244	0
Total, Program Support	24,892	32,846	-327	32,519	37,881
Program Direction	270,016	243,816	-2,430	241,386	291,216
Safeguards and Security	262,942	287,223	-2,866	284,357	295,840
Technology Development and Deployment	58,207	30,065	-300	29,765	21,389
Federal Contribution to the Uranium Enrichment D&D Fund.....	459,296	451,000	-4,510	446,490	452,000
Subtotal, Defense					
Environmental Cleanup.....	6,835,356	6,212,371	-61,924	6,150,447	5,390,312
Salt Waste Processing Facility FY 2005 Uncosted Balance Reduction (Project 05-D-405)	0	-20,000	0	-20,000	0
Total, Defense Environmental Cleanup.....	6,835,356	6,292,371	-61,924	6,130,447	5,390,312

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 109-163, "National Defense Authorization Act for FY 2006"

Public Law 109-275, "Energy and Water Development Appropriations Act, 2006"

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 EM program has made significant progress in the last four years in shifting away from risk management to embracing a mission completion philosophy based on reducing risk and reducing environmental liability. As an established operating cleanup completion and risk reduction program, EM is demonstrating the importance of remaining steadfast to operating principles while staying focused on the mission.

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 2007 request for the Defense Environmental Cleanup appropriation is \$5,390,312,000, a decrease of \$740,135,000 from the FY 2006 current appropriation of \$6,130,447,000.

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. By focusing resources on risk reduction and cleanup, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

Congressionally Directed Activities

The following Congressionally Directed Activities were funded under the Defense Environmental Cleanup Appropriation (formerly the Defense Site Acceleration Completion Appropriation and the Defense Environmental Services Appropriation).

	(dollars in thousands)		
	FY 2005	FY 2006	FY 2007
Congressionally Directed Activities			
Advanced Monitoring Systems at Nevada Test Site.....	2,976	0	0
Amargosa Valley Science and Technology Park.....	992	0	0
American Water Works Associated Research Foundation			
Arsenic Removal.....	2,976	6,930	0
Atomic Energy Agency Technical International Agreement.....	4,960	4,950	0
Center of Excellence for Hazardous Materials Management.....	1,984	1,980	0
Columbia River Contamination Migration.....	0	9,900	0
Community Education Support, Infrastructure Improvements, etc.....	3,472	3,465	0
Consolidated Record Archives Relevant to the Waste			
Isolation Pilot Plant.....	4,960	4,950	0
Deep Ocean Water Technology.....	1,488	0	0
Defense and Security Research Center.....	1,984	0	0
Demonstration of Stand-Alone Sterling Engine that will run on any fuel.....	3,968	0	0
Desalination and Water Purification Technology Roadmap with the Bureau of Reclamation.....	3,968	0	0
Desert Research Institute's Yucca Mountain Environmental Monitoring Program.....	1,984	2,723	0
Desert Research Institute's CAVE Project.....	0	1,980	0
Diagnostic Instrumentation and Analysis Laboratory.....	4,960	4,950	0
Electrochemical System.....	0	2,970	0
Emergency and Non-Emergency Communications Systems			
Upgrades in Nye County.....	0	1,485	0
Energy and Environmental Hispanic Community			
Participation of Self Reliance Fund.....	496	743	0
Energy-Water Nexus Committee Report to Congress.....	496	0	0
East Tennessee Technology Park and Los Alamos National Laboratory Preservation Former Manhattan Projects (\$495K each).....	0	990	0

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
Florida International University.....	6,944	0	0
Great Basin Science Sample and Records Library.....	0	3,465	0
Hanford B-Reactor Preservation.....	0	990	0
Hanford Payment in Lieu of Taxes.....	3,511	3,564	0
Hanford Tank Waste Operations Simulator.....	1,984	1,980	0
Hazardous Materials Management and Emergency Response (HAMMER).....	7,936	7,425	0
Hazardous Material Truck Tracking Facility.....	992	0	0
Hazardous Waste Worker Training Program (HAZWOPER)	9,920	9,900	0
Idaho National Laboratory Modular Phase Low Cost Nanoparticle.....	1,984	0	0
Initiate planning and creation of water for energy technology roadmap.....	1,984	0	0
Los Alamos Airport Landfill Stabilization.....	0	4,950	0
Mid-Atlantic Recycling for End of Life Electronics.....	992	990	0
Neutrino Research at Waste Isolation Pilot Plant.....	1,488	1,485	0
Nevada Natural Resources Remote Sensing Systems.....	2,381	0	0
Nye County Groundwater Evaluation Program.....	992	1,485	0
Perchlorate Characterization study for the City of Simi Valley.....	99	0	0
Purchase of TRUPACT-III Shipping Containers.....	0	5,940	0
Real-Time Identification Warning System.....	0	248	0
Research Foundation at the University of Nevada-Las Vegas to assess earthquake hazards and seismic risk in Southern Nevada.....	992	990	0
Subsurface Science Research Institute.....	3,968	0	0
Tribal Colleges Initiatives (Crownpoint Institute of Technology/Dine College/Southeastern Indian Polytechnic Institute).....	198	0	0
University of Nevada Cooperative Agreement.....	496	0	0
University of Nevada-Reno to conduct research in the areas of materials evaluation, fundamental studies on nuclear degradation mechanisms, alternate materials and design and computational and analytical modeling.....	744	0	0
University of Nevada-Reno School of Medicine Core Facilities Equipment.....	0	3,960	0
Waste Isolation Pilot Plant Hazardous Materials Management.....	992	0	0
Water Management Decision Support Including Demonstration Programs w/New Mexico Office of the State Engineer and International Water Partnerships.....	0	3,465	0
Water Supply Technology Development.....	0	1,980	0
Water Technical Assistance.....	3,472	0	0
Western Environmental Technology Office (WETO).....	5,952	4,950	0
Total, Congressionally Directed Activities.....	99,685	105,783	0

Funding by General and Program Goal

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
General Goal 6, Environmental Management			
Program Goal 06.18.00.00, Environmental Management			
Defense Environmental Cleanup			
Closure Sites	1,105,250	1,013,657	320,560
Hanford Site	911,465	757,616	786,384
Idaho National Laboratory	530,972	529,351	508,921
NNSA Sites	325,710	295,123	227,566
Oak Ridge	276,221	232,800	154,863
Office of River Protection	1,059,240	846,480	963,656
Program Support	24,892	32,519	37,881
Safeguards and Security	262,942	284,357	295,840
Savannah River Site	1,277,915	1,165,804	1,071,852
Technology Development and Deployment	58,207	29,765	21,389
Waste Isolation Pilot Plant	204,306	192,147	188,156
Total, General Goal 6 (Defense Environmental Cleanup).....	6,037,120	5,379,619	4,577,068
All Other			
Community and Regulatory Support.....	68,924	82,952	70,028
Federal Contribution to the Uranium Enrichment D&D			
Fund	459,296	446,490	452,000
Program Direction	270,016	241,386	291,216
Total, General Goal 6 (All Other).....	798,236	770,828	813,244
Sub-Total, (Defense Environmental Cleanup).....	6,835,356	6,150,447	5,390,312
Salt Waste Processing Facility FY 2005 Uncosted			
Balance Reduction (Project 05-D-405)	0	-20,000	0
Total, (Defense Environmental Cleanup)	6,835,356	6,130,447	5,390,312

Capital Operating Expenses and Construction Summary

Capital Operating Expenses

	(dollars in thousands)				
	FY 2005	FY 2006	FY 2007	\$ Change	% Change
General Plant Projects	81,579	70,622	106,645	36,023	+51.0%
Capital Equipment	21,046	2,218	735	-1,483	-66.9%
Total, Capital Operating Expenses	102,625	72,840	107,380	34,540	+47.4%

Construction Projects

	(dollars in thousands)				
Total Estimated Cost (TEC)	Prior-Year Appropriations	FY 2005	FY 2006	FY 2007	Unappropriated Balance

Defense Environmental Cleanup

Idaho National Laboratory

04-D-414, 04-02 PED: Sodium Bearing Waste Treatment, ID, ID-0014B	54,280	20,379	0	9,108	0	24,793
04-D-414, 04-02 PED: Sodium Bearing Waste Treatment, ID, ID-0014B-T	0	0	24,701	0	0	0
06-D-401, Sodium Bearing Waste Treatment Project, Idaho National Laboratory (INL), Idaho, ID-0014B	304,180	0	0	53,729	31,000	219,451
Total, Idaho National Laboratory			24,701	62,837	31,000	

Office of River Protection

01-D-16A, Low Activity Waste Facility, RL, ORP-0060	0	0	0	161,376	77,800	0
01-D-16B, Analytical Laboratory, RL, ORP-0060	0	0	0	44,552	21,800	0
01-D-16C, Balance of Facilities, RL, ORP-0060	0	0	0	64,352	48,900	0
01-D-16D, High Level Waste Facility, RL, ORP-0060	0	0	0	102,964	253,700	0
01-D-16E, Pretreatment Facility, RL, ORP-0060	0	0	0	147,515	287,800	0
01-D-416, Waste Treatment and Immobilization Plant, RL, ORP-0060	5,751,622	2,453,701	684,480	0	0	2,613,441

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior-Year Appropriations	FY 2005	FY 2006	FY 2007	Unappropriated Balance
Total, Office of River Protection.....			684,480	520,759	690,000	
Savannah River Site						
03-D-414, 03-01 PED: Salt Waste Processing Facility Alternative, SR, SR- 0014C	N/A	56,040	0	34,990	37,500	N/A
03-D-414, 03-01 PED: Salt Waste Processing Facility Alternative, SR, SR- 0014C-T	N/A	0	23,469	0	0	N/A
04-D-408, Glass Waste Storage Building #2, SR, SR-0014C	70,520	20,139	43,476	6,905	0	0
04-D-414, 04-01 PED: 3013 Container Surveillance Capability in 105-F, SR, SR- 0011B	N/A	10,247	2,976	18,415	2,935	N/A
04-D-423, 3013 Container Surveillance Capability in 235-F, SR, SR-0011B	86,250	11,213	20,475	0	21,300	33,262
05-D-405, Salt Waste Processing Facility, SR, SR-0014C	680,000	0	0	495	25,700	N/A
05-D-405, Salt Waste Processing Facility, SR, SR-0014C-T	N/A	0	25,792	0	0	N/A
Total, Savannah River Site.....			116,188	60,805	87,435	
Total, Defense Environmental Cleanup.....			825,369	644,401	808,435	

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 [six] six passenger motor vehicles, of which [five] six shall be for replacement only, [\$353,219,000] \$310,358,000, to remain available until expended. (*Energy and Water Development Appropriations Act, 2006.*)

Explanation of Change

None.

Non-Defense Environmental Cleanup Appropriation Funding Profile by Subprogram

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Original Appropriation	FY 2006 ^a Adjustments	FY 2006 Current Appropriation	FY 2007 Request
Non-Defense Environmental Cleanup					
Fast Flux Test Reactor Facility D&D	45,715	46,113	-461	45,652	34,843
Gaseous Diffusion Plants					
Oak Ridge	7,923	4,885	-49	4,836	0
Paducah Gaseous Diffusion Plant	55,484	50,820	-508	50,312	35,201
Portsmouth Gaseous Diffusion Plant	179,755	78,911	-789	78,122	72,215
Total, Gaseous Diffusion Plants	243,162	134,616	-1,346	133,270	107,416
Small Sites					
Argonne National Laboratory	1,779	10,487	-105	10,382	10,726
Brookhaven National Laboratory	41,322	34,328	-343	33,985	28,272
California Site Support	98	100	-1	99	160
Energy Technology Engineering Center	18,238	9,000	-90	8,910	16,000
Idaho National Laboratory ...	0	5,274	-53	5,221	7,000
Inhalation Toxicology Laboratory	487	305	-3	302	2,931
Lab for Energy-Related Health Research	496	0	0	0	0
Lawrence Berkeley National Laboratory	4,038	3,900	-39	3,861	0
Los Alamos National Laboratory	447	490	-5	485	1,025
Moab	7,711	28,006	-280	27,726	22,865
Stanford Linear Accelerator Center	2,480	3,500	-35	3,465	5,720
Total, Small Sites	77,096	95,390	-954	94,436	94,699
West Valley Demonstration Project	73,628	77,100	-771	76,329	73,400
Total, Non-Defense Environmental Cleanup	439,601	353,219	-3,532	349,687	310,358

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 109-275, "Energy and Water Development Appropriations Act, 2006"

^a Reflects a 1 percent across-the-board rescission in accordance with P. L. 109-148, Department of Defense Appropriations Act, 2006.

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 EM program has made significant progress in the last four years in shifting away from risk management to embracing a mission completion philosophy based on reducing risk and reducing environmental liability. As an established operating cleanup completion and risk reduction program, EM is demonstrating the importance of remaining steadfast to operating principles while staying focused on the mission.

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, 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 2007 request for the Non-Defense Environmental Cleanup appropriation is \$310,358,000, a decrease of \$39,329,000, from the FY 2006 current appropriation of \$349,687,000.

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. By focusing resources on risk reduction and cleanup, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

Congressionally Directed Activities

The following Congressionally Directed Activities were funded under the Non-Defense Environmental Cleanup Appropriation (formerly the Non-Defense Site Acceleration Completion Appropriation and the Non-Defense Environmental Services Appropriation).

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
Congressionally Directed Activities			
Inspect and Repackage the Spent Fuel Stored at the Lynchburg Technology Center in Virginia.....	1,500	0	0
U.S. Army Corps of Engineers Center of Expertise Review.....	1,250	0	0
Total, Congressionally Directed Activities.....	2,750	0	0

Funding by General and Program Goal

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
General Goal 6, Environmental Management			
Program Goal 06.18.00.00, Environmental Management			
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D.....	45,715	45,652	34,843
Gaseous Diffusion Plant.....	243,162	133,270	107,416
Small Sites	77,007	94,347	94,449
West Valley Demonstration Project.....	73,628	76,329	73,400
Total, General Goal 6 (Non-Defense Environmental Cleanup)	439,512	349,598	310,108
All Other			
Community and Regulatory Support.....	89	89	250
Total, (Non-Defense Environmental Cleanup).....	439,601	349,687	310,358

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, [\$562,228,000] \$579,368,000, to be derived from the Fund, to remain available until expended, of which [\$20,000,000] \$20,000,000 shall be available in accordance with title X, subtitle A, of the Energy Policy Act of 1992. (*Energy and Water Development Appropriations Act, 2006*).

Explanation of Change

None.

Uranium Enrichment Decontamination and Decommissioning Fund Funding Profile by Subprogram

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Original Appropriation	FY 2006 ^a Adjustments	FY 2006 Current Appropriation	FY 2007 Request
Uranium Enrichment Decontamination and Decommissioning Fund					
D&D Activities					
Oak Ridge	228,330	245,071	-2,451	242,620	311,473
Paducah Gaseous Diffusion Plant	96,280	105,000	-1,050	103,950	96,575
Portsmouth Gaseous Diffusion Plant	91,045	192,157	-1,921	190,236	151,320
Total, D&D Activities	415,655	542,228	-5,422	536,806	559,368
U/Th Reimbursements	79,360	20,000	-200	19,800	20,000
Total, Uranium Enrichment Decontamination and Decommissioning Fund.....	495,015	562,228	-5,622	556,606	579,368

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 109-275, "Energy and Water Development Appropriations Act, 2006"

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 EM program has made significant progress in the last four years in shifting away from risk management to embracing a mission completion philosophy based on reducing risk and reducing environmental liability. As an established operating cleanup completion and risk reduction program, EM is demonstrating the importance of remaining steadfast to operating principles while staying focused on the mission.

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

^a Reflects a 1 percent across-the-board rescission in accordance with P.L. 109-148, Department of Defense Appropriations Act, 2006.

reimbursement limit. The two programs funded in this appropriation are the Decontamination and Decommissioning Activities and the Uranium/Thorium Reimbursements.

The FY 2007 request for the Uranium Enrichment Decontamination and Decommissioning Fund appropriation is \$579,368,000, an increase of \$22,762,000, from the FY 2006 current appropriation of \$556,606,000.

Benefits

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

Funding by General and Program Goal

	(dollars in thousands)		
	FY 2005	FY 2006	FY 2007
General Goal 6, Environmental Management			
Program Goal 06.18.00.00, Environmental Management			
Uranium Enrichment Decontamination and Decommissioning Fund			
D&D Activities	415,655	536,806	559,368
All Other			
U/Th Reimbursements	79,360	19,800	20,000
Total, (Uranium Enrichment Decontamination and Decommissioning Fund)	495,015	556,606	579,368

Carlsbad

Funding by Site

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
Carlsbad Field Office	23,452	36,184	25,122
Waste Isolation Pilot Plant	204,306	192,147	188,156
Total, Carlsbad	227,758	228,331	213,278

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 an integral part 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, from all the generator sites that are eligible for disposal at the Waste Isolation Pilot Plant, must ultimately be transported 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 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)

The DOE EM’s end-state for Waste Isolation Pilot Plant is to cease disposal of legacy and newly generated transuranic waste from the DOE complex to the Waste Isolation Pilot Plant in 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. Congress established the regulatory framework in the Waste Isolation Pilot Plant Land Withdrawal Act in the 1990's. 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 during handling and after disposal 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.

The Waste Isolation Pilot Plant has four primary regulators, responsible for the following areas: 1) the Environmental Protection Agency that regulates repository certification and radionuclide regulation in accordance with the Waste Isolation Pilot Plant Land Withdrawal Act, as amended, of 1996 and the regulation of polychlorinated biphenyls; 2) the New Mexico Environment Department that regulates Resource Conservation and Recovery Act hazardous constituents, water discharge, and ground water; 3) the Nuclear Regulatory Commission that certifies Type B transportation packaging; 4) and the Department of Transportation that 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 is obtaining permit approval for remote-handled transuranic waste disposal by the New Mexico Environment Department in 2006. The remote-handled permit modification is to allow the Waste Isolation Pilot Plant to manage, store, and dispose of this waste at the Waste Isolation Pilot Plant. At New Mexico Environment Department's request, the remote-handled permit modification has been combined with the Section 311/310 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 transuranic waste.

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 New Mexico Environment Department issued a combined draft remote-handled and section 310/311 permit in November 2005. The public comment period ended on January 23, 2006, and the public hearing will take place on this draft permit in March 2006.

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 recently extended through September 2010. A technical assistance contract responsible 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 contracts for transportation carrier services will be re-competed in the CY 2006 timeframe.

Cleanup Benefits

The Waste Isolation Pilot Plant is crucial to DOE completing its cleanup/closure mission. 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 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
Waste Isolation Pilot Plant					
CB-0080 / Operate Waste Disposal Facility-WIPP	148,816	116,773	132,026	15,253	+13.1%
CB-0081 / Central Characterization Project.....	26,242	38,118	23,190	-14,928	-39.2%
CB-0090 / Transportation-WIPP.....	29,248	37,256	32,940	-4,316	-11.6%
CB-0101 / Economic Assistance to the State of New Mexico.....	23,452	36,184	25,122	-11,062	-30.6%
Subtotal, Waste Isolation Pilot Plant	227,758	228,331	213,278	-15,053	-6.6%
Total, Carlsbad	227,758	228,331	213,278	-15,053	-6.6%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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CB-0080 / Operate Waste Disposal Facility-WIPP (life-cycle estimate \$4,532,834K)..... 148,816 116,773 132,026

This PBS can be found within the Defense Environmental Cleanup appropriation. 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 Carlsbad Field Office was created to serve as the focal point for the DOE transuranic waste management efforts. Transuranic waste is currently stored at 19 sites across the country. Transuranic waste has been removed from another 17 sites (all transuranic waste from 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; and all shippable legacy contact-handled transuranic waste from Argonne National Laboratory-East, Lawrence Berkeley National Laboratory, Lawrence Livermore National Laboratory, Materials Fuel Complex, and Nevada Test Site (except large boxes)). 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 provide 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 Management Program—integration and infrastructure activities required to certify the transuranic waste and coordinate all activities across the transuranic waste complex for shipments of waste to the Waste Isolation Pilot Plant.

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

OECM has not yet performed an external independent review. This review is scheduled for FY 2006.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Maintain facility and infrastructure to dispose of contact-handled transuranic waste at a rate of 87 contact-handled shipping containers per week and 2 remote-handled shipping containers per week supporting the Corporate Performance Measure for disposal of approximately 12,000 m³ of transuranic waste.
- Complete first full year of remote-handled transuranic waste disposal.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed disposal of all contact-handled waste from Rocky Flats (FY 2005) • Began waste emplacement in Panel 3 (FY 2005) • Start Large Box Characterization (April 2006) • Declaration of remote-handled readiness (September 2006) • Receive Environmental Protection Agency recertification that repository is in compliance with the radioactive waste disposal standards (March 2006) • Prepare for receipt of remote-handled waste in FY 2006 (October 2006) • Begin initial boring of remote-handled waste holes (October 2006) • Begin placement of remote-handled waste (October 2006) • Complete placement of contact-handled waste in Panel 3 (November 2006) 					

CB-0081 / Central Characterization Project (life-cycle estimate \$436,775K) 26,242 38,118 23,190

This PBS can be found within the Defense Environmental Cleanup appropriation. It provides labor, materials and supplies for operation of a mobile waste characterization system that is 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 characterization services at Sandia National Laboratory and Carlsbad Environmental Monitoring and Research Center. These services 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.

End-States: All legacy 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

Carlsbad

FY 2007 Congressional Budget

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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.

OECM has not yet performed an external independent review. This review is scheduled for FY 2006.

In FY 2007, the following activities are planned:

- Maintain contact-handled waste characterization rates by continuing to operate mobile/modular units at Los Alamos National Laboratory and the Savannah River Site to facilitate accelerated cleanup.
- Provide mobile loading services and acceptable knowledge support for generator sites.
- Provide lab capabilities and analysis for centralized characterization services at the Idaho National Laboratory and Carlsbad Environmental Monitoring and Research Center.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed characterization of available legacy waste drums at Nevada Test Site (FY 2005) • Provided characterization services to Nevada Test Site, Savannah River Site, and Los Alamos National Laboratory (FY 2005) • Provide characterization services to Los Alamos National Laboratory and the Savannah River Site to facilitate accelerated cleanup (September 2006) • Start box characterization at the Los Alamos National Laboratory (September 2007) • Start remote-handled waste characterization (September 2007) • Complete legacy waste characterization at the Savannah River Site (September 2007) 					

CB-0090 / Transportation-WIPP (life-cycle estimate \$822,523K) 29,248 37,256 32,940

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 at the Waste Isolation Pilot Plant, including carrier services, transportation packaging, shipping coordination, and stakeholder interfaces related to transportation. As required in the Waste Isolation Pilot Plant Land Withdrawal Act, this PBS provides for technical assistance for the purpose of

Carlsbad

FY 2007 Congressional Budget

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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-States: The Carlsbad Field Office has the capability to transport and receive 34 shipments per week. All shipping activities are scheduled to end in 2030.

OECM has not yet performed an external independent review. This review is scheduled for FY 2006.

In FY 2007, the following activities are planned:

- Continue shipment of contact-handled transuranic waste.
- Complete first full year of remote-handled transuranic waste shipments.
- Receive TRUPACT-III (for shipping larger size waste containers) approval from the Nuclear Regulatory Commission.
- Assume responsibility for management of the Transportation Tracking and Communication System to support EM waste shipments.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Lawrence Livermore National Laboratory contact-handled waste shipments were initiated (FY 2005) • Completed Rocky Flats shipments (FY 2005) • Start Oak Ridge National Laboratory contact-handled waste shipments (September 2006) • Begin shipment of remote-handled waste (September 2006) • Projected Nuclear Regulatory Commission Approval of TRUPACT-III (September 2007) • Maintain shipping capability at 87 contact-handled waste packages per week (September 2007) 					

CB-0101 / Economic Assistance to the State of New Mexico (life-cycle estimate \$254,310K) 23,452 36,184 25,122

This PBS can be found within the Defense Environmental Cleanup appropriation. This PBS provides for the Waste Isolation Pilot Plant Land Withdrawal Act (Public Law 102-579) which authorizes payments to

Carlsbad

FY 2007 Congressional Budget

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 eight 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 2007, the following activity is planned:

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

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Funding is provided to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act. This will allow for payments on previously issued highway bonds, and provide funds for maintenance of roads along the Waste Isolation Pilot (FY 2005/September 2006) • Provide funding to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act (September 2007) 					

Total, Carlsbad	227,758	228,331	213,278
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Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Defense Environmental Cleanup

Waste Isolation Pilot Plant

CB-0080 / Operate Waste Disposal Facility-WIPP

- Increase due to additional mining and waste handling to support remote-handled transuranic waste..... 15,253

FY 2007 vs. FY 2006 (\$000)

CB-0081 / Central Characterization Project

- Decrease due to a reduction in transuranic waste characterization services that are deployed at other DOE sites. These services are funded in each generator sites' budget..... -14,928

CB-0090 / Transportation-WIPP

- Decrease due to completion of procurement of remote-handled trailers. -4,316

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

- Decrease is a result of Congressionally-directed activities funded in FY 2006. -11,062

Total, Carlsbad -15,053

Idaho

Funding by Site

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
Argonne National Laboratory-West	0	120	0
Idaho National Laboratory.....	534,060	537,963	519,604
Total, Idaho	534,060	538,083	519,604

Site Overview

Since its establishment in 1949, the Idaho National Laboratory 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 250 metric tons of spent nuclear fuel from a number of sources, including the Navy, foreign and domestic research reactors, and some commercial reactors, along with 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 will have achieved significant risk reduction and will have placed materials in safe storage ready for disposal.
- By 2020, the Idaho National Laboratory will have completed all active cleanup work.

Site Description

The Idaho National Laboratory 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 mass is 890 square miles, most of the work at the Idaho National Laboratory is performed within the site's primary facility areas: Idaho Nuclear Technological 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:

Idaho Nuclear Technological 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. 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 operations.

Test Area North:

The Test Area North area covers about 220 acres at the north end of the Idaho National Laboratory. 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. 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:

- 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 two million gallons of high-level liquid waste have been calcined (dried into a powdered form), reducing the volume of liquid waste remaining in the tank farm to approximately one million gallons of sodium-bearing waste and emptying seven of 11 tanks to the heel;
- Stored transuranic waste is being sent for permanent disposal on a routine basis to the Waste Isolation Pilot Plant in New Mexico;
- Over 44,000 m³ of low-level and mixed low-level waste have been disposed.
- By weight, 92 percent of Idaho National Laboratory 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.

Site Completion (End-State)

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

Idaho Nuclear Technology and Engineering Center

- Demolish or disposition all excess facilities;
- Treat and dispose liquid sodium-bearing waste;
- Empty and disposition all Tank Farm Facility tanks;
- Place all EM spent nuclear fuel in safe dry storage;
- Deactivate EM spent nuclear fuel wet storage basins (Chemical Processing Plant 603);
- Dispose or disposition all excess nuclear material;
- Complete Waste Area Group 3 remediation; Idaho will issue the last Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Record of Decision for release site 14 for the soil under buildings.

Radioactive Waste Management Complex

- Retrieve stored remote-handled transuranic waste and dispose at the Waste Isolation Pilot Plant or transfer to the Argonne National Laboratory-West;
- Demolish and remove facilities no longer needed;

- Complete remediation of buried transuranic waste, including exhumation and disposal as necessary;
- 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 of 1980 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 Testing Reactor; Idaho will disposition under Comprehensive Environmental Response, Compensation, and Liability Act of 1980 currently in the engineering evaluation/cost analysis phase.

Regulatory Framework

There are three primary regulators of the Idaho National Laboratory: the United States Environmental Protection Agency, the United States Nuclear Regulatory Commission and the State of Idaho Department of Environmental Quality. Several compliance agreements, amendments and consent orders executed between 1991 and 2000 govern cleanup work at the Idaho National Laboratory. 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 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. The agreement divides the Idaho National Laboratory 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'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. The agreement specifies milestones toward the removal of all spent nuclear fuel and certain radioactive waste from Idaho National Laboratory 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.
- 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.

Critical Project Uncertainties and Assumptions

DOE will identify disposal pathways and schedules for liquid sodium-bearing waste, tank farm closure 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) is dependent on the outcome of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 process.

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. The availability of a geologic repository is required for the off-site disposition of the high-level waste and spent nuclear fuel. After cleanup, long-term stewardship responsibilities will transition to DOE's Office of Nuclear Energy, Science and Technology as the site landlord.

Contract Synopsis

In mid-2003, the Idaho National Laboratory 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 February 2006, the primary EM site contractors are Bechtel BWXT Idaho, LLC (operation of the Advanced Mixed Waste Treatment Project, which supports transuranic waste shipments to the Waste Isolation Pilot Plant), Foster Wheeler (construction and operation of the Idaho Spent Fuel Facility under the Spent Nuclear Fuel Dry Storage Project), and the CH2M Hill Washington Group which extends through 9/30/2012 (balance of site cleanup actions).

Cleanup Benefits

Cleanup of the Idaho National Laboratory 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 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 targeted transuranic waste will have been removed from the Subsurface Disposal Area 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 \$12,892,000.

Funding Schedule by Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
Idaho National Laboratory					
HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository.....	22,701	12,540	0	-12,540	-100.0%
HQ-SNF-0012Y / SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository.....	9,718	0	0	0	0%
ID-0011 / NM Stabilization and Disposition	4,369	1,540	1,000	-540	-35.1%
ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)	18,524	18,967	18,415	-552	-2.9%
ID-0013 / Solid Waste Stabilization and Disposition	118,288	138,620	193,910	55,290	+39.9%
ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012	70,935	154,113	104,514	-49,599	-32.2%
ID-0014B-T / Radioactive Liquid Tank Waste Stabilization and Disposition-HLW Legis Proposal.....	96,522	0	0	0	0%
ID-0030B / Soil and Water Remediation-2012.....	126,202	159,880	120,510	-39,370	-24.6%
ID-0030C / Soil and Water Remediation-2035.....	1,984	0	0	0	0%
ID-0040B / Nuclear Facility D&D-2012.....	21,795	4,976	67,562	62,586	+1,257.8%
ID-0050B / Non-Nuclear Facility D&D-2012 ..	39,934	38,715	3,010	-35,705	-92.2%
ID-0100 / Idaho Community and Regulatory Support.....	3,088	3,511	3,683	172	+4.9%
Subtotal, Idaho National Laboratory	534,060	532,862	512,604	-20,258	-3.8%

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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material, this PBS dispositions approximately 2,771 kgs (total uranium) of special nuclear material stored at the Idaho National Laboratory at off-site location(s) with controlled storage. Such consolidation 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 is the primary activity in achieving the objectives of DOE’s strategy to transfer all EM-managed special nuclear material off-site. This requires: 1) the safe and secure surveillance, monitoring and storage of special nuclear material in its current storage configuration; 2) development of shipping and receiving agreements with the appropriate program office(s) and/or location(s); 3) appropriate repackaging of the special nuclear material for shipment; and 4) final shipment and/or dispositioning with the agreed upon program office(s) at appropriate location(s).

The end-state for this PBS is to complete transfer of all the special nuclear material to an off-site location(s) or disposition it to other program sponsors by the end of FY 2009.

September 30, 2005, the Idaho National Laboratory has emptied Chemical Processing Plant-651, the Unirradiated Fuel Storage Vault and dispositioned eleven types of special nuclear materials.

In FY 2007, the following activities are planned:

- Complete the repackaging and shipment of Light Water Breeder Reactor/U-233 to final offsite disposal.
- Continue the repackaging and shipment of Experimental Test Reactor/General Electric Test Reactor unirradiated fuel off-site for recycle.
- Continue characterization and disposition of laboratory samples and research waste stored in the Reactor Technology Complex vault.
- Continue surveillance and monitoring activities to ensure security and maintenance of special nuclear materials remaining in storage.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Enriched Uranium packaged for disposition (Number of Containers).....	910	935	1,110	1,510	74%
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	0	100%
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	1	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Dispositioned 34 containers of special nuclear material containing uranium (FY2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Complete packaging and shipping of Highly Enriched Uranium-602 (May 2006)
- Package 25 containers of special nuclear material containing uranium (September 2006)
- Complete shipment of Lightwater Breeder Reactor/U-233 offsite (September 2007)

ID-0012B-D / SNF Stabilization and Disposition-2012

(Defense) (life-cycle estimate \$580,189K)..... 18,524 18,967 18,415

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

The purpose of this PBS is to stabilize legacy and non-legacy spent nuclear fuel. 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 Site. The EM baseline plan anticipates receiving approximately 0.5 metric tons of heavy metal of spent nuclear fuel from other offsite consolidation efforts in conjunction with the Foreign Research Reactor and Domestic Research Reactor spent nuclear fuel return programs, as well as approximately 0.5 metric tons of heavy metal of spent nuclear fuel from the operating Advanced Test Reactor located within the period FY 2006 through FY 2012.

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 with the DOE office responsible for building and operating the Monitored Geologic Repository.

This project also supports several non-EM programs. EM supports the Office of Naval Reactors by management and storage of Navy spent nuclear fuel in Chemical Processing Plant-666. EM supports the Office of Nuclear Energy, Science and Technology 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, Science and Technology will be the owner of this spent nuclear fuel and ultimately be responsible for its final dispositioning. Finally, this project supports the Office of Nuclear Energy, Science and Technology sponsored foreign research reactor and domestic research reactor spent nuclear fuel receipts program by receiving and storing the subject spent nuclear fuel.

This project also accelerates the transfer of legacy spent nuclear fuel from wet to dry storage by the end of FY 2012, 11 years ahead of the Idaho Settlement Agreement date of FY 2023.

As of September 30, 2005, the TRIGA spent nuclear fuel has been transferred to dry storage, eight shipments of Advanced Test Reactor fuel have been transferred to dry storage and eight additional

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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shipments of Advanced Test Reactor fuel have been received for continued wet storage.

In FY 2007, the following activities are planned:

- Continue spent nuclear fuel transfers from Chemical Processing Plant-666 to Chemical Processing Plant-603/Irradiated Fuel Storage Facility (dry storage).
- Initiate transfer of Navy spent nuclear fuel from Chemical Processing Plant-666 to the newly operational dry storage facility located at the Naval Reactors Facility.
- Continue receipt of Advanced Test Reactor fuel.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Managed the movement of spent nuclear fuel for safer, consolidated storage, including completing the transfer of fuel from the Advanced Test Reactor to the Chemical Processing Plant-666 (FY 2005) • Initiate repackaging into and storage of repository-ready standard canisters for shipment to the repository (December 2005) • Continue spent nuclear fuel transfers from wet storage to dry storage (September 2006/September 2007) • Complete Readiness Assessment for 6 cask moves at Test Area North (June 2007) • Initiate Navy Spent Nuclear Fuel Transfer to the Naval Reactors Facility (September 2007) 					

ID-0013 / Solid Waste Stabilization and Disposition

(life-cycle estimate \$2,558,486K)..... 118,288 138,620 193,910

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

This waste treatment and disposal activity includes the disposition of stored transuranic waste, low-level waste, Resource Conservation and Recovery Act hazardous waste, and mixed low-level waste backlog; closes on-site low-level waste disposal facilities at the Radioactive Waste Management Complex; and consolidates 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 m³ 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 m³) has been dispositioned.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Contact-handled transuranic waste and suspect remote-handled transuranic waste (approximately 450 m³) 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 101 m³) 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. At some future point, on-site disposal at the Radioactive Waste Management Complex will cease and the low-level waste disposal pit will be included in the Comprehensive Environmental Response, Compensation and Liability Act closure of the Subsurface Disposal Area of Radioactive Waste Management Complex. Additionally, this project performs 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 by the end of 2012, six years ahead of the DOE commitment to the State of Idaho under the Settlement Agreement. 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, 2005, the Advanced Mixed Waste Treatment Facility shipments to the Waste Isolation Pilot Plant are ongoing. Also, the Radioactive Waste Management Complex is continuing ongoing disposal of contact-handled low-level waste and remote-handled low-level waste. Mixed low-level continues to be disposed of off-site. The Site Treatment Plan commitment of treating 28.6 m³ of High-Efficiency Particulate Air filter leach was completed.

In FY 2007, the following activities are planned:

- Ship 8,000 m³ of transuranic and other mixed waste to an appropriate location to meet State Agreement commitments.
- Complete facility modifications on CPP-659 (New Waste Calcine Facility) and CPP-1634 (Technology Development Facility) and begin remote-handled transuranic hot operations.
- Continue disposal operations of contact-handled and remote-handled low-level waste at the Radioactive Waste Management Complex Subsurface Disposal Area.
- Continue disposition of 245 m³ of Resource Conservation and Recovery Act hazardous waste to off-site facilities.
- Continue with program activities that support waste characterization, packaging, and transportation of remote-handled transuranic waste to the Waste Isolation Pilot Plant.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Dispose of 200,000 pounds of mixed waste lead via a commercial treatment and disposal facility, recycle, or reuse.
- Continue environmental monitoring of air, water, soils, and biota surveillance.
- Complete an additional 26 m³ of High-Efficiency Particulate Air filter leach treatment per the Site Treatment Plan.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	44,461	50,116	55,261	77,430	71%
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	6,338	15,342	24,352	64,251	38%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued waste management operations including dispositioning nearly 8,000 m³ of transuranic waste and more than 5,200 m³ of low-level and mixed low-level wastes (FY 2005) • Complete Venting Remote-Handled Transuranic Waste Drums (August 2006) • Complete the construction and startup of repackaging capability of stored remote-handled transuranic waste (September 2006) • Complete FY 2006 Site Treatment Plan treatment of High-Efficiency Particulate Air Filters (September 2006) • Recycle or Reuse at least 100,000 pounds of lead (September 2007) • Disposition at least 100,000 pounds of mixed waste lead (September 2007) 					

ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012 (life-cycle estimate

\$2,336,807K) 70,935 154,113 104,514

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 will be design, construction and operation of a facility that will retrieve and treat the sodium bearing liquids and associated tank solids for disposal at a federal waste repository. The type of facility and technology to treat sodium-bearing waste was determined with award of a new cleanup contract in FY 2005, and a Record of Decision issued in early FY 2006, 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Center and the 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/final 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, 2005, the Idaho National Laboratory has emptied, cleaned and sampled seven of eleven 300,000 gallon tanks and four 30,000 gallon tanks, along with their respective vaults and process piping. Waste determinations for sodium-bearing waste and tank residuals were developed and submitted for approval.

This PBS includes design of the Sodium Bearing Waste Treatment Facility under line-item 04-D-414, Project Engineering and Design. In FY 2005, \$24,701,000 was included in the High-Level Waste Legislative Proposal appropriation. In FY 2006, \$9,108,000 was appropriated to complete the design of the Sodium Bearing Waste Treatment Facility. Additionally, line item 06-D-401, Sodium Bearing Waste Treatment Project was appropriated \$53,729,000 in FY 2006 and \$31,000,000 is requested in FY 2007.

The new Idaho Cleanup Contract was awarded March 23, 2005 and will use a commercially proven technology 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 first quarter of FY 2007. DOE expects the total estimated cost to be reduced upon approval of the Critical Decision-2 in the second quarter FY 2006.

In FY 2007, the following activities are planned:

- Complete the design and initiate sodium-bearing waste treatment facility construction, including efforts to gain necessary regulatory approvals for sodium bearing waste treatment and disposal.
- Close three emptied tanks in accordance with criteria/process in Section 3116 of the FY 2005 National Defense Authorization Act.
- Continue development of calcine retrieval and characterization technologies and complete a sample retrieval and characterization by year end.
- Continue providing the Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for process waste system, support labs, and existing process facilities.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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/final 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.

This PBS includes design of the Sodium Bearing Waste Treatment Facility under line-item 04-D-414, Project Engineering and Design. In FY 2005, \$24,701,000 was included in the High-Level Waste Legislative Proposal appropriation. These activities are now funded in PBS ID-0014B.

In FY 2007, the following activities are planned:

- There are no activities planned for FY 2007.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

ID-0030B / Soil and Water Remediation-2012 (life-cycle estimate \$1,559,003K)..... 126,202 159,880 120,510

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

The objective of this project is to perform 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. The project also addresses the Voluntary Consent Order actions. The Comprehensive Environmental Response, Compensation, and Liability Act project remediates contaminated soils and debris from various waste sites across the Idaho Site, transports, and permanently disposes of these wastes.

This project also includes all environmental monitoring to confirm effectiveness of selected record of

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 2007. Remediation activities have removed chemical contamination, stabilized short-lived radioactive contamination, controlled access through institutional controls, consolidated mixed waste in the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility, implemented bioremediation of groundwater contamination, and implemented long-term compliance required monitoring of the aquifer and ecosystem.

By the end of 2005, all active remediation of Waste Area Group 1 (Test Area North soils), Waste Area Group 2 (Reactor Technology Complex), 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) are completed. All noncompliance items covered by the Voluntary Consent Order will be addressed. Waste Area Group 1 (Test Area North) remediation of groundwater will continue until 2012. All Waste Area Group 10 soil actions 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) will continue beyond 2012.

The future end-state for this project is the completion of remedial actions for all but two of the Waste Area Groups by 2012. As cleanup actions are completed for a Waste Area Group, institutional controls and stewardship management will be implemented to enable reuse of areas for current and future DOE missions, as assigned.

As of September 30, 2005, the Idaho Site has completed physical remediation of Waste Area Group 5. The retrieval project is progressing in Pit 4.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Waste Area Group 1 (Test Area North): continue groundwater treatment and monitoring, seed native vegetation over previously remediated areas.
- Waste Area Group 2 (Reactor Technology Complex); 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 3 (Idaho Nuclear Technology and Engineering Center): as buildings are demolished complete soil characterization and remove soils as necessary and operate Comprehensive Environmental Response, Compensation, and Liability Act landfill. Complete Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for remediation of Tank Farm Facility soils.
- Waste Area Group 7 (Radioactive Waste Management Complex): Continue retrieval project in Pits 4 and 6. Complete Operable Unit 7-13/14 feasibility study and proposed plan for selection of final remedy and continue vadose zone removal of volatile organic compounds. Voluntary Consent Order: complete all Resource Conservation and Recover Act milestones based on FY 2005 and FY 2006 characterizations.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	160	160	166	213	78%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Submitted 10 percent design for retrieval of remainder of Pit 9 (FY 2005) • Site Tank 005: Performed hazardous waste and empty determination of 100 percent of Voluntary Consent Order tanks (FY 2005) • Completed the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility Cell 2 Construction (October 2005) • Submit 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 (December 2005) • Submit for review the Operable Unit 10-08 Idaho National Laboratory Site Wide Groundwater DRAFT Remedial Investigation/Feasibility Study record of decision (December 2005) • Removal and sampling of Supercritical Fluid Extraction-20 Hot Waste Tank (December 2005) • Submit draft Waste Area Group Remedial Action Report (January 2006) • Submit draft Waste Area Group 5 Operations and Maintenance Report (February 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Compensation, and Liability Act cleanup actions to enable reuse of the land consistent with current and future missions, as assigned. This project provides for the completion of any remedies that are not completed by 2012 and for the long-term maintenance of remedies, monitoring of groundwater and the ecosystem, records management and other tasks required to address waste contaminants left on the site.

In FY 2007, the following activities are planned:

- There are no activities planned for FY 2007. Soil and water remediation activities are currently funded under PBS ID-0030B.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	0	0	0	758	0%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	0	0	0	21,120	0%
Remediation Complete (Number of Release Sites)	0	0	0	57	0%

ID-0040B / Nuclear Facility D&D-2012 (life-cycle estimate \$127,803K) 21,795 4,976 67,562

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

This project focuses on deactivation of high-risk radiologically contaminated Idaho National Laboratory nuclear buildings. The scope includes deactivation of four spent fuel storage pools, disposition of four excess nuclear test reactors, and disposition of a nuclear fuel reprocessing building. 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. 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 building, 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 Chemical Processing Plant-603 and Test Area North-630 (part of the Loss of Fluid Test Reactor facility area).

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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As of September 30, 2005, the Idaho National Laboratory has completed water removal and deactivated three of four spent fuel pools (Test Area North-607, Materials Testing Reactor-603, and Power Burst Facility-620). The Power Burst Facility Reactor has been deactivated and placed in a cold, dark, and dry state, minimizing surveillance and maintenance costs. The Chemical Processing Plant-627 was demolished. The Idaho National Laboratory has initiated characterization and deactivation of the Nuclear Fuel Reprocessing Complex (Chemical Processing Plant-601/640) and demolished more than 56,370 square feet of nuclear support buildings.

In FY 2007, the following activities are planned:

- Continue characterization, deactivation and decontamination of Engineering Test Reactor.
- Continue characterization and deactivation of the Materials Test Reactor
- Continue deactivation of the Chemical Processing Plant-603 spent fuel pool
- Continue facility isolation, characterization and deactivation activities for Chemical Processing Plant-601/640 (nuclear fuel reprocessing Complex).
- Start demolition of Loss of Fluid Test Reactor.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Nuclear Facility Completions (Number of Facilities).....	20	20	20	20	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the environmental assessment for deactivation, decontamination, and decommissioning of Materials Test Reactor, Environmental Test Reactor, and Power Burst Facility Reactor (FY 2005) • Complete Chemical Processing Plant-603A Sludge Removal and Treatment (April 2006) • Complete the Power Burst Facility-620 reactor deactivation (September 2006) • DOE Issues Action Memorandum for Reactor Technology Complex-642 Engineering Evaluation/Cost Analysis (September 2006) • Complete numerous cubicle demolitions within Reactor Technology Complex-642, Engineering Test Reactor (September 2006) • Complete Reactor Technology Complex-784 D&D (December 2006) • Complete loss of fluid test on underground storage tank demolition (May 2007) • Complete Test Area North-650 Containment Facility Decontamination and Dismantlement (June 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- 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 loss of fluid test facilities D&D (September 2007)
- Complete CCP-601 Characterization (September 2007)
- Complete numerous cubicle demolitions within Test Reactor Area-642, Engineering Test Reactor (September 2007)
- Complete Test Area North-630 facility decontamination and dismantlement (September 2007)

ID-0050B / Non-Nuclear Facility D&D-2012 (life-cycle estimate \$284,774K) 39,934 38,715 3,010

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, Science and Technology. 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 now disposition 146 of these buildings (approximately 2,800,000 square feet) to their final end-state with the balance being 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 for this project is that 146 of the 228 EM owned non-nuclear buildings will have been dispositioned and the footprint cleaned up to a level that meets the requirements for long-term stewardship.

As of September 30, 2005, a total of 367,000 square feet (13 percent) of the EM non-nuclear buildings have been demolished.

In FY 2007, the following activities are planned:

- Decommission 13 facilities at the Idaho Nuclear Technology and Engineering Center, Test Area North, and Reactor Technology Complex.
- Continue Idaho Nuclear Technology and Engineering Center facility and structures deactivation and decommissioning work.
- Continue Reactor Technology Complex facility and structures deactivation and decommissioning work.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Radioactive Facility Completions (Number of Facilities)	17	17	18	27	67%
Industrial Facility Completions (Number of Facilities).....	112	115	118	127	93%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Inactivated an additional 52 EM buildings to a condition that is cold, dark, and dry (power, water, and heat disconnected) (FY 2005) • Complete deactivation of the Water Research Reactor Test Facility Buildings and structures (May 2006) • 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 \$171,608K)..... 3,088 3,511 3,683

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 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 2005, Idaho Site performed the on-going support of these regulatory oversight and stakeholder involvement activities.

In FY 2007, the following activities are planned:

- 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.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • 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 (FY 2005/September 2006/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 2006/September 2007) • Department of Environmental Quality grants will enable obtaining hazardous waste management closure plans, permits or permit modifications (September 2006/September 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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**CH-ANLW-0030 / Soil and Water Remediation-
Argonne National Laboratory-West (life-cycle estimate
\$8,615K)**

0 120 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, Science and Technology) in FY 2005. EM retains responsibility for soil and water treatment systems.

In FY 2007, the following activities are planned:

- No activities. This project is complete.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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)**

0 5,101 7,000

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 for non-defense spent nuclear fuel. 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Installations.

As of September 2005, the two Nuclear Regulatory Commission licensed facilities continue to operate in compliance with their license.

In FY 2007, the following activities are planned:

- Five-year aging study and increased staffing based on Nuclear Regulatory Commission licensing requirement.
- 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 which is in dry storage at the Idaho Nuclear Technology and Engineering Center.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

Total, Idaho..... 534,060 538,083 519,604

Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Defense Environmental Cleanup

Idaho National Laboratory

**HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations
Awaiting Geologic Repository**

- FY 2006 is the last year of funding for this PBS. In FY 2007 funds are transferred to PBS ID-0012B-D, RL-0012, and SR-0012. -12,540

Idaho

FY 2007 Congressional Budget

FY 2007 vs. FY 2006 (\$000)

ID-0011 / NM Stabilization and Disposition

- Decrease reflects the completion of scheduled FY 2007 spent nuclear material repacking campaigns in FY 2006. -540

ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)

- Stabilization and Disposition of Spent Nuclear Fuel in FY 2006 was in two PBSs: HQ-SNF-0012X (\$12,540K) and ID-0012B-D (\$18,976K). In FY 2007 all Spent Nuclear Fuel Stabilization and Disposition activities are in PBS ID-0012B-D. The decrease of funding is a result of no planned domestic or foreign research reactor receipts during FY 2007..... -552

ID-0013 / Solid Waste Stabilization and Disposition

- The overall increase reflects costs associated with operations for a full year of the Advanced Mixed Waste Treatment Project under the new non-privatized contract; offset by decreases due to the FY 2006 completion of the majority of remote-handled transuranic waste facility modifications and early completion of remote-handled transuranic waste drum retrievals..... 55,290

ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012

- Decrease reflects a reduction in the Idaho Nuclear Technology Engineering Center infrastructure support and indirects, and a decrease in the construction cost of the Sodium Bearing Waste Treatment Facility, as well as other operating expenses and general plant projects..... -49,599

ID-0030B / Soil and Water Remediation-2012

- Decrease reflects reduced Waste Area Group 3 soil removals, reduced Waste Area Group 1 groundwater treatment, Waste Area Group 7 documentation spread over additional years and significant reductions in support functions and indirects. -39,370

ID-0040B / Nuclear Facility D&D-2012

- Increase reflects the characterization, decontamination, deactivation, and initial demolition at the four reactor facilities and three other high-risk facilities, consistent with the new contract baseline. This is a multi-year effort with FY 2007 efforts concentrated at Test Area North, the Reactor Technology Complex, and Idaho Nuclear Technology and Engineering Center. 62,586

ID-0050B / Non-Nuclear Facility D&D-2012

- Decrease reflects near completion of facility demolitions at the Test Area North, and a lower volume of scheduled facility demolitions at the Test Reactor Area, and facility deferrals to FY 2008 and beyond..... -35,705

ID-0100 / Idaho Community and Regulatory Support

- No significant change. 172

FY 2007 vs. FY 2006 (\$000)

Non-Defense Environmental Cleanup

Small Sites

CH-ANLW-0030 / Soil and Water Remediation-Argonne National Laboratory-West

▪ Decrease reflects the completion of the project.....	-120
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ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense)

▪ Increase supports five-year aging study and increased staffing per Nuclear Regulatory Commission discussions.	1,899
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Total, Idaho	-18,479
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06-D-401, Sodium Bearing Waste Treatment Project, Idaho National Laboratory (INL), Idaho

1. Significant Changes

- The new Idaho Cleanup Contract was awarded March 23, 2005 and will use a commercially proven technology 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 first quarter of FY 2007. DOE expects the total estimated cost to be reduced upon approval of the Critical Decision-2 in the second quarter FY 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

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.....	304,180	74,700	0	378,880	N/A	378,880

The TEC includes design funds requested under Project Engineering and Design 04-D-414.

Because the Department has not yet validated the baseline for this project (Critical Decision-2), the TEC, TPC, and the outyear funding profile is not necessarily correct and may change. It is anticipated that decreases in TEC, TPC, and life-cycle will result.

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 selected alternative 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). This request provides construction funding and equipment procurement funding to support the overall schedule. 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 clean-up 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 clean up initiative and reduces risk to the environment. In addition, it supports several Federal Facility Compliance 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. 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 does 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 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 that will 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 treatment process will convert the waste to a final waste form suitable for transport to and disposal at the Waste Isolation Pilot Plant in New Mexico or to a Federal repository. Sending the sodium bearing waste to the Waste Isolation Pilot Plant is pending final decision/determination under the Resource Conservation and Recovery Act permitting process of the State of New Mexico. The Sodium Bearing Waste Treatment Project has unique political, technical, cost, and schedule risks. The treatment alternative has been selected based on its ability to mitigate these risks.

The FY 2007 budget request of \$31,000,000 will accomplish the following activities:

- procurement of bulk commodities for final fabrication like: module steel, wiring, piping, valves, and control systems, as well as site concrete for building foundations and miscellaneous equipment for Balance of Plant (utility connections, etc);
- procurement of modular vaults, waste canisters, and shielded lids, steel buildings for weather protection;
- steel for shielding with hematite filling and placement;
- final shipment and inter-connection of the core chemical process modules;
- on-site testing of modules with simulants and other chemical materials; and
- nuclear safety documentation development and approvals.
- ongoing module and equipment fabrication and assembly.

Compliance with Project Management Order

- Critical Decision-0, Approve Mission Need - FY 2005
- Critical Decision-1, Approve Preliminary Baseline Range - FY 2005
- Critical Decision-2, Approve Performance Baseline - 2Q FY 2006
- Critical Decision-3, Approve Start of Construction:
 - 3A - 2Q FY 2006
 - 3B - 3Q FY 2006
 - 3 - 1Q FY 2007
- Critical Decision-4, Approve Start of Operations - 1Q FY 2009

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Design

FY 2004	20,379	0	0
FY 2005	24,701	45,080	3,800
FY 2006	9,108	9,108	50,388
Total, Design	54,188	54,188	54,188

Construction

FY 2006	53,729	53,729	53,729
FY 2007	31,000	31,000	31,000
FY 2008	89,130	89,130	89,130
FY 2009	53,100	53,100	53,100
FY 2010	23,033	23,033	23,033
Total, Construction	249,992	249,992	249,992
Total, TEC	304,180	304,180	304,180

**Design funding was appropriated in 04-D-414, Project Engineering and Design (PED).

6. Total Estimated Costs

(dollars in thousands)

	Current Estimate	Previous Estimate
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Construction

Construction / All Other Construction.....	81,500	81,500
Construction / Contingency	126,392	126,630
Construction / Equipment.....	22,100	22,100
Construction / Site Preparation.....	20,000	20,000
Total, Construction.....	249,992	250,230
Preliminary and Final Design.....	54,188	54,280
Total, TEC	304,180	304,510

Other Project Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Start-up 74,700 74,700

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
TEC (Design)	54,188	0	0	0	0	0	0	54,188
TEC (Construction)	53,729	31,000	89,130	53,100	23,033	0	0	249,992
OPC Other than D&D	48,490	2,210	3,200	20,800	0	0	0	74,700
Total, Project Cost	156,407	33,210	92,330	73,900	23,033	0	0	378,880

8. Related Operations and Maintenance Funding Requirements

Start of Operations or Beneficial Occupancy (fiscal quarter)..... 1Q FY2009
 Expected Useful Life (number of years) N/A
 Expected Future Start of D&D for new construction (fiscal quarter)..... N/A

* The current site 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	0	0	74,700	74,200

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 413.3, 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 2005 Current Appropriation	FY 2006 Appropriation	FY 2007 Request
East Tennessee Technology Park.....	242,575	253,430	321,567
Oak Ridge National Laboratory.....	43,390	51,780	40,500
Oak Ridge Reservation	186,341	140,505	69,268
Y-12 Plant.....	43,260	40,154	40,000
Total, Oak Ridge.....	515,566	485,869	471,335

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, Y-12 National Security Complex, 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 Descriptions

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

Oak Ridge - East Tennessee Technology Park

The East Tennessee Technology Park site occupies approximately 5,000 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. The site will be closed in FY 2009.

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. 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 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 15 operable units within three areas: Chestnut Ridge, Upper East Fork of Poplar Creek, and Bear Creek Valley. The types of contamination include radioactive, hazardous, and mixed wastes. The 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 water considerations, encompassing five distinct watersheds that feed the Clinch River and are impacted by the DOE sites. To date, key records of decision have been signed for four of the five watersheds.

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 due to the reinvestment of these saved funds into accelerated risk reduction and reduces 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 been implemented that will facilitate work execution. These 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 actions under the Comprehensive Environmental Response, Compensation, and Liability Act will be completed in 2006. Melton Valley remediation involves both containment and treatment of contaminants. Specific activities include: (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 waste will remain in Melton Valley, the burial ground area will continue to be a waste management area with 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: The East Tennessee Technology Park scope addresses decommissioning of facilities and remedial actions for contaminated sites by the end of FY 2009. 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 includes over 110 acres of floor undergoing decontamination and decommissioning, which was completed in FY 2005. 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.

Y-12: Specific high-risk reduction actions are planned for completion by FY 2008, they include mitigation of off-site mercury surface water releases; bioremediation of an off-site volatile organic compound release; and, excavation of uranium hot spots and hydraulic isolation of other contaminant sources in the Boneyard/Burnyard.

The scope of this work reduces risk through the cleanup at the Y-12 National Security Complex; designs, builds, operates, and closes the on-site Environmental Management Waste Management Facility; and performs surveillance and maintenance of surplus facilities at the Y-12 National Security Complex. Additional records of decision will be necessary for this area.

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; remediation of the Hot Storage Garden to ensure worker safety; and removing the Molten Salt Experiment fuel salts.

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. These three sites will be completed by FY 2008. The cleanup actions at these sites will consist of removing, treating, and disposing of contaminated materials, equipment, soil, and sediment; demolishing facilities; and remediating groundwater actions.

Longer Term Projects:

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

Y-12: The remaining 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, and contaminated soil/sediment removal. Disposition of U-233 stored in Building 3019.

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 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 the Oak Ridge Reservation by 2015. Some no further action decision documents (Records of Decision) will be necessary after this date to document the final agreements for the Reservation and land use controls.

In conjunction with the FFA, 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, 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 Project 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 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 gaseous diffusion plant buildings (which will determine the amount of decontamination and decommissioning 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:

Idaho National Laboratory: The remaining spent nuclear fuel stored in Melton Valley will be shipped to the Idaho National Laboratory for long-term storage. This includes coordinating with the states and Indian Nation tribes relative to the shipments as well as working with the Idaho Operations Office.

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, 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-1600 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 Operation's Office of Nuclear Fuel Security and Uranium Technology.

Office of Science and Office of Nuclear Energy, Science & Technology: Coordination is critical with these offices 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 Treatment 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.

Cleanup Benefits

Near Term

Cleanup of Melton Valley Area is the top priority risk reduction action on the Oak Ridge Reservation with a scheduled completion date of 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 by the end of 2009 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 our 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 will be reused as a commercial industrial park.

The off-site work at the Atomic City Auto Parts and David Witherspoon, Inc. will be completed.

Remedial action work will be initiated at the Y-12 National Security Complex and Oak Ridge National Laboratory facility for Records of Decisions currently approved and signed by the DOE and regulatory parties.

Funding Schedule by Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
Oak Ridge					
Oak Ridge					
HQ-SW-0013X / Solid Waste Stabilization and Disposition-Science Current Generation..	18,220	18,085	0	-18,085	-100.0%
HQ-SW-0013X-OR / Solid Waste Stabilization and Disposition-Science Current Generation	0	0	18,544	18,544	+100.0%
HQ-SW-0013Y / Solid Waste Stabilization and Disposition-NNSA Current Generation ...	19,619	0	0	0	0%
OR-0011Z / Downblend of U-233 in Building 3019	0	17,821	0	-17,821	-100.0%
OR-0013A / Solid Waste Stabilization and Disposition-2006.....	40,362	4,584	0	-4,584	-100.0%
OR-0013B / Solid Waste Stabilization and Disposition-2012.....	48,356	67,679	48,888	-18,791	-27.8%
OR-0030 / Soil and Water Remediation-Melton Valley	73,512	46,310	0	-46,310	-100.0%
OR-0031 / Soil and Water Remediation-Offsites.....	7,405	16,319	15,381	-938	-5.7%
OR-0041 / Nuclear Facility D&D-Y-12	23,641	40,154	40,000	-154	-0.4%
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory	25,170	15,874	21,956	6,082	+38.3%
OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense).....	7,776	5,974	10,094	4,120	+69.0%
OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense)	3,092	5,613	4,999	-614	-10.9%
OR-0101 / Oak Ridge Contract/Post-Closure Liabilities/Administration.....	12,160	0	0	0	0%
Subtotal, Oak Ridge	279,313	238,413	159,862	-78,551	-32.9%

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

HQ-SW-0013X-OR / Solid Waste Stabilization and Disposition-Science Current Generation (life-cycle estimate \$153,649K)

0 0 18,544

This PBS is within the Defense Environmental Cleanup appropriation.

This work scope was formerly in PBS HQ-SW-0013X. 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 2007, the following activities are planned:

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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The Department has 1,400 kilograms of mixed uranium isotopes in various forms containing 450 kilograms of uranium-233 stored at the Oak Ridge National Laboratory. The uranium-233 is a major safety and security liability for the Department, has no connection to any modern era program, and has no commercial use other than for the production of medical isotopes (which is not included in this work scope). The Department plans to prepare material disposition options to eliminate the associated safety and security risks by down blending the material. There are approximately 40 kilograms of uranium-233 from EM's Molten Salt Reactor Experiment which require conversion into a form suitable for long-term storage.

This PBS includes FY 2006 funding to manage a new Oak Ridge Building 3019 project under Environmental Management, refocusing the project from medical isotope production to an Environmental Management project focused on U-233 material disposition. FY 2007 funding for Environmental Management Building 3019 surveillance and maintenance activities is included in PBS OR-0042.

In FY 2007, the following activities are planned:

- No activities planned in FY 2007.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Finalize material disposition options (September 2006) • Assure inspection program complies with the Defense Nuclear Facilities Safety Board Recommendation 97-1 (September 2006) 					

**OR-0013A / Solid Waste Stabilization and Disposition-
2006 (life-cycle estimate \$439,770K)..... 40,362 4,584 0**

This PBS is within the Defense Environmental Cleanup appropriation.

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 the legacy waste results in a significant mortgage reduction due to the elimination of

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 the end of FY 2006.

As of September 2005, a majority of legacy low-level and mixed low-level waste, and all of the legacy Resource Conservation and Recovery Act hazardous waste have been disposed. A small portion is being stored on-site until resolution for final disposal. Disposal of legacy low-level waste began in 2001 when the Nevada Test Site disposal facility became available.

In FY 2007, the following activities are planned:

- Activities will be completed in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	48,584	48,584	48,584	48,584	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Complete the disposition of legacy low-level waste (September 2006) 					

OR-0013B / Solid Waste Stabilization and Disposition-2012 (life-cycle estimate \$938,626K)..... 48,356 67,679 48,888

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, the Central Neutralization Facility, management of the Reservation's 1,224 m³ of transuranic waste and the design, construction, and operation of the Transuranic Waste Treatment Facility. It partially funds East Tennessee Technology Park infrastructure services, including fire protection; utility services; environmental, safety, and health programs; real property management; power operations and maintenance; and capital improvements and repairs.

Both newly generated low-level waste and hazardous waste (Resource Conservation and Recovery Act) require disposal within one year of generation. This project addresses waste generated at the East Tennessee Technology Park through 2009, while the companion project (PBS OR-0013A, Solid Waste Stabilization and Disposition-2006) addresses all low-level and mixed low-level waste disposed of prior to 2006.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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The end-state for this PBS is the operation of the Toxic Substances Control Act Incinerator until FY 2010 when it would transfer to another operator; 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 Treatment Facility until the current inventory of transuranic and liquid low-level supernate is dispositioned.

The Transuranic Waste Treatment Facility was originally funded with Privatization Funding. A contract was awarded for the design and construction of the waste processing facility. The contract was structured to pay on a per unit cost recovery basis as waste was processed through the facility. As of 2001, all of the privatization funding has been obligated and 70% of the privatization funding has been paid to the contractor for processing contact-handled waste. The balance is needed in FY 2007 to purchase and install equipment in the facility to process remote handled waste. Because of issues associated with the availability of WIPP for disposal of waste, a change to the contract payment terms has been proposed to utilize some of the remaining privatization funding when the equipment is purchased. P. L. 108-447, Section 305, states, "The unexpended balances of prior appropriations provided for activities in this Act may be transferred to appropriation accounts for such activities established pursuant to this title. Balances so transferred may be merged with funds in the applicable estimated accounts and thereafter may be accounted for as one fund for the same time period as originally enacted." Therefore, it is proposed to merge the residual privatization funding on the Transuranic Waste Treatment Facility with the operating Defense Environmental Cleanup funds in FY 2007 and outlay the small remaining uncosted balance (approximately \$7,000,000) on a cost reimbursable basis.

As of September 2005, all legacy hazardous waste and 8,020 m³ of low-level/mixed low-level Polychlorinated Biphenyl Federal Facility Compliance Agreement waste have been dispositioned. The project has treated over 1,392,000 kg of liquid waste and 450,000 kg of solid waste from Tennessee and out-of-state DOE sites from FY 2001 through 2004 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 started operations at the Transuranic Waste Treatment Facility for low-level waste supernate waste processing. Only 750 m³ of legacy industrial waste and 100 m³ of polychlorinated biphenyl waste remain for disposal.

In FY 2007, the following activities are planned:

- Newly Generated Transuranic Waste – Continue to collect and store newly generated transuranic waste generated on the Oak Ridge Reservation primarily received from the Oak Ridge National Laboratory.
- Continue contact-handled transuranic waste processing at the Transuranic Waste Treatment Facility.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Continue operations at the Toxic Substances Control Act Incinerator and make upgrades necessary to extend the operational life of the facility.
- Complete operations at the Central Neutralization Facility, then shut the facility down at the end of FY 2007 for subsequent closure, decontamination and decommissioning
- Complete disposition of the East Tennessee Technology Park Polychlorinated Biphenyl Federal Facility Compliance Agreement waste.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	0	271	396	1,224	32%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	8,020	9,544	10,156	18,839	54%
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 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Complete the treatment of Liquid Low-Level Waste Supernate at the Transuranic Waste Treatment Facility and disposal of the dried supernate product at the Nevada Test Site (October 2005) • Initiate contact-handled transuranic waste processing at the Waste Processing Facility (November 2005) • Completed contact-handled-debris construction/operational testing at the Transuranic Waste Treatment Facility (December 2005) • Complete legacy industrial waste disposition (September 2006) • Complete operations at Central Neutralization Facility (June 2007) 					

OR-0030 / Soil and Water Remediation-Melton Valley
(life-cycle estimate \$290,408K)..... 73,512 46,310 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 2 million curies of radioactive and mixed waste in burial grounds, unlined trenches, and deep hydrofracture injection wells.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 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 2005, several field activities were completed including: plugging and abandonment of 115 hydrofracture injection and monitoring wells; retrieval, repackaging and shipments of spent nuclear fuel to the Idaho National Laboratory and Tank remediation (T-1, T-2, and the High Flux Isotope Reactor Tanks). The remediation of the intermediate holding pond, as well as field work related to capping, is complete at Solid Waste Storage Area 4, which is one of the three major burial grounds to be capped. Capping of Solid Waste Storage Area 5 and 6 is underway. Solid Waste Storage Area 4 wetland restoration and final completion documentation was completed by the end of FY 2005. Work has been completed on the soil and sediment remediation, transuranic waste retrieval, and remediation of transuranic tanks and trenches are underway.

In FY 2007, the following activities are planned:

- Project will be completed in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Nuclear Facility Completions (Number of Facilities).....	0	2	2	2	100%
Radioactive Facility Completions (Number of Facilities)	2	15	15	15	100%
Industrial Facility Completions (Number of Facilities).....	2	2	2	2	100%
Remediation Complete (Number of Release Sites)	53	106	106	106	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Complete the Melton Valley Closure Soils and Sediments Remedial Action construction (November 2005)
- Complete the balance of Melton Valley Caps Solid Waste Storage Area 6 Remedial Action construction (January 2006)
- Complete demolition of the New Hydrofracture Facility (March 2006)
- Submit Transuranic Waste Trenches Construction/Remediation Completion letter to Regulators for approval (May 2006)
- Complete final documentation on Solid Waste Storage Area 4 (May 2006)
- Complete the balance of Melton Valley Caps Solid Waste Storage Area 5 Remedial Action construction (June 2006)
- Complete contact-handled transuranic processing (June 2006)
- Complete the removal of transuranic waste from 22 Trench Area (September 2006)

OR-0031 / Soil and Water Remediation-Offsites (life-cycle estimate \$70,540K)..... 7,405 16,319 15,381

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. Oak Ridge plans to complete these three sites by FY 2008. The cleanup actions at these sites will consist of removing, treating, and disposing of contaminated materials, equipment, soil, and sediment; demolishing facilities; and remediating groundwater. The scope also includes Offsite Program Site Evaluations, which are dependent on the results of a study scheduled for release by March 2006 by the Agency for Toxic Substances and Disease Registry.

At completion all three sites are expected to be suitable for future industrial use. The cleanup of the Witherspoon sites will be completed by FY 2008.

As of September 2005, cleanup of the Atomic City Auto Parts Site has been completed. The facility decontamination and decommissioning and debris removal has been completed and soils remediation has been initiated at the David Witherspoon, Inc. 901 site.

In FY 2007, the following activities are planned:

- Continue work on the revision of the Remedial Investigation/Feasibility Study based on the removal

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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action at the Atomic City Auto Parts by the Tennessee Department of Environment and Conservation to ensure a “No Further Action” Record of Decision.

- Complete field work for the remediation of the David Witherspoon 1630 site.
- Continue work on the completion documentation for the David Witherspoon 901 site.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	5	5	6	8	75%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed cleanup at Atomic City Auto Parts site (FY 2005) • Completed the facility D&D and debris removal at the David Witherspoon, Inc. 901 Site (FY 2005) • Continue field work for the remediation of the David Witherspoon 1630 Site (September 2006/September 2007) 					

OR-0041 / Nuclear Facility D&D-Y-12 (life-cycle estimate \$989,745K) 23,641 40,154 40,000

This PBS is within the Defense Environmental Cleanup appropriation.

The scope of this project reduces risk through the cleanup at the Y-12 National Security Complex; designs, builds, operates, and closes the on-site Environmental Management Waste Management Facility; and performs surveillance and maintenance of surplus facilities at the Y-12 National Security Complex.

The Y-12 National Security Complex is located in a water-rich environment. Y-12 is a significant contributor of polychlorinated biphenyls, mercury, radionuclides, and volatile organic compound contamination to the Upper East Fork 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, remediation of the East End Volatile Organic Compound Plume to prevent further migration offsite, 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, will be completed. Surveillance and maintenance activities for the Y-12 National Security Complex and the coordination of environmental monitoring throughout the Oak Ridge

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 waste from all on-site DOE program offices.

Finally, this PBS includes operation of the Environmental Management Waste Management Facility and modular design and construction for expansions beyond 1,200,000 yd³. The Environmental Management Waste Management Facility will receive approximately 1,700,000 yd³ 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. For more information, see the expense funded subproject in the Appendix.

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 2005, 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.

In FY 2007, the following activities are planned:

- Complete the construction of the final expansion of the Environmental Management Waste Management Facility.
- Continue operations at the Environmental Management Waste Management Facility to dispose of waste received from remedial action/decontamination and decommissioning projects from all of the Oak Ridge Reservation.
- Continue on-going operations of the Oak Ridge Reservation landfills and design, construct, open, and close landfill areas as required to maintain capacity.
- Continue the remediation of the East End Organic Compound Plume and surveillance and maintenance.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Industrial Facility Completions (Number of Facilities).....	1	1	1	2	50%

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Remediation Complete (Number of Release Sites)	28	28	28	138	20%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed Upper East Fork Poplar Creek soils record of decision (FY 2005) • Submit the Upper East Fork Poplar Creek Soils D2 Record of Decision to Regulators for approval (December 2005) • Submit Environmental Management Waste Management Facility - Final Expansion and Closure Construction Completion Report to Regulators for Approval (April 2007) • Complete the final expansion of the Environmental Management Waste Management Facility (May 2007) 					

OR-0042 / Nuclear Facility D&D-Oak Ridge National

Laboratory (life-cycle estimate \$636,993K) 25,170 15,874 21,956

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. 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Upon completion of this project, the Oak Ridge National Laboratory will continue its mission as a premier national science laboratory. Congress transferred responsibility for Building 3019 in FY 2006 from the Office of Nuclear Energy, Science and Technology to EM. This project includes surveillance and maintenance activities that are EM's responsibility for Building 3019.

As of September 2005, 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 Gunitite Tanks, and the Metal Recovery Facility.

In FY 2007, the following activities are planned:

- Complete the Tank W-1A transuranic soils removal.
- Continue surveillance and maintenance - provide oversight of surveillance and maintenance contractor, perform annual safety document updates, implement safety documents, and dispose of waste off-site at DOE and commercial disposal facilities.
- Continue monitoring the Oak Ridge National Laboratory water quality program.
- Perform routine surveillance and maintenance in the Building 3019.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
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	80	178	45%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the Molten Salt Reactor Experiment fuel salt removal from Fuel Drain Tank Number 1 and completed processing and packaging of fuel and flush salts (FY 2005) • Completed the Molten Salt Reactor Experiment flush salt removal from Drain Tank Number 2 (FY 2005) • Complete the Tank W-1A transuranic soils removal (September 2007) • Performed surveillance and maintenance on various surplus and inactive facilities (FY 2005) • Complete the Molten Salt Reactor Experiment stabilization de-fueling (July 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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**OR-0043 / Nuclear Facility D&D-East Tennessee
Technology Park (Defense) (life-cycle estimate**

\$106,051K) 7,776 5,974 10,094

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 complete the East Tennessee Technology Park cleanup by FY 2009 and will allow the closure of this major DOE site. The main activities will include decommissioning of the centrifuge development facilities at the site and the Central Neutralization Facility. The centrifuge facilities subproject includes 32 facilities covering 234,000 square feet.

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

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

As of September 2005, no release sites and only four facilities have been completed because the Central Neutralization Facility is still active and operated under PBS OR-0013B, Solid Waste Stabilization and Disposition-2012. However, hazardous materials and equipment have been removed from the Centrifuge Facilities and the K-25 Building and centrifuge equipment removal continues.

In FY 2007, the following activities are planned:

- Continue management, surveillance, inspection, testing, and maintenance of the East Tennessee Technology Park.
- Initiate the field work on the Centrifuge Facilities decontamination and decommissioning project.
- Initiate the Central Neutralization Facility decontamination and decommissioning project.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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).....	4	6	9	61	15%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Began decontamination and decommissioning of the centrifuge facilities (FY 2005) • Continued management, surveillance of the East Tennessee Technology Park (FY 2005) • Performed surveillance and maintenance on the centrifuge facilities (FY 2005) • Issue Centrifuge Facilities decontamination and decommissioning notice to proceed (June 2006) • Continue decontamination and decommissioning of the centrifuge facilities (September 2007) • Initiate Central Neutralization Facility D&D (September 2007) 					

OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense) (life-cycle estimate

\$133,777K) 3,092 5,613 4,999

This PBS is within the Defense Environmental Cleanup appropriation.

This project supports the two Tennessee non-regulatory Agreement-In-Principle grants and the activities of the Oak Ridge Site Specific Advisory Board. The first grant supports the Tennessee Department of Environment and Conservation's independent environmental oversight and monitoring of DOE activities taking place both on-site and off-site at the Oak Ridge Reservation. The second grant provides for coordination with the Tennessee Emergency Management Agency in emergency response planning initiatives, including cooperative planning, conducting joint training exercises and developing public information regarding preparedness activities. This scope also supports the Federal Facility Agreement regulatory grant with the Tennessee Department of Environment and Conservation, which provides for the administrative support necessary to oversee the requirements of the interagency agreement under the Comprehensive Environmental Response, Compensation, and Liability Act. EM will support 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Complete the FY 2007 media-monitoring activities. This includes periodic sampling of all media and pathway indicators, monitoring of discharges, emissions and biological parameters as necessary to verify the effectiveness of the Department’s monitoring and surveillance programs for releases and emissions of hazardous, toxic, and radiological materials.
- Complete annual reporting to the public on management and operating activities.
- Complete FY 2006 media-monitoring report and the FY 2008 media monitoring plan.
- Participate in the Natural Resource Damage Assessment program for the Oak Ridge Reservation and in the Watts Bar Interagency Working Group.
- Complete review and approval of Federal Facility Agreements documents produced by DOE.
- Update, if necessary, the multi-jurisdictional plan for the Oak Ridge Reservation.
- Coordinate and conduct drills and exercises in accordance with the multi- jurisdictional plan or other regulation requirements.
- Maintain emergency communications capabilities for notification, emergency management, and information distribution relating to Oak Ridge Reservation emergencies.
- Continue support to the Site-Specific Advisory Board, providing advice and recommendations.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued activities by the Site-Specific Advisory Board sponsored by DOE-EM to assist in public participation activities (FY 2005) • Continued annual monitoring, reporting, and emergency planning activities (FY 2005) • Provided financial support to the State of Tennessee for conducting annual oversight, monitoring, and reporting (FY 2005) • Provide financial support to the State of Tennessee for conducting annual oversight, monitoring, and reporting (September 2006/September 2007) • Continue annual monitoring, reporting, and emergency planning activities (September 2006/September 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 2005, 739 (cumulative) empty cylinders were disposed at the Nevada Test Site and 4,726 (cumulative) full, partial and heel cylinders have been shipped to Portsmouth. The Oak Ridge Performance Management Plan defines the end-state as removal of East Tennessee Technology Park cylinders to the Portsmouth or Paducah depleted uranium hexafluoride conversion facility by September 2006. Site infrastructure services include fire protection, utility services, environmental, safety, and health programs, real property management, power operations and maintenance, and capital improvements and repairs.

In FY 2007, the following activities are planned:

- There are no planned activities.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	93	93	93	93	100%
Nuclear Facility Completions (Number of Facilities).....	2	4	4	4	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued to maintain stored uranium hexafluoride cylinders and six cylinder yards (FY 2005) • Complete American National Standards Institute non-compliant cylinder shipment (1,600) (December 2005) • Ship remaining uranium hexafluoride cylinders to Portsmouth (September 2006) 					

OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund) (life-cycle estimate

\$1,826,784K) 216,732 205,225 275,764

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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, the largest decommissioning effort 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 is now FY 2009 as a result of numerous influences such as additions to the closure scope and schedule delays due to technical and other reasons. Cleanup 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 2005, 159 facilities were decommissioned and 28 release sites have been remediated. 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 24,000 tons of scrap metal was shipped to the Environmental Management Waste Management Facility. In addition, 129 loose converters were shipped off-site and over 290,000 square feet of asbestos siding was removed at the K-25 Facility.

In FY 2007, the following activities are planned:

- Continue the infrastructure support at the site.
- Complete the Zone 1 Remedial Action Subproject.
- Start the East Tennessee Technology Park groundwater remediation.
- Continue to decontaminate and decommission the K-25 and K-27 Buildings.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Complete Poplar Creek facilities and Balance of Site utilities decontamination and decommissioning field work.
- Continue to decontaminate and decommission Main Plant Area.
- Continue Zone 2 remedial actions completing 30 release sites.
- Complete the K29/K31/K33 Area decontamination and decommissioning field work.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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).....	1	5	6	13	46%
Industrial Facility Completions (Number of Facilities).....	156	224	289	512	56%
Remediation Complete (Number of Release Sites).....	28	35	67	167	40%

Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)

- Started the East Tennessee Technology Park Main Plant Area Facilities Decontamination and Decommissioning Construction (FY 2005)
- Issued East Tennessee Technology Park balance of site demolition notice to proceed (FY 2005)
- Closed out three building decommissioning project and returned buildings for reuse (FY 2005)
- Begin K-25/K-27 process equipment removal (October 2005)
- Complete East Tennessee Technology Park scrap removal construction [AKA Mobilization] (November 2005)
- Completed hazardous material abatement in K-25 Building (December 2005)
- Start East Tennessee Technology Park balance of site decontamination and decommissioning - utilities group (January 2006)
- Initiate deactivation/demolition of K-29, K-31 and K-33 (September 2006)
- Submit Site-Wide Record of Decision to Regulators for Approval (October 2006)
- Start East Tennessee Technology Park groundwater remediation (February 2007)
- Start Groundwater Remedial Action Underground Storage Tank Removal Construction (March 2007)

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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• Complete Poplar Creek Facilities D&D (July 2007)

OR-0102 / East Tennessee Technology Park

Contract/Post-Closure Liabilities/Administration (life-cycle estimate \$367,623K).....

10,144 37,395 35,709

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

This project scope supports on-going, long-term obligations and central programs including post retirement medical benefits and long-term disability for grandfathered employees, severance/reduction-in-force costs for workforce transition employees; legacy documents and litigation issues; administration of the Sample Management Office and metal recycling activities.

This PBS 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 recycle 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 2007, the following activities are planned.

- Severance costs, post retirement life and medical benefits, and long-term disability benefits will be paid as required.
- Contributions will be made to the pension plan for grandfathered employees.
- The Sample Management Office will continue to audit commercial labs used by EM to support cleanup projects.
- Legal/risk management will continue to process legacy workers compensation claims.
- Continue support for the recycle of clean and decontaminated metals and equipment.
- Support will continue for the DOE Information Center, which maintains the public documents related to the EM Program in Oak Ridge.

Explanation of Funding Changes

FY 2007 vs.
FY 2006
(\$000)

Defense Environmental Cleanup

Oak Ridge

HQ-SW-0013X / Solid Waste Stabilization and Disposition-Science Current Generation

- Decrease reflects funding transferred to PBS HQ-SW-0013X-OR. -18,085

HQ-SW-0013X-OR / Solid Waste Stabilization and Disposition-Science Current Generation

- There is no significant change in funding between funds in PBS HQ-SW-0013X in FY 2006 and this PBS. 18,544

OR-0011Z / Downblend of U-233 in Building 3019

- Decrease allows for funding of higher priority, compliance-driven activities. -17,821

OR-0013A / Solid Waste Stabilization and Disposition-2006

- Decrease due to project completion. -4,584

OR-0013B / Solid Waste Stabilization and Disposition-2012

- Decrease associated with reduced quantities of waste processed at the Transuranic Waste Treatment Facility due to the completion of the Melton Valley cleanup; ramp down of East Tennessee Technology Park polychlorinated biphenyl Federal Facility Compliance Agreement waste; the disposition of legacy industrial waste; and the completion of wastewater treatment operations at the Central Neutralization Facility in FY 2007. -18,791

OR-0030 / Soil and Water Remediation-Melton Valley

- Decrease is due to completion of project in FY 2006. -46,310

OR-0031 / Soil and Water Remediation-Offsites

- Net decrease reflects a ramp up of work in the David Witherspoon 1630 site and a reduction of the ID/IQ funding in FY 2007. -938

OR-0041 / Nuclear Facility D&D-Y-12

- No significant change. -154

FY 2007 vs. FY 2006 (\$000)

OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory

- Increase reflects surveillance and maintenance activities for Building 3019; responsibility for Building 3019 was transferred to EM in FY 2006. 6,082

OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)

- Increase is required for decontamination and decommissioning activities on the centrifuge facilities and associated equipment located at the East Tennessee Technology Park to facilitate closure of the East Tennessee Technology Park. 4,120

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

- Decrease reflects a reduced need for oversight and document review with the completion of the Melton Valley cleanup in FY 2006. -614

Non-Defense Environmental Cleanup

Gaseous Diffusion Plants

OR-0011Y / NM Stabilization and Disposition-ETTP Uranium Facilities Management

- Decrease of funding is due to the completion of all activities in FY 2006..... -4,836

Uranium Enrichment Decontamination and Decommissioning Fund

D&D Activities

OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)

- Increase reflects the continued ramp up of activities associated with demolition work at the K-25/K-27 Area facilities which are on the critical path for completion of the East Tennessee Technology Park. 70,539

OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration

- Decrease in the current projections for contract liabilities for post-retirement life and medical benefits, legacy worker compensation claims and pension plan contributions. -1,686

Total, Oak Ridge..... -14,534

Portsmouth/Paducah Project Office

Funding by Site

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Appropriation	FY 2007 Request
Portsmouth/Paducah Project Office			
Paducah Gaseous Diffusion Plant.....	151,764	154,262	131,776
Portsmouth Gaseous Diffusion Plant.....	270,800	268,358	223,535
Total, Portsmouth/Paducah Project Office	422,564	422,620	355,311

Site Overview

For approximately 50 years, the Portsmouth Gaseous Diffusion Plant in Portsmouth, Ohio and the Paducah Gaseous Diffusion Plant in Paducah, Kentucky supported Federal Government and commercial nuclear power missions. Decades of nuclear energy and national security missions left radioactive and chemical contamination at both sites. The missions of the sites are transitioning from primarily enrichment operations to shared missions with environmental cleanup, waste management, depleted uranium conversion, deactivation and decommissioning, re-industrialization, and long-term stewardship. DOE established the Portsmouth/Paducah Project Office in October 1, 2003, to provide focused leadership to the sites' changing missions and to oversee cleanup and disposition of the Department's stockpile of depleted uranium hexafluoride stored at the sites.

Portsmouth

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 provided to both government and commercial users.

In the mid-1980s, the facilities and equipment required for the next generation of enrichment facilities technology, the Gas Centrifuge Enrichment Process, 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 into office space, warehouses, or storage facilities, including permitted storage for hazardous and mixed-waste. 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.

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.

A significant portion of the Department's surplus (excess to defense requirements) uranium inventory is contaminated with technetium-99, dramatically reducing 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 license at the Department's Portsmouth site, with the resultant product being further processed at the Paducah Gaseous Diffusion Plant. The United States Enrichment Corporation has agreed to process contaminated uranium for the Department in exchange for an amount of marketable uranium equivalent in value to the costs of their operation. This self-funded arrangement (barter) capitalizes the value of surplus uranium in exchange for services restoring the market value of an asset that if left untreated would be dispositioned as waste. The Department began this arrangement in December of FY 2005.

Paducah

The original mission at the Paducah Gaseous Diffusion Plant was to produce low-assay enriched uranium for use as commercial nuclear reactor fuel. 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 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.

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 (DUF₆) 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 DUF₆ stored in about 60,000 cylinders. DOE awarded a contract and started construction in July 2004 on two depleted uranium conversion facilities, one each at Portsmouth and Paducah, to convert the DUF₆ cylinders to a more stable form for reuse or

disposal. These facilities will operate over the next two decades. DOE is ultimately responsible for the deactivation and decommissioning of the facilities.

The Department is committed to clean up both the Portsmouth and the Paducah Gaseous Diffusion Plants to industrial reuse standards. Limited land areas will require institutional controls following remediation. Excess buildings at Portsmouth and 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. The current focus of the reindustrialization effort is to provide limited facilities and land to governmental and commercial users, and to transfer facilities and land to users through direct leasing or other initiatives.

Site Descriptions

Portsmouth

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

Paducah

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.

The Portsmouth/Paducah Project Office is centrally located between the two sites in Lexington, Kentucky. The project office provides management oversight, strategic planning, and project coordination for both sites.

Site Cleanup Strategy/Scope of Cleanup

Portsmouth

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; thus, groundwater contamination has been contained onsite. Vertically, a layer of bedrock only 30-feet beneath the surface contains the groundwater plumes. Minor levels of contaminants have been detected in nearby stream sediments; however, the regulatory agencies have agreed that cleaning up such low levels of contaminants would cause greater ecological disturbance than leaving the contaminants in place.

Portsmouth has focused on cleanup of high-risk areas first. DOE has completed all initial assessments required under the Resource Conservation and Recovery Act, contained all groundwater plumes onsite, and remediated several hazardous and solid waste units.

Paducah

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

Site Completion (End State)

Portsmouth

FY 2005 through FY 2010 represents critical years for the environmental cleanup program at Portsmouth. The current end state completion in the baseline for Portsmouth is 2025. The primary objectives of the cleanup program during this period will be to install 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, including those contaminated with hazardous or toxic chemicals. Portsmouth will also decontaminate and decommission identified inactive facilities and complete disposition of currently stored highly enriched uranium. In addition, Portsmouth will complete construction and begin operating a DUF₆ conversion facility. The conversion operations are estimated to be 20 years.

Paducah

The current end state completion in the baseline for Paducah is 2030. 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 in 2010, soils in 2015, surface water in 2017, and burial grounds in 2019. FY 2005 through FY 2010 represents a critical period for continued preparation and progress. In addition, Paducah will complete construction and begin operating a DUF₆ conversion facility. The conversion operations are estimated to be 25 years.

Future use planning will support ongoing and anticipated DOE missions, the United States Enrichment Corporation enrichment operations, and other current users of the sites. Portions of the sites will be used to promote the development of private-sector enterprises in ways that are consistent with and complementary to current site missions. Other 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 reservations.

Regulatory Framework

Portsmouth

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 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 Reliability Act's National Priorities List but undertakes cleanup in compliance with both Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation and Reliability Act requirements. To facilitate site investigations and final cleanup actions, the Portsmouth site was divided into four quadrants based on groundwater characteristics. Each contains multiple solid waste management units.

Paducah

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 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 Environmental Protection Agency's National Priorities List under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The 1997 Federal Facilities Agreement among the Department, the Commonwealth of Kentucky, and Environmental Protection Agency Region IV established the framework for cleanup at Paducah, institutes enforceable milestones, and coordinates site-specific cleanup requirements under the Comprehensive Environmental Response, Compensation and Reliability Act and the Resource Conservation and Recovery Act. The Department also achieved long-standing regulatory disputes through the Agreed Order with the Commonwealth of Kentucky.

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 biphenyls 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 Act for characterization, treatment, and disposal of mixed hazardous/radioactive wastes; Toxicity Characteristic Leaching Procedure Federal Facility Compliance Act for characterization under the Resource Conservation and Recovery Act for waste generated prior to September 25, 1990; and Toxic Substances Control Act, Federal Facility Compliance Act for use, cleanup, storage, treatment, and disposal of.

Critical Project Uncertainties and Assumptions

The following are project uncertainties and assumptions:

- DOE missions will be given priority in all other future uses of the sites.
- The Portsmouth gaseous diffusion enrichment facilities will transition to deactivation and decommissioning within the planning period.
- The United States Enrichment Corporation needs for continued operation and use of site facilities for uranium enrichment activities will be a priority at both sites.
- DOE will be able to continue the barter agreement for removing technetium-99 contamination from uranium feed
- The extent of cleanup at Portsmouth and Paducah is subject to future regulatory decisions.
- The current baseline excludes any costs associated with the future decontamination and decommissioning of the Portsmouth and Paducah gaseous diffusion plants.

Interdependencies

Portsmouth will receive all the DUF₆ cylinders stored at Oak Ridge's East Tennessee Technology Park in Tennessee by the end of FY 2006. Some or all of the Oak Ridge natural and enriched uranium cylinders may be shipped to Paducah for inventory consolidation and subsequent use or disposition.

Contract Synopsis

The Portsmouth/Paducah Project Office issued remediation and infrastructure contracts in 2005 at both the Portsmouth and Paducah sites. This strategy provides for incentivizing 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 contracts include Theta Pro2Serve Management Company, LLC at the Portsmouth site and Swift & Staley Mechanical Contractors, Inc. at the Paducah site. The infrastructure contracts are cost-plus-award-fee contracts. The remediation contracts provide cleanup and closure of all 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 contracts include LATA/Parallax Portsmouth, LLC at the Portsmouth site and Paducah Remediation Services, LLC at the Paducah site. The remediation contracts are cost-plus-incentive-fee contracts.

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. Key DOE responsibilities in environmental cleanup and legacy material disposition will continue in support of DOE missions. Future uses of the sites will include a mixture of activities that are compatible with and contribute to ongoing and anticipated DOE missions. According to current plans, the reservation will be used to support many of the same programs it currently supports while adapting to emerging technology deployment by the United States Enrichment Corporation, transition to decontamination and decommissioning, depleted uranium material conversion, and long-term stewardship.

Funding Schedule by Activity

(dollars in thousands)					
	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Non-Defense Environmental Cleanup					
Gaseous Diffusion Plants					
Paducah Gaseous Diffusion Plant					
PA-0011 / NM Stabilization and Disposition-Paducah Uranium Facilities Management					
	4,892	2,396	2,501	105	+4.4%
PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion.....					
	50,592	47,916	32,700	-15,216	-31.8%
Subtotal, Paducah Gaseous Diffusion Plant.....	55,484	50,312	35,201	-15,111	-30.0%
Portsmouth Gaseous Diffusion Plant					
PO-0011 / NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management.....					
	17,811	10,431	19,515	9,084	+87.1%
PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion.....					
	56,149	47,916	32,700	-15,216	-31.8%
PO-0041 / Nuclear Facility D&D- Portsmouth GCEP.....					
	19,840	19,775	20,000	225	+1.1%
PO-0101 / Portsmouth Cold Standby.....					
	85,955	0	0	0	0%
Subtotal, Portsmouth Gaseous Diffusion Plant	179,755	78,122	72,215	-5,907	-7.6%
Total, Gaseous Diffusion Plants	235,239	128,434	107,416	-21,018	-16.4%
Uranium Enrichment Decontamination and Decommissioning Fund					
D&D Activities					
Paducah Gaseous Diffusion Plant					
PA-0013 / Solid Waste Stabilization and Disposition.....					
	36,728	14,197	23,831	9,634	+67.9%
PA-0040 / Nuclear Facility D&D-Paducah					
	45,592	85,936	69,022	-16,914	-19.7%
PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund)					
	11,654	1,477	1,299	-178	-12.1%

	(dollars in thousands)				
	FY 2005	FY 2006	FY 2007	\$ Change	% Change
PA-0103 / Paducah Community and Regulatory Support (D&D Fund)	2,306	2,340	2,423	83	+3.5%
Subtotal, Paducah Gaseous Diffusion Plant	96,280	103,950	96,575	-7,375	-7.1%
Portsmouth Gaseous Diffusion Plant					
PO-0013 / Solid Waste Stabilization and Disposition.....	51,213	51,985	19,410	-32,575	-62.7%
PO-0040 / Nuclear Facility D&D-Portsmouth.....	38,936	137,363	131,202	-6,161	-4.5%
PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund).....	616	600	410	-190	-31.7%
PO-0104 / Portsmouth Community and Regulatory Support (D&D Fund)	280	288	298	10	+3.5%
Subtotal, Portsmouth Gaseous Diffusion Plant	91,045	190,236	151,320	-38,916	-20.5%
Total, D&D Activities	187,325	294,186	247,895	-46,291	-15.7%
Total, Portsmouth/Paducah Project Office	422,564	422,620	355,311	-67,309	-15.9%

Detailed Justification

(dollars in thousands)		
FY 2005	FY 2006	FY 2007

PA-0011 / NM Stabilization and Disposition-Paducah Uranium Facilities Management (life-cycle estimate \$48,739K) **4,892** **2,396** **2,501**

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 for the report to Congress on environmental, safety, and health, and manages legacy polychlorinated biphenyl contamination. Surveillance and maintenance of inactive facilities prevents significant deterioration of the buildings and/or support systems until the decommissioning, decontamination, and demolition is complete. 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. Safe storage of approximately 38,000 uranium hexafluoride cylinders is maintained by a cylinder inspection program to monitor the physical condition and record defects of the cylinders. Management of these cylinders continued until FY 2005 when turnover to the depleted uranium hexafluoride conversion facility contractor occurred.

This PBS scope also includes management of polychlorinated biphenyls. Gaskets impregnated with

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 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 2005, over 36,000 cylinders were relocated to improved storage. (In June 2005 scope of work transferred to the depleted uranium hexafluoride conversion facility operator.) Progress to date also includes cleanup of 2,557 polychlorinated biphenyl spills.

In FY 2007, the following activities are planned:

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

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Enriched Uranium packaged for disposition (Number of Containers).....	0	0	0	182	0%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued to maintain stored uranium hexafluoride cylinders and eleven cylinder yards in a safe condition (FY 2005) • Transferred cylinder management activities to the depleted uranium hexafluoride conversion facility operating contractor (FY 2005) • Surveillance and maintenance of fifteen inactive facilities (September 2006/September 2007) • Management of polychlorinated biphenyl collection and containment system (September 2006/September 2007) 					

PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (life-cycle estimate

\$1,213,406K) 50,592 47,916 32,700

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

Approximately 700,000 metric tons of depleted uranium hexafluoride are stored in 64,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites. This PBS scope will design, permit, build, and

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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operate one depleted uranium hexafluoride conversion facility at the Paducah Gaseous Diffusion Plant site. The facility will convert depleted uranium hexafluoride into a more stable form, a depleted uranium oxide, suitable for reuse or disposition. The depleted uranium oxide will be disposed of at a commercial disposal facility, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will either be crushed and sent to disposal or reused.

This project also includes surveillance and maintenance of all cylinders during conversion of the existing stockpile, which should take 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 2005 - \$47,913,600; FY 2006 - \$42,472,000; FY 2007 - \$16,278,000.

Groundbreaking occurred at the Paducah site in July 2004.

As of September 2005, the project final design review and site work were completed, and approval to construct the administration and warehouse buildings was received.

In FY 2007, the following activities are planned:

- Complete major equipment installation.
- Continue construction of the conversion facility (with a planned November 2007 completion), and commencement of conversion operations in FY 2008.
- Continue surveillance and maintenance of cylinders.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	453,312	0%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed final project design (FY 2005) • Completed A-E work (FY 2005) • Initiated conversion facility construction (FY 2005) • Continued construction which included completion of site preparation work and initiation construction of Administration and warehouse buildings (FY 2005) • Complete construction of the administration and warehouse buildings (September 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Complete major equipment installation (September 2007)

**PO-0011 / NM Stabilization and Disposition-
Portsmouth Other Uranium Facilities Management
(life-cycle estimate \$194,276K).....**

17,811 10,431 19,515

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, manages approximately 19,000 uranium hexafluoride cylinders, and manages legacy polychlorinated biphenyl contamination. The Highly Enriched Uranium Program activities will continue until the final disposition of the highly enriched uranium at Nuclear Fuel Services and at the Portsmouth process building X-326. 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 at Nuclear Fuel Services; 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), 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.

As of September 2005, Portsmouth has received and stacked a cumulative total of 4,726 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 at Nuclear Fuel Services 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 2007, the following activities are planned:

- Continue management of legacy polychlorinated biphenyl waste in compliance with Toxic Substance Control Act Federal Facilities Compliance Agreement.
- Continue surveillance and maintenance of former Uranium Program facilities.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Continue surveillance and maintenance of 158 permanently shutdown cells in X-326.
- Continue surveillance and maintenance of enriched uranium-DOE Material Storage Area 12.
- Processing of highly enriched uranium materials to low enriched uranium at the Nuclear Fuel Services facility located in Irwin, Tennessee.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Enriched Uranium packaged for disposition (Number of Containers).....	0	0	0	1,450	0%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Managed stored uranium hexafluoride cylinders until transfer to conversion facility operating contractor (FY 2005) • Transferred responsibility of cylinder management activities to conversion contractor (FY 2005) • Continue off-site conversion to low enriched uranium and disposition of highly enriched uranium inventories at Nuclear Fuel Services (September 2006) • Continue to process highly enriched uranium through Nuclear Fuel Services. (September 2007) 					

PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (life-cycle estimate

\$852,578K) 56,149 47,916 32,700

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

Approximately 700,000 metric tons of depleted uranium hexafluoride are stored in 64,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites and at the East Tennessee Technology Park (until FY 2006). 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 disposed of at a commercial disposal facility, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will be crushed and sent to disposal or reuse.

This project also includes surveillance and maintenance of the existing stockpile during conversion, which should take about 20 years. The conversion facility operator assumed responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders in FY 2005.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 2005 - \$51,286,400; FY 2006 - \$42,473,000; and FY 2007 - \$16,278,000.

Groundbreaking occurred at the Portsmouth site in July 2004.

As of September 2005, the project final design Government review and site work were completed, and approval to construct the administration and warehouse buildings was received.

In FY 2007, the following activities are planned:

- Complete major equipment installation.
- Continue construction of the conversion facility (with a planned November 2007 completion) and commencement of conversion operations in FY 2008.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	205,567	0%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed A-E work (FY 2005) • Initiated construction of conversion facility (FY 2005) • Completed final project design (FY 2005) • Continued construction which included completion of site preparation work and initiation of construction of administration and warehouse buildings (FY 2005) • Complete construction of the administration warehouse buildings (September 2006) • Complete major equipment installation. (September 2007) 					

**PO-0041 / Nuclear Facility D&D-Portsmouth GCEP
(life-cycle estimate \$80,000K)..... 19,840 19,775 20,000**

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 2005	FY 2006	FY 2007
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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 is expected to cover 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; Resource Conservation and Recovery Act closure of designated areas in building X-7725; 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.

It is the intent to complete disposition of all Resource Conservation and Recovery Act waste in X-7725 by FY 2006 per Congressional expectation. However, a small amount of the current inventory has been identified that may not be treatable or disposable under current methods. These waste streams have been identified as "troublesome waste" and are not planned for completion until 2008.

As of September 2005, the Gas Centrifuge Enrichment Plant commenced packaging and shipping of centrifuge parts and other materials, including 320 containers shipped to the Nevada Test Site. The project completed the majority of the Resource Conservation and Recovery Act closure process in X-7725, and a majority of the office moves from the Gas Centrifuge Enrichment Plant footprint. In addition, the renovation work on X-1000 was completed.

In FY 2007, the following activities are planned:

- Complete the disposition of the contents, within and relocation of, the two temporary storage warehouses (Rubb tents) that are currently in the Gas Centrifuge Enrichment Plant footprint.
- Finalize agreements on the requirement and complete relocation of the alternate heat source located in the X-3002 area.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Cleaned designated areas in X-7725 facility in accordance with the Resource Conservation and Recovery Act (FY 2005) • Complete disposition of centrifuges and centrifuge components (September 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Complete relocation and disposition of Rubb tents located in GCEP footprint. (September 2007)

PO-0101 / Portsmouth Cold Standby (life-cycle estimate \$370,236K) 85,955 0 0

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

The Department placed the Portsmouth Gaseous Diffusion Plant in cold standby in 2001 after the United States Enrichment Corporation ceased the production of enriched uranium at the Portsmouth Plant. The plant was maintained in cold standby so that operations could be restarted within eighteen to twenty-four months if necessary. Activities include purging the cascade process equipment of uranium hexafluoride, buffering with dry air, maintaining the freon inventory, and heating several buildings on the site to prevent damage from freezing in the winter. The contract for the cold standby work expires in September 2005.

In January 2004, the United States Enrichment Corporation chose Portsmouth as the site to implement a new centrifuge processing technology to enrich uranium for nuclear power plant reactors. In addition, other positive factors associated with the long-term stability of uranium for commercial nuclear power support a decision by DOE that Portsmouth no longer be kept in cold standby. The reduction in PO-0101 reflects the cessation of cold standby activities in FY 2005. The United States Enrichment Corporation retains certain responsibilities for shutdown under their lease.

In FY 2006, Portsmouth will transition from cold standby to final shutdown and begin preliminary decontamination and decommissioning activities. In FY 2006, funding transferred to the Uranium Enrichment Decontamination and Decommissioning Fund (PO-0040) to provide for the transition, final shutdown, and subsequent decontamination and decommissioning activities. These activities will include initiating plans for an integrated final decommissioning strategy for the diffusion facilities. DOE will develop procurement strategies and evaluate the regulatory transition from the Nuclear Regulatory Commission to DOE. Additional regulatory coordination with the State and Environmental Protection Agency will be required. DOE will seek to minimize the impacts to the Portsmouth workforce by coordinating with expanding the United States Enrichment Corporation commercial activities and other site work.

A significant portion of the Department's surplus (excess to defense requirements) uranium inventory is contaminated with technetium-99, dramatically reducing 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 license at the Department's Portsmouth site, with the resultant product being further processed at the Paducah Gaseous Diffusion Plant. The United States Enrichment Corporation has agreed to process contaminated uranium for the Department in exchange for an amount of marketable uranium

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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equivalent in value to the costs of their operation. This self-funded arrangement (barter) capitalizes the value of surplus uranium in exchange for services restoring the market value of an asset that if left untreated would be dispositioned as waste. The Department began this arrangement in December of FY 2005. The technetium-99 barter arrangement does not affect the request for FY 2006 and FY 2007 funding because it is budget neutral, thereby allowing the available resources to focus on other cleanup activities.

In FY 2007, the following activities are planned.

- No activities.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

PA-0013 / Solid Waste Stabilization and Disposition

(life-cycle estimate \$280,459K)..... 36,728 14,197 23,831

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 primary waste streams are low-level, mixed low-level, hazardous, transuranic, polychlorinated biphenyl, and sanitary/industrial/construction wastes. The life-cycle scope for low level and mixed low-level wastes addresses approximately 16,391 m³ of waste. 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 2005, approximately 8,685 m³ 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 2007, the following activities are planned.

- Dispose of 775 m³ of legacy waste and 50 m³ of newly generated waste.
- Continue characterization and repackaging of legacy waste for disposal.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	8,685	8,801	9,626	16,391	59%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Disposed of 177 m3 of newly generated waste and 1,715 of legacy waste (FY 2005) • Dispose of 50 m3 of newly generated waste and 66 m3 of legacy waste (September 2006) • Disposition 50 cubic meters of newly generated waste and 775 cubic meters of legacy waste. (September 2007) 					

PA-0040 / Nuclear Facility D&D-Paducah (life-cycle estimate \$5,506,397K) 45,592 85,936 69,022

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

This project scope is for environmental cleanup and risk reduction through focused response actions and surveillance and maintenance activities (not decontamination and decommissioning) at the Paducah Gaseous Diffusion Plant. This plant is an active uranium enrichment facility surrounded by a wildlife management area. Environmental problems include on- and off-site groundwater contamination which had contaminated off-site residential water wells and contaminated surface water; sediments and soil, with both radioactive and chemical contaminants. The current and future land uses at Paducah Gaseous Diffusion 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 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 containing approximately 54,000 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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As of September 2005, 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 203,000 cubic feet of the material was disposed; 75 percent of the characterization of all materials currently in DOE Material Storage Areas was completed. Over 7,000 tons of scrap metal was disposed; the C-746 S&T landfill investigation was completed, and 54 of 56 fluorine cells were shipped off-site for reuse.

In FY 2007, the following activities are planned:

- Continue remedial action for full-scale deployment of dense non-aqueous phase liquids source treatment associated with groundwater contamination at C-400 building area.
- Continue characterization and material disposition of DOE Material Storage Areas, with completion of all outside DOE Material Storage Areas.
- Complete scrap metal removal activities.
- Continue decontamination and decommissioning of the C-410 feed plant complex.
- Begin remedial action activities for the Southwest Plume/Sources and removal action activities for the on-site surface water project.
- Continue the remedial investigation/feasibility studies field work for the burial grounds (contamination in the waste grouping areas and solid waste management units).

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Radioactive Facility Completions (Number of Facilities)	0	0	0	2	0%
Remediation Complete (Number of Release Sites)	86	86	86	236	36%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed burial ground remedial investigation/feasibility study work plan (FY 2005) • Dispose of 4,026 tons of scrap metal (FY 2005) • Continued decontamination and decommissioning of C-410 complex (FY 2005) • Dispose of 23,900 tons of scrap metal (September 2006) • Begin remedial action field work for groundwater contamination at C-400 (September 2006) • Complete scrap metal disposition (June 2007) • Continue decontamination and decommissioning of C-410 complex. (September 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Complete disposition of all outside DOE Material Storage Areas and continue characterization and disposition of inside DOE Material Storage Areas (September 2007)

PA-0102 / Paducah Contract/Post-Closure

Liabilities/Administration (D&D Fund) (life-cycle

estimate \$115,562K) 11,654 1,477 1,299

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 2007, the following activities are planned.

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

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

PA-0103 / Paducah Community and Regulatory

Support (D&D Fund) (life-cycle estimate \$32,470K).....

2,306 2,340 2,423

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 decontamination and decommissioning and remediation of the plant is complete.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007 the following activities are planned:

- Complete annual reporting to the public on management and operations activities.
- Complete FY 2008 media monitoring plan.
- Complete review and approval of the Comprehensive Environmental Response, Compensation, and Liability Act, Federal Facility Agreement documents produced by DOE.
- Participate in the emergency preparedness plan for the DOE Paducah Site, including the organizations, authorities, and responsibilities for local governments' response and the authorities and responsibilities for the Kentucky state government.
- Coordinate and conduct drills and exercises in accordance with the multi-jurisdictional plan or other regulatory requirements.
- 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 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • 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 2005) • Provided financial support to the Commonwealth of Kentucky as required by the Agreement-in-Principle (FY 2005) • 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 2006/September 2007) • Provide financial support to the Commonwealth of Kentucky as required by the Agreement-in-Principle (September 2006/September 2007) 					

PO-0013 / Solid Waste Stabilization and Disposition
(life-cycle estimate \$358,428K)..... 51,213 51,985 19,410

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 streams are low-level, mixed low-level, Toxic Substances Control Act low-level, hazardous, and sanitary wastes. The life-cycle estimate for the low-level and mixed low-level wastes to be addressed is 29,402 m³.

As of September 2005, approximately 26,474 m³ (cumulative) of low-level and mixed low-level waste were dispositioned. DOE plans to disposition all of the remaining legacy waste by the end of FY 2006 with the exception of a small quantity of Resource Conservation and Recovery Act “troublesome” waste. 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 through the application of pollution prevention principles. Disposal of legacy waste is critical to accelerating cleanup of the site.

In FY 2007, the following activities are planned

- Submit annual Site Treatment Plan to the Ohio Environmental Protection Agency.
- Procure onsite treatment facility vendor for problematic waste streams (procurement of the onsite treatment facility is a long-lead time activity).
- Treat and dispose of 659 m³ of troublesome waste.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	26,474	28,081	28,740	29,402	98%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Disposed of 6,372 m³ of legacy waste (FY 2005) • Dispose of 1,607 m³ of legacy waste (September 2006) • Complete Site Treatment Plan milestone to ship mercury for processing. (December 2006) • Submit annual Site Treatment Plan to the Ohio Environmental Protection Agency. (January 2007) 					

PO-0040 / Nuclear Facility D&D-Portsmouth (life-cycle estimate \$5,450,055K) 38,936 137,363 131,202

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Remedial action, decontamination and decommissioning, and surveillance and maintenance activities at the Portsmouth Gaseous Diffusion Plant are necessary due to contamination resulting from the plant's 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 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 will develop procurement strategies and evaluate 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 2005, over 8,000 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 cumulative treated over 22 million gallons of groundwater and removed over 180 gallons of trichloroethylene.

In FY 2007, the following activities are planned.

- Continue operations of the X-701B groundwater remedy.
- Begin activities to remove 14 excess, inactive facilities, and complete the decontamination and decommissioning activities of the 14 excess facilities.
- Continue the transition of the Portsmouth Gaseous Diffusion Plant to final shutdown, which includes initiating the removal of material and equipment no longer required for cold standby operations or infrastructure support and other activities leading up to preliminary decontamination and decommissioning activities.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	19	20	20	33	61%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Initiated construction of X-701B Plume remediation technology, pending approved Decision Document (FY 2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Processed approximately 42 million gallons of water through Groundwater Pump and Treat facilities (FY 2005)
- Complete installation of X-701B Oxidant Injection System and begin operations (September 2006)
- Begin activities to remove 14 excess, inactive facilities and initiate decontamination and decommissioning of the excess facilities (September 2007)

PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund) (life-cycle estimate \$12,233K)

616 600 410

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 2007, the following activities are planned.

- 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 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • 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 2005) • Defended against legal claims filed against the Government's contractors (FY 2005) • Defend against legal claims filed against the Government's contractors (September 2006/September 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- 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 2006/September 2007)

PO-0104 / Portsmouth Community and Regulatory Support (D&D Fund) (life-cycle estimate \$7,772K)..... 280 288 298

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 2007, the following activities are planned.

- Continue to support the Ohio Environmental Protection Agency.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Supported to the Ohio Environmental Protection Agency associated with the Portsmouth Decontamination and Decommissioning and solid waste stabilization and disposition activities (FY 2005) • Support to the Ohio Environmental Protection Agency associated with the Portsmouth Decontamination and Decommissioning and solid waste stabilization and disposition activities (September 2006/September 2007) 					

Total, Portsmouth/Paducah Project Office..... 422,564 422,620 355,311

Explanation of Funding Changes

FY 2007 vs.
FY 2006
(\$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.	105
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PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion

▪ Decrease in funding reflects the current construction cost and schedule estimate.	-15,216
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Portsmouth Gaseous Diffusion Plant

PO-0011 / NM Stabilization and Disposition-Portsmouth Other Uranium Facilities Management

▪ Increase is due to the processing of highly enriched uranium materials at the Nuclear Fuel Services facility.	9,084
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PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion

▪ Decrease in funding reflects the current construction cost and schedule estimate.	-15,216
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PO-0041 / Nuclear Facility D&D-Portsmouth GCEP

▪ No significant change.	225
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Uranium Enrichment Decontamination and Decommissioning Fund

D&D Activities

PA-0013 / Solid Waste Stabilization and Disposition

▪ Increase due to activities for low-level and Toxic Substance Control Act waste disposal; continuation of waste operations with disposal of mixed low-level waste and newly generated waste; plus the characterization, repackaging, and disposal of low-level waste and Toxic Substance Control Act legacy waste; and the disposal of 775 m ³ of Toxic Substance Control Act waste.	9,634
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FY 2007 vs. FY 2006 (\$000)

PA-0040 / Nuclear Facility D&D-Paducah

- Decrease in funding is due to reduced funding needs of the scrap metal removal subproject as it nears its scheduled completion in the third quarter of FY 2007..... -16,914

PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund)

- Decrease is due to lower projected litigation expenses..... -178

PA-0103 / Paducah Community and Regulatory Support (D&D Fund)

- No significant change. 83

PO-0013 / Solid Waste Stabilization and Disposition

- Decrease reflects the completion of the legacy low-level waste scope in FY 2006, with only the troublesome waste streams remaining. -32,575

PO-0040 / Nuclear Facility D&D-Portsmouth

- Decrease is due to aligning funding with the planned workscope in the baseline. -6,161

PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund)

- Decrease due to lower projected litigation expenses. -190

PO-0104 / Portsmouth Community and Regulatory Support (D&D Fund)

- No significant change. 10

Total, Portsmouth/Paducah Project Office -67,309

02-U-101, Depleted Uranium Hexafluoride Conversion Project Paducah, Kentucky and Portsmouth, Ohio (PA-011X/PO-0011X)

1. Significant Changes

The Project has progressed through Conceptual, Preliminary and Final Design. Site work is complete and approval for all remaining construction activities including the Administration Building, Warehouse and Conversion Building was granted by September 30, 2005. A Project Performance Baseline was approved by the DOE Energy System Acquisition Advisory Board on September 30, 2005.

This budget request presents project information differently from past requests based on the new format and DOE Order 413.3 guidelines. The FY 2007 Total Project Cost no longer includes operations costs (\$418,965,000) for the first five years of operations. Specifically, the FY 2006 Total Project Cost was \$781,172,000; for FY 2007 TPC is \$345,507,000. Based on the conclusions of the External Independent Review, the total estimated cost has been reduced by \$16,700,000.

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.....	1Q FY2002	3Q FY2003	2Q FY2004	4Q FY2005	N/A	N/A
FY 2002.....	1Q FY2002	3Q FY2003	2Q FY2004	4Q FY2005	N/A	N/A
FY 2004.....	1Q FY2003	1Q FY2005	3Q FY2004	3Q FY2007	N/A	N/A
FY 2005.....	1Q FY2003	1Q FY2005	3Q FY2004	2Q FY2008	N/A	N/A
FY 2006.....	1Q FY2003	4Q FY2005	3Q FY2004	3Q FY2007	N/A	N/A
FY 2007.....	1Q FY2003	4Q FY2005	3Q FY2004	1Q FY2008	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 2001.....	365,000	96,800	0	461,800	N/A	461,800
FY 2002.....	365,000	96,800	0	461,800	N/A	461,800
FY 2004.....	296,460	435,112	0	731,572	N/A	731,572
FY 2005.....	375,263	429,055	0	804,318	N/A	804,318

(Fiscal Quarter)

	TEC	OPC, Except D&D Costs	Offsetting D&D Costs	Total Project Costs	Validated Performance Baseline	Preliminary Estimate
FY 2006.....	343,682	437,490	0	781,172	N/A	781,172
FY 2007.....	326,179	19,328	0	345,507	345,507	N/A

4. Project Description, Justification, and Scope

Beginning with the Manhattan Project during World War II, large quantities of uranium were enriched for national defense and civilian purposes. Uranium enrichment by the Department of Energy (DOE) and its predecessor agencies was accomplished using gaseous diffusion technology, in which gaseous uranium hexafluoride is diffused through a porous barrier resulting in a stream of uranium hexafluoride enriched in uranium 235 (U235) and a stream of uranium hexafluoride depleted in U235. During the last five decades in which uranium enrichment took place, the depleted uranium hexafluoride accumulated as a byproduct of the enrichment process.

This legacy of approximately 700,000 metric tons of depleted uranium hexafluoride is currently stored at the Paducah site in Kentucky and the Portsmouth site in Ohio. Depleted uranium hexafluoride which was stored at the East Tennessee Technology Park has all been moved to the Portsmouth site. This depleted uranium hexafluoride inventory is stored outdoors in about 64,000 large steel cylinders, typically 12 feet long by 4 feet in diameter.

Since 1990, the DOE has conducted an active cylinder management program to minimize risks to workers, the public, and the environment. The activities of the management program include conducting annual cylinder storage inspections; moving cylinders to properly spaced storage locations on upgraded, concrete storage yards; coating cylinders to inhibit corrosion; and developing and implementing options to repair cylinders exhibiting accelerated corrosion. This effort is consistent with the consent agreements between the Department and the States of Ohio and Tennessee, and with Recommendation 95-1 of the Defense Nuclear Facilities Safety Board. Through conversion of the depleted uranium hexafluoride to more stable forms, this project will significantly reduce potential environmental and safety hazards.

The mission of the Depleted Uranium Hexafluoride Conversion Project is to provide for the conversion of the DOE depleted uranium hexafluoride inventory to a more stable chemical form suitable for beneficial use or disposal. The project planning for construction of plants at Paducah and Portsmouth was authorized by Public Law 105-204, a final Environmental Impact Statement for each site was completed July 20, 2004, and construction started on July 27, 2004, per Public Law 107-206.

The project will provide for the design and construction of conversion facilities at Paducah and Portsmouth and cylinder surveillance and maintenance at those sites; operation of the Paducah and Portsmouth facilities to convert the depleted uranium hexafluoride inventory; disposal or reuse of all converted depleted uranium hexafluoride, byproducts, and wastes; and for storage of low enriched uranium and natural assay uranium included in the inventory. The scope to perform surveillance and maintenance, overpack design and transportation of the East Tennessee Technology Park cylinder inventory to Portsmouth was initially included in the award to the depleted uranium hexafluoride conversion contractor. This scope was moved to be performed by the Oak Ridge cleanup contractor.

These conversion facilities will convert the Department's inventory of the depleted uranium hexafluoride to a more stable chemical form using the contractor's dry conversion process. This is a continuous process in which the depleted uranium hexafluoride is vaporized and converted to uranium oxide (predominantly U₃O₈) in a fluidized bed conversion unit. The resulting powder will be collected and packaged for transportation, beneficial use/reuse, and/or disposal. The final disposal site has not yet been selected. Each facility will consist of a building of approximately 55,000 square feet to house the equipment required for the dry conversion process, offices for plant personnel, and ancillary rooms. To support the conversion operations, additional buildings totaling approximately 36,500 square feet are required.

In FY 2005, the conversion contractor assumed cylinder surveillance and maintenance of the DOE inventory of the depleted uranium hexafluoride, low-enrichment uranium hexafluoride, and natural assay uranium hexafluoride cylinders at the Paducah and Portsmouth gaseous diffusion plants (including cylinders that are empty and those that contain a residual "heel" of depleted uranium hexafluoride). The contractor will also be responsible for the disposition of conversion products, all waste forms, and empty and heel cylinders, including the planned sale of the hydrogen fluoride byproduct.

Converting the Department's entire depleted uranium inventory is expected to take about 25 years of plant operations. The Department is examining the alternatives to increase production capacity at the Portsmouth facility to accelerate conversion of the current inventory.

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

Compliance with Project Management Order

- o Critical Decision - 0: Approve Mission Need - FY 2000
- o Critical Decision - 1: Approve Preliminary Baseline Range - FY 2003
- o External Independent Review Final Report - 4Q FY 2005
- o Critical Decision - 2: Approve Performance Baseline - 4Q FY 2005
- o Critical Decision - 3: Approve Start of Construction - 4Q FY 2005 (Groundbreaking occurred July 2004 as mandated by P.L. 107-206)
- o Critical Decision - 4: Approve Start of Operations - 3Q FY 2008

5. Financial Schedule

(dollars in thousands)

Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Design

FY 2002 a/.....	12,187	12,187	0
FY 2003	0	0	11,710
FY 2004	44,015	44,015	17,150

(dollars in thousands)			
	Appropriations	Obligations	Costs
FY 2005	4,001	4,001	31,343
Total, Design	60,203	60,203	60,203
Construction			
FY 2004	53,276	53,276	4,165
FY 2005	95,199	95,199	29,091
FY 2006	84,945	84,945	154,826
FY 2007	32,556	32,556	66,632
FY 2008	0	0	11,262
Total, Construction	265,976	265,976	265,976
Total, TEC	326,179	326,179	326,179

a/ Includes \$2,187,000 of Memorandum of Agreement funding in FY 2002.

6. Total Estimated Costs

(dollars in thousands)		
	Current Estimate	Previous Estimate
Construction		
Construction / All Other Construction.....	158,295	163,098
Construction / Contingency	32,299	49,000
Construction / Equipment.....	54,725	54,725
Construction / Site Preparation.....	20,657	20,657
Total, Construction	265,976	287,480
Preliminary and Final Design	60,203	56,202
Total, TEC	326,179	343,682

Other Project Costs

(dollars in thousands)		
	Current Estimate	Previous Estimate
Conceptual Planning.....	19,328	18,526

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
TEC (Design)	60,203	N/A	N/A	N/A	N/A	N/A	TBD or N/A	60,203
TEC (Construction)	188,082	66,632	11,262	N/A	N/A	N/A	TBD or N/A	265,976
OPC Other than D&D	19,328	N/A	N/A	N/A	N/A	N/A	TBD or N/A	19,328
Total, Project Cost	267,613	66,632	11,262	0	0	0	0	345,507

8. Related Operations and Maintenance Funding Requirements

Start of Operations or Beneficial Occupancy (fiscal quarter).....	3Q FY2008
Expected Useful Life (number of years)	25
Expected Future start of D&D for new construction (fiscal quarter)	3Q FY 2033

(Related Funding requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Estimate	Prior Estimate	Current Estimate	Prior Estimate
Operations	75,000	78,300	2,075,566	N/A
Maintenance	3,400	3,400	98,255	N/A
Total, Related Funding	78,400	81,700	2,173,821	0

Prior estimate was based on annual cost starting FY 2012. Current year estimate is based on start of operations FY 2008. Life Cycle cost was not provided in prior year Congressional Budget Request.

9. Required D&D Information

This section is not applicable because project requested construction funding prior to FY 2007.

10. Acquisition Approach (formerly Method of Performance)

The DOE Portsmouth/Paducah Project Office manages the current performance-based, cost-plus contract to design, construct, and operate through February, 2011, depleted uranium hexafluoride

conversion facilities at the Department's Gaseous Diffusion Sites in Paducah, Kentucky, and Portsmouth, Ohio.

The contract establishes performance requirements and incentives for the accomplishment of the Statement of Work. The design work was performed on a fixed-fee basis. An incentive fee will be paid based on the successful completion of construction and the attainment of cost and schedule targets. An award fee will be paid for operation of the plants based on the quantity and cost of depleted uranium hexafluoride processed and other associated performance requirements.

In addition to activities included within the scope of the depleted uranium hexafluoride procurement, the Department will be performing the requisite activities to comply with the Department's directives associated with program and project management. DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, which prescribes a formal process for securing critical acquisition decisions and implementing various project management reform initiatives, will be applied using the tailoring approach described in the Order.

The Department is tracking activities to the contractor's current integrated project schedule. A working life-cycle baseline was approved to establish and control the technical scope, cost, and schedule parameters of this project and to integrate these activities with other environmental management activities. The Department approved the comprehensive baseline in accordance with the DOE Order 413.3 critical decision process, including the phased approach to design and construction necessary to comply with Public Law 107-206, on September 30, 2005.

Richland

Funding by Site

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
Hanford Site	957,180	803,268	821,227
Richland Operations Office	13,124	15,257	18,332
Total, Richland	970,304	818,525	839,559

Site Overview

The Richland Operations Office manages cleanup of the Hanford Site, with the exception of the waste 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 years were 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.) Support facilities are located in the 1100 Area, most of which have been turned over to the local community. Soil and groundwater contamination from past operations resulted in placement of the 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, River Corridor, and the Fast Flux Test Facility project.

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. Originally four separation plants were to be built, two in each area. Three plants were built, but the process worked so well that only two plants were

needed. The third plant, U Plant, was 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.

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 (PUREX).
- 200 West Area: The 200 West Area has three processing plants, T Plant, U Plant and Reduction-Oxidation. T Plant and U Plant were nearly identical in function at the time they were constructed in 1943 and 1944. Reduction-Oxidation 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 Reduction-Oxidation have been shut down, and T Plant operates as the site's decontamination facility. It has not conducted plutonium processing since 1956. Connected to Reduction-Oxidation is the 233-S Plutonium Concentration Facility, a building originally built for concentrating plutonium before it was sent to the Plutonium Finishing Plant. 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.

River Corridor

The River Corridor contains the following areas:

- 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, and support facilities whose main mission is environmental research.
- 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 Disposal Facility for placement in safe, long-term storage.

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 meantime, the reactor is checked via a remote system.

- 100 KW & KE Areas: K-West and K-East were built in 1955 and were shut down in 1970 and 1971. Even though the reactors are shut down, their fuel storage basins contained nearly 2,300 tons of spent reactor fuel. The fuel came from N Reactor operations during the 1970s and 1980s. The fuel was not processed in the usual manner because the PUREX plant that normally dissolved and separated reactor fuel was shut down in 1972 because there was no need for additional plutonium. Removing the highly radioactive spent nuclear fuel from the K Basins and safely storing it away from the Columbia River is one of the highest cleanup priorities at the Hanford Site.
- 100 N Area: N Reactor operated from 1963 to January 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 10 have been demolished and 83 have been cleaned out and closed. The N Reactor spent fuel was put into canisters and will eventually be processed for storage and stored with spent fuel from the K Basins.
- 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 are being placed into safe storage, or a "cocooned" state. Cleanup of soil in the 100-D Area began in 1996. Since then over 600,000 tons of contaminated soil has been moved away from the nearby Columbia River to the Environmental Restoration Disposal Facility.
- 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. Current plans call for placing H Reactor into safe storage.
- 100 F Area: F Reactor is partially torn down and approaching the "cocooned" state. It 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.

Fast Flux Test Facility Project

Fast Flux Test Facility planning began in 1965, during the heyday of 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 late 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. 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.

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 cleanup focus 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. This includes cleanup of facilities/waste sites in the 100 Area, 200 Area and 300 Area, 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 be continued.

Site Completion (End State)

The Federal government is expected to maintain ownership of most of the site once cleanup is complete, planned for 2035. 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 and the Resource Conservation and Recovery Act decision processes.

- **K Basin Closure:** The K Basins are the highest risk reducing projects. Significant risk reduction has occurred with the packaging and movement of approximately 2,100 metric tons of degrading spent nuclear fuel to dry storage in the 200 Area Central Plateau. Removal of radioactive sludge from wet storage in the K Basins near the Columbia River is currently underway. Sludge treatment into a waste disposal form is planned to be completed by FY 2009. Removal and disposal of the K Basins themselves is planned to be completed by end of FY 2010. This project's completions will mean the removal of more than 55 million curies of radioactivity from near the Columbia River to the 200 Area Central Plateau – more than 95 percent of the radioactivity in Hanford's River Corridor.
- **Fast Flux Test Facility:** By FY 2007, DOE plans to have completed deactivation, including reactor defueling; fuel washing, dry packaging, storage (in storage casks), and disposition of 376 reactor fuel assemblies; and draining of 260,000 gallons of sodium in operating plant systems, reactor vessel and fuel storage vessels. DOE will then transition the facility into long-term surveillance and maintenance.
- **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. 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 transfer to the Department of Interior. At that time, the footprint of active Hanford cleanup will be reduced from the present 586 square miles to about 75 square miles.
- **Transuranic Retrieval:** All contact-handled suspect transuranic waste in the low-level burial grounds will be retrieved by 2012, with an expectation that about half will be disposed as transuranic waste and half as low-level waste and mixed low-level waste. Retrieval of the remote handled caissons will be performed by 2015. Processing of transuranic waste for shipment to the Waste Isolation Pilot Plant will occur in the Waste Receiving and Processing facility. 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 exit strategy for the groundwater issues will be fully developed and implemented by 2012, except for contamination related to tank farm operable units. 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.

- **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; clean up approximately 1,000 facilities on the Central Plateau and South Hanford Industrial Area; and disposition Cold War legacy wastes remaining at the Pacific Northwest National Laboratory.

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 Comprehensive Environmental Response Compensation and Liability Act remedial action provisions and with the Resource Conservation and Recovery Act 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
- M-016-69, Complete All Interim 300 Area Remedial Actions by September 2015

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-016-00A, Complete All Interim Response Action for the 100 Areas by December 2012

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 RCRA Treatment, Storage, and Disposal Units by December 2008
- M-16-00, Complete Remedial Actions for all Non-Tank Farm Operable Units by December 2024

Critical Project Uncertainties and Assumptions

Richland is currently addressing a number of significant known uncertainties including:

- Waste Isolation Pilot Plant receiving schedule for transuranic waste from Hanford
- The opening date of 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
- 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
- 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
- Remediation of Central Plateau waste sites will need to be coordinated with the Office of River Protection's tank farm activities

Contract Implementation and Planning 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). EM is developing an acquisition strategy for new contract(s); the majority of cleanup activities will be placed under new contracts in FY 2007.

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

- Spent Nuclear Fuel project completion will have removed more than 55 million curies of radioactivity – more than 95 percent of the radioactivity in Hanford's River Corridor
- Complete Reactor Interim Safe Storage for five of nine reactors at Hanford
- Plutonium legacy hold-up removal completed in the Plutonium Finishing Plant
- Reduce risks associated with the radioactive fuel and liquid sodium coolant at the Fast Flux Test Facility

Longer Term

- Complete final Records of Decision for the Central Plateau and initiate remediation activities.
- Contact-Handled transuranic waste retrieval completed by 2010 reducing the environmental risks in the 200 Area
- Complete remedial actions and facility demolition in the 100 B/C, 100F and 100H areas
- Begin interim safe storage for KE, KW and N reactors – 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 \$50,437,000.

Funding Schedule by Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
Hanford Site					
2012 Completion Projects					
RL-0011 / NM Stabilization and Disposition-PFP	194,083	196,688	81,651	-115,037	-58.5%
RL-0012 / SNF Stabilization and Disposition.....	155,390	57,896	81,069	23,173	+40.0%
RL-0013B / Solid Waste Stabilization and Disposition- 2012.....	0	0	39,876	39,876	+100.0%
RL-0041 / Nuclear Facility D&D-River Corridor Closure Project.....	164,542	176,722	221,022	44,300	+25.1%
RL-0043 / HAMMER Facility.....	0	7,425	0	-7,425	-100.0%
RL-0044 / B-Reactor Museum	0	1,980	0	-1,980	-100.0%
Subtotal, 2012 Completion Projects.....	514,015	440,711	423,618	-17,093	-3.9%
2035 Completion Projects					
HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	991	1,795	0	-1,795	-100.0%
RL-0013 / Solid Waste Stabilization and Disposition-200 Area.....	187,213	165,448	0	-165,448	-100.0%
RL-0013C / Solid Waste Stabilization and Disposition- 2035.....	0	0	188,989	188,989	+100.0%
RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone - 2035.....	79,535	73,753	75,973	2,220	+3.0%
RL-0040 / Nuclear Facility D&D-Remainder of Hanford - 2035	126,165	70,106	94,270	24,164	+34.5%
RL-0080 / Operate Waste Disposal Facility ...	3,546	5,803	3,534	-2,269	-39.1%
RL-0100 / Richland Community and Regulatory Support.....	13,124	15,257	18,332	3,075	+20.2%
Subtotal, 2035 Completion Projects.....	410,574	332,162	381,098	48,936	+14.7%
Total, Hanford Site	924,589	772,873	804,716	31,843	+4.1%
Non-Defense Environmental Cleanup					
Fast Flux Test Reactor Facility D&D					
RL-0042 / Nuclear Facility D&D-Fast Flux Test Facility Project	45,715	45,652	34,843	-10,809	-23.7%
Total, Richland	970,304	818,525	839,559	21,034	+2.6%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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RL-0011 / NM Stabilization and Disposition-PFP (life-cycle estimate \$2,219,100K).....	194,083	196,688	81,651
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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 place the special nuclear materials and residues in a suitable form for long-term storage; cleanout the 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.

To date, the Plutonium Finishing Plant has packaged 2,275 containers that meet DOE Standard 3013 (50 year container design life) and completed repackaging of over 3,400 kilograms of bulk plutonium residues for eventual shipment to the Waste Isolation Pilot Plant. One hundred percent of legacy plutonium holdup has been removed so that decommissioning and decontamination can proceed, and 12 facilities have been demolished.

The end-state for this PBS is dismantlement of the majority of the nuclear facilities in the Plutonium Finishing Plant Complex to slab-on-grade. The lack of an offsite storage location for special nuclear materials has caused a delay in decommissioning and decontamination of facilities. However, some dismantlement and demolition can continue in ancillary facilities.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is scheduled for early 2006.

In FY 2007, the following activities are planned:

- Complete dismantlement/demolition of the 241-Z facility.
- Maintain Plutonium Finishing Plant complex facilities including vaults.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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)	0	1	1	2	50%
Nuclear Facility Completions (Number of Facilities).....	12	15	18	60	30%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> Completed legacy holdup removal and packaging/disposition of material/waste (FY 2005) Dismantle 232-Z facility to slab-on-grade (September 2006) Demolish three nuclear facilities (September 2007) 					

RL-0012 / SNF Stabilization and Disposition (life-cycle estimate \$2,206,382K) 155,390 57,896 81,069

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

This project supports Richland’s mission to clean the River Corridor by performing all activities to remove the majority of the radioactive source term and risk from the 100 K Areas. The project packages and moves 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, the project will containerize up to 60 cubic meters of radioactive sludge (estimated to weigh approximately 18 metric tons) that currently resides in the basins, as well as, manage activities associated with legacy and non-legacy spent nuclear fuel formerly managed under HQ-SNF-0012X. The K Basin facilities are well past their design lives and are a major threat to the environment due to the potential for radioactive basin water to the surrounding soil and the Columbia River.

The end-state of this PBS 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; containerization of radioactive sludge from the K Basins; permanent disposal of debris from the K Basins in the 200 Area; transport K Basin water to the 200 Area for treatment and disposal; and consolidation of all non defense production spent nuclear fuel in the Central Hanford 200 Area pending final disposition. All 100 Area facilities will be transitioned to the River Corridor Contractor (PBS RL-0041, Nuclear Facility

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Decontamination and Decommissioning-River Corridor Closure Project) 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 along with removal of storage racks to improve sludge removal operations. Final debris and water removal is to follow, supporting complete removal of all fuel, sludge, debris, and water from K-East Basin. 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.

As of September 2005, all spent nuclear fuel has been removed from the K Basins. The following has been completed: welded 379 multi canister overpacks with spent fuel stored inside; shipped approximately four cubic meters of sludge to T-Plant for treatment; containerize K-East Basin sludge into engineered containers for later transfer and treatment; grouted discharged chutes in K-East and K-West Basins, which physically isolated the basins from their respective reactor facilities; initiated permanent water removal in both basins by draining down the discharge chute water; finished removal of 7,211 empty fuel canisters from K-West Basin; completed 50 percent of canister lid removal activity (3,895 of 7,636); and removed 125 fuel canister racks from K-West Basin.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is scheduled for early 2006.

In FY 2007, the following activities are planned:

- Provide surveillance and maintenance of K-West Basin systems.
- Containerize all sludge from K-West Basin for disposition. Transfer all waste products from K-East Basin and K-West Basin to interim or final disposition facilities.
- Deactivate assigned 100 K Area facilities sufficient to achieve end-point criteria for facility transfer to River Corridor Closure contractor.
- Provide storage for legacy fuel (Shippingport fuel) in the Canister Storage Building.
- Operate the 200 Area Interim Storage Area.
- Increase reflects additional work scope due to more challenging, as-found conditions of sludge and debris; implementation of improved techniques for sludge containerization; and application of a systematic approach to design, testing, and operation of sludge transfer activities.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Complete Removal of K-East sludge and transfer to K-West (January 2006) • Complete containerization of K-West sludge (June 2006) • Complete transfer of containerized sludge from the K-East Basin to engineered containers within the K-West Basin (May 2007) • Complete bulk sludge containerization of the K-West Basin (July 2007) 					

**RL-0013B / Solid Waste Stabilization and Disposition-
2012 (life-cycle estimate \$245,253K)..... 0 0 39,876**

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

EM has created this new PBS and transferred scope from RL-0013 to allow for more focused management for completing work scope in the near term as a new project. 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. 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.

As of September 2005, 3,000 cubic meters of suspect transuranic waste have been retrieved.

In FY 2007, the following activities are planned:

- Retrieve 2,400 cubic meters of suspect transuranic waste, an increase of approximately 600 cubic meters over FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Retrieve 2,400 m3 of suspect transuranic waste (September 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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RL-0041 / Nuclear Facility D&D-River Corridor

Closure Project (life-cycle estimate \$4,247,531K) 164,542 176,722 221,022

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 due to the River Corridor Closure Project being 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. The River Corridor project has the goal of ensuring that the land is sufficiently clean to support transfer to the Department of Interior. At that time, the footprint of active Hanford cleanup will be reduced from the present 586 square miles to about 75 square miles.

As of September 2005, activities completed included: cocooning 4 of 8 reactors; remediation of approximately 349 of the 761 life-cycle waste sites and burial ground, and 47 of 379 excess facilities; the removal of 2.2 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 million metric tons of remediation waste in the Environmental Restoration Disposal Facility.

OECM has not yet performed an external independent review. This review is scheduled in early 2006.

In FY 2007, the following activities are planned:

- Complete interim remedial action of 48 waste sites, including the 100 B/C Area and a major crib/trench remediation at 100-N Area.
- Increase remedial actions in the 100-D, 100-F and 100-H areas.
- Complete three high priority waste site interim remedial actions in the 300 Area.
- Continue decommissioning and demolition of several 100 Area ancillary facilities in support of upcoming reactor cocooning activities.
- Continue demolition of facilities in the 300 Area to meet near term Tri-Party Agreement milestone.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Conduct preparation activities for upcoming demolition of the 324 and 327 nuclear facilities.
- Conduct activities to prepare for upcoming Interim Safe Storage of remaining reactors at N, KE, KW, and potentially B all of which are located in the 100 Area.
- Continue operation of the Environmental Restoration Disposal Facility, receiving more than 450,000 tons of remediation waste.
- Initiate construction of new disposal Cells 7 and 8 to maintain capacity at the Environmental Restoration Disposal Facility.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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).....	0	1	2	14	14%
Radioactive Facility Completions (Number of Facilities)	8	10	11	73	15%
Industrial Facility Completions (Number of Facilities).....	39	43	47	292	16%
Remediation Complete (Number of Release Sites)	349	386	419	761	55%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed construction of cells 5 and 6 at the Environmental Restoration Disposal Facility (FY 2005) • Initiated remedial actions for remaining waste sites for 100 F Area (FY 2005) • Completed decommissioning/demolition of three Radiological Facilities and eight Industrial Facilities (FY 2005) • Completed remediation action of 49 release sites (FY 2005) • Complete closure of non-permitted mixed waste units in 324 Building Rec. B&D Cells (October 2005) • Complete Deactivation, Decontamination, Decommissioning, and Demolition of the 313 and 314 Facilities (September 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) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- 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 maintain capacity at the Environmental Restoration Disposal Facility (September 2007)
- Complete decommissioning and demolition of six facilities (September 2007)

RL-0043 / HAMMER Facility (life-cycle estimate \$7,425K) 0 7,425 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 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

RL-0044 / B-Reactor Museum (life-cycle estimate \$1,980K) 0 1,980 0

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

This PBS was a Congressionally Directed Activity in FY 2006. \$990,000 was provided for B-reactor preservation and \$495,000 each for preservation of the East Tennessee Technology Park and Los Alamos National Laboratory formerly Manhattan Project sites.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository (life-cycle estimate \$5,410K)..... 991 1,795 0

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

This PBS was created to manage the non-legacy SNF originating from non-DOE activities to facilitate

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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.

In FY 2007, the following activities are planned:

- No activity planned.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Receive up to two foreign research reactor spent nuclear fuel shipments (September 2006) • Receive up to three domestic research reactor spent nuclear fuel shipments (September 2006) 					

**RL-0013 / Solid Waste Stabilization and Disposition-
200 Area (life-cycle estimate \$0K) 187,213 165,448 0**

Scope of this PBS has been separated under RL-0013B and RL-0013C in FY 2007 to allow more focused management for completing work scope in the near term. The life-cycle for this PBS is zero because the associated life-cycle costs have been comparably adjusted to their follow-own PBSs.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

**RL-0013C / Solid Waste Stabilization and Disposition-
2035 (life-cycle estimate \$5,812,172K)..... 0 0 188,989**

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

Scope of this PBS includes storage of spent nuclear fuel, processing and shipment to WIPP of transuranic waste, processing and disposition of mixed low-level waste, and low-level waste generated at the Hanford Site and other DOE and Department of Defense facilities. Retrieval of suspect contact-handled transuranic waste in the low-level burial grounds has been transferred to PBS RL-0013B. The transfer of 72 Shippingport spent nuclear fuel elements to the Canister Storage Building is complete for this PBS. A small amount of spent nuclear fuel will be transferred to the Canister Storage Building during transuranic

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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waste retrieval operations. This PBS also maintains 1,936 cesium and strontium capsules, stored in the Waste Encapsulation and Storage Facility, which are awaiting shipment to a geological repository.

About 27,000 cubic meters of transuranic waste is to be processed and shipped to the Waste Isolation Pilot Plant including transuranic waste in storage, generated during retrieval operations (PBS RL-0013B), Area 618-10/11 remediation, and facility decontamination and decommissioning. Additional sources of transuranic waste may include pre-1970 burial ground remediation and canyon demolition, which could change the forecast volume. Processing of transuranic waste for shipment to the Waste Isolation Pilot Plant will occur in the Waste Receiving and Processing facility or the M-91 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 defueled naval reactor compartments will be disposed in a dedicated trench. About 130,000 cubic meters of low-level waste will be disposed through site closure. This low-level waste is to be retrieved from the low-level waste burial ground, facility demolition, or from other on-site/off-site sources. Effluent Treatment Facility, Liquid Effluent Retention Facility, and Treated Effluent Disposal Facility provide treatment of cleanup generated liquid waste. Other site-wide storage and disposal facilities will be transferred to this PBS in order to consolidate similar activities.

As of September 2005, this PBS has completed 221 transuranic shipments (1,283 cubic meters) to the Waste Isolation Pilot Plant; awarded two thermal treatment contracts and thermally treated 324 cubic meters of mixed low-level waste; treated over 4,000 cubic meters of mixed low-level waste (non-thermal); and completed preparations to treat K Basins North Load-Out Pit sludge at the T Plant.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Treat 1,630 cubic meters of mixed low-level waste and dispose of approximately 2,000 cubic meters of low-level/mixed low-level waste.
- Operate the Waste Receiving and Processing Facility to certify and ship transuranic waste for disposal at the Waste Isolation Pilot Plant.
- Complete thermal treatment of 600 cubic meters of mixed low-level waste.
- Operate the T-Plant Facility to repackage legacy and retrieved transuranic waste for disposal at the Waste Isolation Pilot Plant and repackage and treat mixed low-level waste for disposal on-site.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Operate the Liquid Effluent Facilities to treat and dispose of liquid radioactive/hazardous waste in support of the Hanford Site cleanup.
- Operate the Canister Storage Building for storage of Hanford spent nuclear fuel.
- Provide storage of mixed low-level and transuranic waste prior to treatment/disposal.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	1,288	1,295	1,309	28,369	5%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	43,524	44,732	48,086	53,636	90%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Treat 3,260 m3 contact-handled mixed low-level waste (December 2005) • Treat and dispose of approximately 2,300 m3 of mixed low-level and low-level waste (September 2006) • Retrieve approximately 1,800 m3 of transuranic waste (September 2006) • Treat 1,630 m3 of mixed low-level waste (September 2007) • Complete thermal treatment of 600 m3 of mixed low-level waste (September 2007) 					

**RL-0030 / Soil and Water Remediation-
Groundwater/Vadose Zone - 2035 (life-cycle estimate**

\$1,640,988K) 79,535 73,753 75,973

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 Hanford Site. Groundwater completion activities will follow waste site closure activities by 2035.

There are five main tasks in this workscope: 1) decommission abandoned wells; 2) eliminate or reduce recharge that can drive contaminants to groundwater; 3) complete groundwater remediation of existing plumes; 4) complete integrated monitoring system for the site; and 5) complete characterization, modeling and assessments to support risk based decisions for site closure. These tasks include: 1) field characterization for movement of radionuclides and chemicals in the vadose zone and groundwater; 2)

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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vadose, groundwater and risk assessment modeling capabilities to calculate the cumulative impacts to the Hanford groundwater and Columbia River from past site disposal practices and cleanup and closure actions; 3) assessing the groundwater to determine the type and extent of contamination so that final remediation of the groundwater can be completed; 4) operation of groundwater remediation systems and implementation of alternatives methods to complete actions; 5) site-wide groundwater monitoring; and 6) groundwater well maintenance and decommissioning and drilling.

The end-state and exit strategy for the groundwater issues will be fully developed by 2006 and implemented by 2012. Groundwater completion activities will follow waste tank and waste site closure activities through the 2024 time frame. By 2024, approximately 2,500 abandoned wells will be decommissioned.

As of September 2005: 1) achieved remedial action objective concentrations 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 high-risk wells to eliminate these pathways for contamination reaching the groundwater; 3) completed most of the passive soil gas sampling related to the carbon tetrachloride Dense Non-Aqueous Phase Liquid investigation in the 200 West Area; and 4) continued to operate five pump and treatment system for groundwater remediation.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is scheduled for early 2006.

In FY 2007 the following activities are planned:

- Prevent contaminants from reaching the groundwater by decommissioning an additional 100 unneeded groundwater wells.
- Monitor 700 plus wells for contaminants of concern above drinking water standards.
- Install additional 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.
- Complete Remedial Investigation for carbon tetrachloride groundwater plume (ZP-1 operable unit) and initiate Feasibility Study and Proposed Plan leading to final Record of Decision.
- Implement alternate remediation approach to hexavalent chromium plume for 100 KR4 operable unit.
- Conduct site-wide cumulative human health and ecological risk analysis using input from all site assessment programs to support remediation alternative selection and site closure decisions.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Operate existing groundwater remediation systems to reduce risk.
- Complete focused feasibility study and proposed plan for the 300 Area uranium plume (300-FF-5 operable unit).
- Initiate Remedial Investigation/Feasibility Study Comprehensive Environmental Response, Compensation, and Liability Act of 1980 process for the BP-5 and PO-1 groundwater operable units in 200 East.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Complete upgraded remediation system for 100 D area chromium plume (September 2006) • Complete installation of the Integrated Monitoring Well Network (60 wells) (September 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) 					

RL-0040 / Nuclear Facility D&D-Remainder of Hanford - 2035 (life-cycle estimate \$7,047,090K)..... 126,165 70,106 94,270

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, and approximately 1,000 facilities on the Central Plateau and South Hanford Industrial Area; cleanup and protection of Hanford Groundwater; continuing support for Hanford downwinder 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 and remediation of high risk waste sites containing large inventories of mobile contaminants that are migrating into groundwater plumes; remediation of the canyon facilities,

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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remediation of all 200 Area waste sites and construction of surface barrier caps over waste sites; deactivation and disposition of contaminated equipment; final disposition of Cold War legacy wastes and DOE facilities remaining at the Pacific Northwest National Laboratory; sampling of the Hanford environment to protect public health and safety and ecological and cultural resources; provide minimum safe operations to facilities awaiting to be deactivated and demolished; and repair infrastructure to remedy failing or failed systems.

The PBS end-state will be at the completion of the following activities: facilities demolished and debris buried in the Environmental Restoration Disposal Facility; canyons buried, or have roof replacements for use as above ground radioactive waste disposal for maximum isolation from the environment; waste sites remediated; and Cold War legacy wastes disposed and facilities remediated. Remedial investigations of waste sites in the 200 Area have been initiated and will be completed in FY 2008.

In FY 2007, this PBS includes funding for the Electrical Substation Upgrade. For more information, see the expense funded subproject, Electrical Substation Upgrade, in the Appendix.

As of September 2005, activities completed included: remediated 16 of over 800 life-cycle waste sites and burial grounds and 209 of over 1,000 excess facilities; replaced capital equipment; and changed the emergency alerting system. Other activities included regulatory document development, surveillance and maintenance, infrastructure operations, and downwinder litigation activities.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is scheduled for early 2006.

In FY 2007, the following activities are planned:

- Prepare Comprehensive Environmental Response, Compensation, and Liability Act of 1980/Resource Conservation and Recovery Act decision documentation for waste sites and surplus facilities; continue supporting remedial investigations and confirmatory sampling; and continue follow on remedial design activities for cleanup.
- Complete construction of the A-8 electrical substation upgrade sub-project.
- Continue limited remediation of 31 remaining U Plant Area waste sites.
- Surveillance and maintenance of Environmental Management facilities at the Pacific Northwest National Laboratory (including 325 Radiochemical Processing Laboratory) and other facilities awaiting deactivation and demolition.
- Decontamination and decommissioning of four industrial facilities.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Perform minimum essential infrastructure maintenance and repairs.
- Support downwinder litigation, occupational medicine, and services contracts.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Nuclear Facility Completions (Number of Facilities).....	3	10	10	98	10%
Radioactive Facility Completions (Number of Facilities).....	12	19	19	319	6%
Industrial Facility Completions (Number of Facilities).....	194	195	199	563	35%
Remediation Complete (Number of Release Sites).....	16	21	21	857	2%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the final disposition of five additional facilities (FY 2005) • Continue remediation of B/C Cribs risk (September 2006/September 2007) • Continue U Plant high-risk waste site remediations (September 2006) • Continue U Plant waste site remediations (September 2007) • Complete construction of A-8 Electrical Substation upgrade (September 2007) 					

RL-0080 / Operate Waste Disposal Facility (life-cycle estimate \$85,514K) 3,546 5,803 3,534

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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is scheduled for early 2006.

In FY 2007, 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 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Provided on-going operations of the Hanford Sites waste disposal facilities for the low-level and mixed low-level waste (FY 2005) • Provide on-going operations of the Hanford Sites waste disposal facilities for the low-level and mixed low-level waste (September 2006/September 2007) 					

RL-0100 / Richland Community and Regulatory

Support (life-cycle estimate \$806,349K)..... 13,124 15,257 18,332

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 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. 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Hanford related activities including emergency preparedness activities; and 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.; 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; and 5) Hanford Natural Resources Trustee activities. This PBS scope will end upon completion of the Hanford EM mission in 2035.

As of September 2005, all required permits, fees, and invoices were paid.

In FY 2007, 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.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Provide Payment-in-Lieu-of-Taxes to three counties (Benton, Franklin, and Grant) (FY 2005/September 2006/September 2007) • Supported Washington and Oregon States emergency preparedness and other activities related to Hanford cleanup (FY 2005) • 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 2006/September 2007) • Support Washington and Oregon States emergency preparedness, environmental oversight and other activities related to Hanford cleanup (September 2007) 					

RL-0042 / Nuclear Facility D&D-Fast Flux Test

Facility Project (life-cycle estimate \$811,172K) 45,715 45,652 34,843

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. Sodium drainage from the plant's secondary

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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system, which constitutes 34 percent of the sodium inventory, was completed and activities related to fuel washing, removal, and storage were initiated.

This PBS deactivates and decommissions the Fast Flux Test Facility: a 400-megawatt (thermal) liquid metal (sodium) cooled fast neutron flux nuclear test reactor and 44 support buildings and structures arranged around the central reactor containment building. The deactivation activities consist of reactor defueling; fuel washing, dry packaging, storage (in storage casks), and disposition of 376 reactor fuel assemblies; 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 Hanford's Site 200 Area Waste Treatment Plant; and the shutdown of plant auxiliary systems.

The facility will be taken to its ultimate end-state through decontamination, dismantlement, and demolition or entombment. The facility end-state for the Fast Flux Test Facility containment building, including the defueled reactor vessel, will be determined following preparation of an Environmental Impact Statement and issuance of a Record of Decision. For planning purposes it is assumed the below-grade reactor containment building will be entombed, and the support facilities and structures will be demolished to three feet below grade and backfilled.

At the end of FY 2005, the sodium has been drained from the primary and secondary heat transport loops, intermediate heat exchangers, reactor vessel, and the Sodium Storage Facility vessel. Sodium-potassium was flushed from the in-containment cooling loops and sodium-potassium was drained from the Fuel Storage Facility cooling loop. The sodium drained and transferred to the Sodium Storage Facility constitutes 91 percent of the 260,000 gallons of sodium inventory. Of the original 376 fuel assemblies, 347 fuel assemblies (92 percent) will 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, 400 Area Interim Storage Area or the 200 Area Interim Storage Area. In December 2005, DOE decided to complete deactivation by early FY 2007, not proceed to decontamination, and to transfer the facility to a long-term surveillance and maintenance mode.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is scheduled in early 2006.

In FY 2007, the following activities are planned:

- Complete deactivation of the facility systems.
- Provide surveillance and maintenance of Fast Flux Test Facility and support facilities systems.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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).....	6	7	7	7	100%
Radioactive Facility Completions (Number of Facilities)	0	0	0	23	0%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> Completed washing and packaging a second metric ton heavy metal of Fast Flux Test Facility Spent Nuclear Fuel for disposition (FY 2005) Completed sodium drain of the primary heat transport system loops and the reactor vessel (FY 2005) Complete wash, dry and storage of Fast Flux Test Facility spent nuclear fuel (September 2006) Complete deactivation (March 2007) 					

Total, Richland	970,304	818,525	839,559
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Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Defense Environmental Cleanup

Hanford Site

2012 Completion Projects

RL-0011 / NM Stabilization and Disposition-PFP

- Decrease reflects deferral of major decontamination and decommissioning activities until special nuclear material can be shipped offsite; maintenance of the Plutonium Finishing Plant complex facilities including vaults; and operation of facilities to support special nuclear material storage. -115,037

FY 2007 vs. FY 2006 (\$000)

RL-0012 / SNF Stabilization and Disposition

- Increase reflects additional work scope due to more challenging, as-found conditions of sludge and debris; implementation of improved techniques for sludge containerization; and application of a systematic approach to design, testing, and operation of sludge transfer activities. 23,173

RL-0013B / Solid Waste Stabilization and Disposition- 2012

- Increase reflects this PBS being created by separating work scope from RL-0013 to highlight retrieval of contact handled transuranic waste associated with the Tri-Party Agreement milestone for contact-handled retrievably stored waste which is due December 31, 2010. Additionally, the increase is due to the start of retrieval in the older burial grounds which increases project complexity due to the degraded condition of the buried containers. 39,876

RL-0041 / Nuclear Facility D&D-River Corridor Closure Project

- Increase reflects 1) remedial actions completed in the 100 B/C area and increased remedial actions activities in the 100-D, 100-F, and 100-H Areas; 2) demolition of six ancillary facilities at reactor sites and in the 300 Area; 3) planning activities for remaining reactor cocooning in upcoming fiscal years; 4) activities for construction of new disposal Cells 7 and 8 at Environmental Restoration Disposal Facility; and 5) Risk Assessment activities in support of the final End State and site closure decisions. 44,300

RL-0043 / HAMMER Facility

- This PBS was a Congressionally Directed Activity in FY 2006. -7,425

RL-0044 / B-Reactor Museum

- This PBS was a Congressionally Directed Activity in FY 2006. -1,980

2035 Completion Projects

HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository

- FY 2006 is the last year of funding for this PBS. In FY 2007 funds are transferred to PBS ID-0012B-D, RL-0012, and SR-0012. -1,795

RL-0013 / Solid Waste Stabilization and Disposition-200 Area

- Decrease reflects the transfer of scope to RL-0013B which is in the 2012 control point and to RL-0013C in the 2035 control point within the Defense Environmental Cleanup appropriation. -165,448

FY 2007 vs. FY 2006 (\$000)

RL-0013C / Solid Waste Stabilization and Disposition- 2035

- Increase due to Tri-Party Agreement milestones requiring an increase in the volume of low-level mixed waste (18%) for treatment and repackaging of retrieved transuranic wastes for disposal at the Waste Isolation Pilot Plant..... 188,989

RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone - 2035

- Increase due to completing installation of the passive barrier at 100NR2, implementing the alternative remediation approach at 100KR4, and initiating the Remedial Investigation/Feasibility Study process for BP-5 and PO-1..... 2,220

RL-0040 / Nuclear Facility D&D-Remainder of Hanford - 2035

- Increase is due to remediation activities and reliability projects. Remediation activities (field characterization and regulatory document preparation) not required for FY 2006 compliance were deferred from FY 2006 to FY 2007. These activities must be funded in FY 2007 in order to meet the FY 2008 M-15-00 TPA milestone. The remainder of the difference is attributable to maintenance projects required to sustain site cleanup activities. 24,164

RL-0080 / Operate Waste Disposal Facility

- Decrease reflects 1) additional disposal trenches not being constructed in the Low Level Burial Grounds; 2) a reduction of disposal volumes for low-level waste and mixed low-level waste from onsite generators; and 3) a reduction of low-level waste and mixed low-level waste receipts from offsite generators. -2,269

RL-0100 / Richland Community and Regulatory Support

- Increase in funding is to accommodate Washington and Oregon State assistance as well as various permits, fees, and payments, including the Self-Reliance Foundation and Hanford Natural Resources Trustee activities and Payments-in-Lieu-of-Taxes to the host counties associated with cleanup activities. 3,075

Non-Defense Environmental Cleanup

Fast Flux Test Reactor Facility D&D

RL-0042 / Nuclear Facility D&D-Fast Flux Test Facility Project

- Decrease is due to revised planning to complete facilities deactivation and place the facilities in long term surveillance and maintenance and not to proceed with facilities decontamination and decommissioning directly following deactivation activities. -10,809

Total, Richland..... 21,034

River Protection

Funding by Site

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
River Protection.....	1,059,240	846,946	964,127
Total, River Protection	1,059,240	846,946	964,127

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 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.

Site Description

The site is the largest of the three original defense production sites founded in World War II as part of the Manhattan Project. Hanford 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 the plutonium production days, highly radioactive waste from site operations was piped to underground tanks. In some cases less radioactive waste 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 exist across the nuclear weapons complex reside at Hanford. These materials must be dealt with in a safe and protective manner.

Hanford 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.

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. Sixty-seven of the 177 tanks are suspected to have leaked.

Site Cleanup Strategy/Scope of Cleanup

Office of River Protection's cleanup strategy is a risk-based approach that focuses first on those contaminant sources that are the greatest contributors to risk by 2035. Significant clean-up progress has occurred, for instance:

- Interim stabilization (removal of three-million gallons of pumpable liquids), from Hanford's 149 single-shell tanks has been completed, reducing the risk of future tank leaks to the environment.
- The Waste Treatment and Immobilization Plant is being designed and constructed to vitrify the radioactive tank waste. It will be the largest radiochemical processing facility in the world.
- Retrieval of sludge/saltcake waste from 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, is underway and will be completed in FY 2006.

Site Completion (End State)

The River Protection Project end state goal is by 2035 to clean up the tank waste and tank farms in a compliant manner; immobilize and safely dispose of associated radioactive and chemical wastes; and protect human health, the environment, and Columbia River resources. 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.
- 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 (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:

- Hanford is one of DOE's most complex sites with regard to its regulatory environment and key stakeholder interfaces. This requires significant investment of time to communicate, coordinate, and reach agreement between the various parties.
- Near-term Tri-Party Agreement milestones include:
 - M-62-08 -- Submit Hanford Tank Waste Supplemental Treatment technologies report
 - M-90-11 -- Complete Canister Storage Building construction
 - M-47-00 -- Complete startup/turnover of required transfer systems for first High-Level Waste feed
 - M-45-00 -- Complete closure of all single shell tank farms.

Critical Project 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 retrieval, treatment, disposal, and closure activities.
- Completion of an Environmental Impact Statement addressing tank closure and issuance of a Record of Decision.
- 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 tank closures.
- 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.
- Potential impediments to completing single-shell tank retrievals and conducting single-shell tank closures are attributable to the Cleanup Priority Act passed by Washington State voters in November 2004, and currently being challenged in Federal Court.

- Demonstration of the bulk vitrification technology as the supplemental immobilization path for low-activity waste.

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 Implementation and Planning 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). EM is developing an acquisition strategy for new contract(s), with the majority of cleanup activities placed under new contracts beginning in FY 2007.

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) safely 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: transitioning of the Waste Treatment and Immobilization Plant Conceptual Design from the Tank Farm Management Contractor; 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 performance, cost, and schedule. This contract type is a cost plus incentive fee with cost, schedule, and operational incentives.

Cleanup Benefits

Near Term

- Retrieve waste from sixteen 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.
- In FY 2006, complete construction of the integrated disposal facility for future use in disposing of low-activity waste and mixed low-level.
- Complete demonstration of bulk vitrification in FY 2006 as a supplemental technology to increase the ability to treat and dispose of Hanford's low-activity 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.

Direct maintenance and repair at the Office of River Protection is estimated to be \$27,920,000.

Funding Schedule by Activity

	(dollars in thousands)				
	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
Office of River Protection					
Tank Farm Activities					
ORP-0014 / Radioactive Liquid Tank					
Waste Stabilization and Disposition	342,967	325,721	273,656	-52,065	-16.0%
ORP-0014-T / Radioactive Liquid Tank					
Waste Stabilization and Disposition-HLW					
Legis Proposal	31,793	0	0	0	0%
ORP-0100 / River Protection Community					
and Regulatory Support	0	466	471	5	+1.1%
Subtotal, Tank Farm Activities	374,760	326,187	274,127	-52,060	-16.0%
Waste Treatment and Immobilization Plant					
ORP-0060 / Major Construction-Waste					
Treatment Plant.....	684,480	520,759	690,000	169,241	+32.5%
Total, Office of River Protection.....	1,059,240	846,946	964,127	117,181	+13.8%
Total, River Protection	1,059,240	846,946	964,127	117,181	+13.8%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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**ORP-0014 / Radioactive Liquid Tank Waste
Stabilization and Disposition (life-cycle estimate
\$26,323,717K)**

342,967 325,721 273,656

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 by 2032, 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 7 and 10 miles away. In order to protect the river, the waste must be removed and processed to a form suitable for disposal, and the tanks stabilized. 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. The tanks, ancillary equipment below grade, and any residual waste that cannot be retrieved will be stabilized in place. Above ground facilities will be removed. Appropriate caps and barriers will be used to remediate the contaminated soil surrounding the tanks as required.

The life-cycle cost and completion date are under re-evaluation due to: 1) delays in the Waste Treatment and Immobilization Plant project, 2) scope deferrals, and 3) single-shell tank retrieval technical issues and inefficiencies.

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 continues until all tank waste is stabilized.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Construction of storage facilities where vitrified high-level waste canisters will be stored prior to shipment to a geologic repository.
- Development and demonstration of the bulk vitrification technology for use of supplemental immobilization treatment to the Waste Treatment and Immobilization Plant for low-activity waste.
- Disposal of low-activity waste containers at the Hanford Site and continuing until all tank waste is stabilized.
- Continue packaging 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.
- Provide radiological, nuclear, and process safety for the Waste Treatment and Immobilization Plant through authorization of regulatory actions and execution of a comprehensive inspection program.
- Maintain the tank farms in a safe and compliant manner until the waste is retrieved for processing and the tank farms are closed. To date, the retrieval system design and construction to support waste feed delivery to the Waste Treatment and Immobilization Plant have been initiated; the development of additional single-shell tank retrieval technology demonstrations are ongoing; an accelerated National Environmental Policy Act process for closure of tanks and the study of supplemental treatment technologies has begun; and the Department has submitted the tank closure plan for modification of the Hanford Site Resource Conservation and Recovery Act Part B permit.
- Operate the 222S Laboratory and the 242A Evaporator. Both of these facilities were transferred from the Richland Operations Office to better align the work at the Hanford Site with cleanup and management responsibilities.
- Conduct independent expert reviews and evaluations, baseline and Environment, Safety, Health and Quality activities.

As of September 30, 2005, the interim stabilization of all single-shell tanks has been completed, and waste is being retrieved from these tanks in preparation for interim closure. Waste retrieval from single-shell tanks C-106 (first closure tank), C-202, and C-203 have been completed and S-112 was retrieved to the limit of technology. Construction of the integrated disposal facility for storage of low-activity waste was initiated. Phase I of the Tank Farm Restoration and Safe Operations project was completed and construction was initiated on the Demonstration Bulk Vitrification System Pilot Plant.

OECM has endorsed the lifecycle Total Project Cost of \$26,400,000,000 and schedule completion date of 2032 to be reasonable. OECM has not reviewed the near term (current contract period) performance baseline.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Maintain the Hanford Tank Farms in a safe and environmentally compliant condition.
- Provide site and shared services (electrical, water, roads).
- Operate the 222-S Laboratory and 242-A Evaporator.
- Continue C-Farm Single-Shell Tank retrievals at a reduced pace.
- Perform other near-term Tri-Party Agreement requirements.
- Maintain the integrated disposal facility in a readiness-to-receive-waste mode.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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	9,200	0%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	0	2,500	2,500	310,000	1%
Nuclear Facility Completions (Number of Facilities).....	0	0	0	18	0%
Radioactive Facility Completions (Number of Facilities).....	0	0	0	28	0%
Industrial Facility Completions (Number of Facilities).....	0	0	0	102	0%
Remediation Complete (Number of Release Sites).....	5	5	5	322	2%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed saltcake dissolution retrieval demonstration (FY 2005) • Completed the Tank Farms Restoration and Safe Operations project (Tri-Party Agreement Milestone M-43) (FY 2005) • Integrated Disposal Facility construction complete (May 2006) • Start initial tank waste supplemental treatment (June 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

ORP-0060 / Major Construction-Waste Treatment

Plant (life-cycle estimate \$6,095,479K)..... 684,480 520,759 690,000

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. This facility 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 five major facilities: Pretreatment facility, Low-Activity Waste facility, High-Level Waste facility, Analytical Laboratory, and the Balance of Facilities. The Pretreatment facility will separate the radioactive tank waste into low-activity and high-level fractions. The high-level fraction will be sent to the High-Level Waste facility for immobilization (i.e., vitrified into glass), ready for disposal at a Federal repository. Approximately 40 percent of the low-activity waste fraction will be immobilized (vitrified into glass) in the Waste Treatment 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. Office facilities, chemical storage, site utilities, and infrastructure are provided as part of the Balance of Facilities.

The end-state of this construction project will be the completion of the Waste Treatment and Immobilization Plant hot commissioning. The FY 2007 funding request reflects a \$5,781,000,000 Total Estimated Cost for this project and associated project schedule. Due to seismic and other concerns, the project is being re-examined. Thus, the FY 2007 and out-year budget requests do not reflect the results of the ongoing effort to re-baseline the project. The re-baselining is expected to significantly affect the out-year requirements and the project schedule. In order to provide the best and most accurate information to Congress, the State of Washington, and other interested parties, the Department has directed the WTP contractor (Bechtel National, Inc) to prepare a more detailed and updated estimate at completion. Once submitted, the U.S. Army Corps of Engineers will perform an independent review of the estimate at completion that is anticipated to be completed by the summer of 2006. At that point, the Department will be able to provide a more accurate and verifiable picture as to the overall cost and completion date.

In FY 2007, the following activities are planned for the:

- Pretreatment and High-Level Waste Facilities: begin construction to ramp-up critical path work; target engineering effort to increase the time between design completion and start of construction activities; require procurements to continue with delivery of equipment which was substantially complete prior to work stoppage; commence construction of concrete walls and slabs at the upper levels of the facility, as well as, continue installation of structural steel; complete piping modules for placement in one of

Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Defense Environmental Cleanup

Office of River Protection

Tank Farm Activities

ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition

- Decrease is due to the curtailment of work on the Bulk Vitrification Demonstration System which includes not proceeding to construction and not completing up to 50 waste boxes, and further reduction in Single-Shell Tank retrievals..... -52,065

ORP-0100 / River Protection Community and Regulatory Support

- No significant change. 5

Waste Treatment and Immobilization Plant

ORP-0060 / Major Construction-Waste Treatment Plant

- Increase to resume pretreatment and high-level waste facility work that was slowed down in FY 2006 due to seismic and other technical and project management issues..... 169,241

Total, River Protection..... 117,181

01-D-416, Waste Treatment and Immobilization Plant, Hanford Site, Washington (ORP-0060)

1. Significant Changes

The FY 2006 Congressional Budget Request included funds requested at the project level for the Waste Treatment and Immobilization Plant (WTP), but funds were appropriated at the subproject level. Beginning with FY 2007, funds will be 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

The Department notified the Congressional Authorization and Appropriations Committees on November 8, 2005, that the WTP project would have an increase greater than 25 percent of the current Total Project Cost and a delay in the completion date. The notification also indicated the Department, along with the U.S. Army Corps of Engineers and the contractor, is undertaking several major activities to ensure there is a full understanding of what is required to complete the project and begin plant operations, including a more accurate determination of the baseline cost and schedule. In addition, in order to provide the best and most accurate information to Congress, the State of Washington, and other interested parties, the Department directed the WTP contractor (Bechtel National, Inc – BNI) to prepare a more detailed and updated Estimate At Completion. Once submitted, the U.S. Army Corps of Engineers will perform an independent review of the Estimate At Completion that is anticipated to be completed by the summer 2006. At that point, the Department will be able to provide a more accurate and verifiable picture as to the overall cost and completion date.

At the time of the FY 2006 Congressional Budget Request, the Department concluded with an 80 percent confidence level that the project could be completed on time by July 31, 2011, and within a total estimated cost of \$5,781,000,000. Although there was some concern that recent seismic information may require some modifications, it was expected that the 2011 date would not be impacted. This has proven to be overly optimistic.

The Department is in the process of developing a revised baseline. However, in the interim, the current baseline cost of \$5,781,000,000 and completion date of July 2011 are utilized for the preparation of this data sheet.

With the technical, cost, schedule, contracting and management challenges this project has presented, the Department is pursuing the employing of a contractor to serve as the project management agent to the WTP project office. This independent contractor would provide third party oversight of the WTP

contractor's design, construction and commissioning activities. This would provide an effective means to restrain WTP cost growth, ensure that the design is aligned with operator needs, and add assurance that the design and construction proceed in a manner that is consistent with DOE's needs. This independent contractor would anticipate problems and conflicts so they can be resolved quickly. Additional activities this independent contractor would perform include: continual assessment of document and change control, quality assurance, design and construction reviews, safety compliance, and invoice reviews. The independent contractor would provide objective oversight using personnel with relevant insights and experience for large complex projects. The strategy is to consider the Engineering News Record ranking of the top companies providing construction and program management services (based on annual revenues) as candidates for serving as the project management agent to the WTP project office for the WTP design, construction and commissioning activities.

Background

Bechtel National Inc. submitted a revised Estimate At Completion in April 2005 indicating there were potentially significant cost overruns and schedule delays. The cost overruns would exceed 25 percent of the current Total Project Cost. The major contributors to these cost and schedule increases were: 1) technical issues (i.e. pulse jet mixer pumps, ultrafiltration, revised seismic criteria) which impact the High-Level Waste and Pretreatment Facilities, 2) work quantities resulting from increased progress on the design of the facilities, 3) prices for materials and commodities as compared to the previous estimate based on outdated prices as well as greater demand for certain materials worldwide, 4) limited design backlog prior to initiation of construction, and 5) overly optimistic design and construction schedule.

The Department engaged the U. S. Army Corps of Engineers to conduct an independent review of the 2005 Estimate At Completion in April 2005. The U.S. Army Corps of Engineers issued their report on May 13, 2005, and indicated: 1) several high cost impact and schedule issues which are not at an adequate level of detail to validate the estimate, 2) conservatism built into the seismic-related estimates and schedule, the estimate appears to be a bounding estimate, 3) concern the estimate has not fully included potential cost growth, and 4) project requires management by the Department and the contractor, sufficient annual funding, and contract incentives to control cost and schedule growth.

On August 18, 2005, the Manager, Office of River Protection, provided final direction to the contractor for the resubmission of the Estimate At Completion. The contractor will provide two scenarios: 1) constrained project funding and 2) unconstrained funding. These Estimate At Completion cases will be broken down by major facility.

In October 2005, the WTP contractor, Bechtel National Inc, established three teams to review the updated Estimate At Completion: Oversight Team, Estimate At Completion Review Team and Technical Review Team. The Technical Review Team is assessing the adequacy of process technology and technical design and risks to meeting throughput requirements. The Estimate At Completion Review Team is assessing the ability to complete the project within cost and schedule. The Oversight Team evaluates the Review Teams' plans, provides in-process checks, reviews the final report and provides comments. The Oversight Team consists of senior corporate executives from industry's leading engineering, procurement, construction and commissioning contractors to include: Bechtel Group, Jacobs Engineering Group, Washington Group and CH2M Hill. The Estimate At Completion Review Team comprises recognized industry experts representing commercial nuclear power industry, chemical industry, project management and engineering/procurement/construction firms, industry associations, and leading consultants in cost/schedule analysis and earned value management system.

Defense Environmental Cleanup/01-D-416/

Waste Treatment and Immobilization Plant/River Protection

FY 2007 Congressional Budget

The Estimate At Completion Review Team consists of over 15 personnel from multiple firms to include: retired Bechtel Group, retired Tennessee Valley Authority executive, Shaw Group, Jacobs Engineering Group, BWXT Services, University of California-Berkeley, etc. The Technical Team comprises experts in the fields of technology, engineering, operations, and maintenance, with recognized expertise in topical knowledge, commercial nuclear operations, DOE operations and nuclear-chemical process experience. The Technical Review Team consists of over 40 personnel, over 20 hold Ph.D.'s, from multiple firms to include: retired Bechtel Group, retired DuPont, retired Owens Corning, retired Rohm Hass, retired Occidental, Parsons Engineering, BNFL America, AREVA/Framatone-ANP, 3M, retired Battelle Laboratory, Washington State University, University of Maryland, Drexel University, University of Minnesota, Virginia Commonwealth University, Illinois Institute of Technology, Dominion Engineering, Westinghouse, Fluor Hanford, Shaw/Stone-Webster, CH2MHill Hanford, etc. This is an unprecedented comprehensive review for a project of the Office of Environmental Management. The teams include not only a broad range of highly experienced technical experts and executives, but also include the WTP contractor's competitors. The results of these reviews will be incorporated into the Estimate At Completion. This approach is expected to provide an extremely extensive review and high confidence in the cost and schedule.

In addition to the WTP contractor's review, the Department engaged the U.S. Army Corps of Engineers, on August 9, 2005, to perform independent technical reviews of the Waste Treatment and Immobilization Plant for the following: 1) review the development and implementation of the revised seismic design criteria, 2) participate in the activities to gather additional geophysical data to confirm the revised seismic design criteria, and 3) validate the updated 2005 Estimate At Completion. The U.S. Army Corps of Engineers will complete the cost validation review by summer 2006.

Once the cost validation review is completed, the Department will determine the appropriate approach for completing the project.

Actions Taken

On June 23, 2005, the Secretary of Energy made key decisions to address the scope, cost, schedule, contract and management issues. The management actions included: 1) conduct an After Action Review to assess the causes of the project cost, schedule, scope and project management issues, 2) assemble a new headquarters senior level management team to oversee the project with the team comprised of at least six individuals with specialized expertise in cost, contracting, and technical design/engineering, 3) submit the qualifications for a Federal Project Director to the Department's Project Management Certification Board, 4) provide weekly progress reports to the Principal Deputy Assistant Secretary for Environmental Management, 5) schedule quarterly progress reviews with the Secretary, and 6) develop an execution plan and master schedule for all of the major activities associated with the path forward for the project.

Starting in July 2005, the Secretary of Energy has had several discussions with the principals of Bechtel Group, Inc. concerning the status of the project and expectations. The Secretary indicated Bechtel must demonstrate its world class corporate commitment and project management capabilities to this critical project by accomplishing the following:

- Address the current technical issues, increasing the confidence in design, and contain costs and develop a viable schedule.

- Obtain the "best and brightest" from other major firms to critically assess the current technical approach, evaluate the risks, review the cost/schedule and develop recommendations to promptly and dramatically improve project performance.
- Provide the "best and brightest" site project management team (executives, engineers and technicians) for the duration of the project.
- Develop and submit to the Department a complete and credible Estimate At Completion

On July 15, 2005, the Principal Deputy Assistant Secretary for Environmental Management (EM) named the team lead for the new headquarters senior level management team. The team lead has over twenty-five years of project management experience with the Department of Defense and over ten years of experience with the Department of Energy. He is certified as a Level IV Federal Project Director.

On August 1, 2005, the scope of work was finalized for the After-Action Fact Finding Review. The scope was limited to the following areas of focus:

- Main causes of the estimated cost increases and schedule delay.
- Timeliness, accuracy, and clarity of the reporting to the Department concerning project and contract costs and potential increases.
- Impacts of project management and contract management policies and procedures.
- Appropriateness of the organizational structure and reporting relationship between the Office of River Protection (ORP) and Headquarters.
- Staffing level, qualifications, and experience at ORP and Headquarters to oversee and support the WTP Project.
- Provisions of DOE O 413.3 including adherence to approval authorities for changes to the project.
- Acquisition rules and regulations including adherence to approval authorities for changes to the contract.

On August 3, 2005, the charter for the Headquarters Team for the Hanford WTP project was approved by the Principal Deputy Assistant Secretary for EM. The Team will perform oversight of WTP activities, to include, but not limited to technical, contract, baseline planning and development, engineering management and project management. In addition, the Team will provide recommendations on project alternatives, design optimization, contract strategy, and overall path forward.

On October 24, 2005, the Assistant Secretary for EM decided to implement a number of actions, with the goal of enhancing the management effectiveness of the project. The actions are divided into four categories:

- Organization and Staffing
 - Reinforce the appropriate role of the Manager, Officer of River Protection, as the senior manager in the field for the Department.
 - Authorize the Manager, Office of River Protection, to hire seven additional contracting personnel and one attorney.
 - Establish Federal Project Directors for the WTP and the Tank Farm projects.
 - Establish headquarters office responsible for acquisition strategy and implementation, project management, project assessment and project reporting.

- Create an Office of Project Recovery to address projects at risk or lowered performance. For projects assigned, this office will assess the current conditions, stabilize the situation, establish a "path forward" for the project, work with the field office to develop actions and an implementation plan, serve as the headquarters advocate and oversight for the project.
- Project Management
 - Ensure the Office of River Protection and Bechtel National personnel comply with DOE Orders for project management.
 - Modify the WTP project contract to incorporate Department Orders for project management and performance assessment and reporting.
 - Receive regular updates and independent assessments of progress and analysis of the site's progress reports from headquarters' staff.
 - Provide updates for the WTP project to the Deputy Secretary (as the Acquisition Executive) as part of the quarterly reviews for EM.
 - Commit to the Department's Office of Engineering and Construction Management (OECM) adequate and necessary access to WTP information. This will enable OECM to provide independent assessments on the progress of the WTP to the Deputy Secretary during the OECM quarterly performance reviews. OECM will make visits to the site at least semi-annually and initiate, as necessary, more frequent independent external assessments of the WTP progress.
 - Evaluate increasing oversight staffing for large DOE construction projects and evaluate requiring all projects to report the percentage of contingency usage.
- Reporting
 - Implement an effective and compliant "earned value system" to determine progress compared to the baseline.
 - Submit monthly Earned Value Management System - based updates of the estimate at completion forecast to Headquarters to forewarn DOE managers of potential cost growth. A Headquarters team will evaluate the site's use of meaningful Earned Value Management System data for project status reporting and potential cost growth.
 - Establish a Headquarters' team to evaluate the progress reported by the contractor to determine actual progress as measured on the semi-annual basis, the amount of cost fee provisional payments, the pending modifications, and the expected final cost to evaluate the likelihood of the contractor in earning cost fee.
- Contract Management
 - The Manager, Office of River Protection, will establish the procedure to have the Federal Project Director, as the contracting officer's representative (COR), sign non-contract correspondence and the contracting officer (CO) sign contract correspondence.
 - Request the Headquarters Director, Procurement and Assistance Management, transfer the head of contracting authority delegation from the Manager, Office of River Protection, and delegate it to an appropriate Headquarters function/individual.

As part of the deliberations on the FY 2006 Congressional Budget Request, the Congress indicated the Department needs better control and oversight of the scope, cost and schedule of the Waste Treatment and Immobilization Plant project. The actions outlined above serve to address the actions the Department has taken to rectify the management issues of this project.

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.....	“		3Q FY2002		N/A	N/A
FY 2003 Budget	“	“		“		
Request.....			“		N/A	N/A
FY 2004 Budget	“	“		“		
Request.....			4Q FY2002		N/A	N/A
FY 2003 Congressional Notification.....	“	“	“			
FY 2005 Budget	“	“	“	3Q FY2008	N/A	N/A
Request.....					N/A	N/A
FY 2004 Reprogramming.....	“	4Q FY2005	“	“	N/A	N/A
FY 2006 Budget	“		“	“		
Request.....		4Q FY2007			N/A	N/A
FY 2007 Budget	“		“	“		
Request.....		“			N/A	N/A

The Department is in the process of developing a revised baseline. However, in the interim, the current baseline cost of \$5,781,000 and completion date of July 2011 are utilized for the preparation of this data sheet.

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	In-Progress	N/A
FY 2007.....	5,781,000	0	0	5,781,000	N/A	N/A

**Defense Environmental Cleanup/01-D-416/
Waste Treatment and Immobilization Plant/River Protection**

FY 2007 Congressional Budget

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 at a Total Project Cost of \$12,488,000,000. 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 and the baseline validated in the Spring of 2001 at \$4,350,000,000. Twice since then, the contractor presented the Department with new Estimates At Completion. The most recent increased Estimate At Completion was submitted by Bechtel National, Inc in April 2005. Due to the lack of specificity, the Department directed the contractor to prepare a more detailed Estimate At Completion. The Department also commissioned an independent cost validation by the U.S. Army Corps of Engineers of the updated Estimate At Completion. Once this validation is completed, the Department will update the current baseline of \$5,781,000,000 and a completion date of FY 2011.

4. Project Description, Justification, and Scope

Radioactive waste has been stored in large underground storage tanks at the Hanford Site since 1944. Approximately 53 millions gallons of waste containing approximately 240,000 metric tons of processed chemicals and 190 million curies of radionuclides are currently stored in 177 tanks. 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 awarded after commissioning.

The River Protection Project pathway for cleanup is documented in the Hanford Federal Facility Agreement and Consent Order, commonly known as the Tri-Party Agreement. Under the Tri-Party Agreement, the Department of Energy, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology have agreed to a timetable for cleanup of the Hanford Site. Major objectives are to complete hot commissioning of the 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 Waste Treatment Contractor will complete process and facility design; perform construction and procurement; conduct acceptance testing; select and integrate a subcontractor into the project team to provide the necessary operability and commissioning capability; and conduct all required environmental, safety, quality, and health actions. From contract award, the Waste Treatment Contractor is the design authority responsible for the design of the plant.

The concept for the operation of the WTP is to 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. 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 "treatment." The High-Level Waste Facility will immobilize (vitrify) all of the high-level fraction. The Low-Activity Waste Facility will immobilize (vitrify) the substantial portion of the low-activity fraction. Supplemental technologies (under a separate contract) are being evaluated for treatment of the remaining low-activity waste. An Analytical Laboratory will provide the necessary sampling needed throughout the processing facilities. The Balance of Facilities includes the site infrastructure and support facilities (steam plant, electrical switch yards, stand-by power, chiller plant, etc.).

The Department is assessing the confidence in the design for each of the major facilities. The major systems in the Low-Activity Waste Facility are the vitrification melters and the off-gas system which have been constructed and operated in the DOE complex. The melters are similar to those used for vitrifying high-level waste at the Savannah River, SC, and West Valley, NY, sites and a pilot plant at 1/3 scale was built and operated using surrogate material in Columbia, MD. The Analytical Laboratory has similar requirements as a typical chemical testing facility, but this one will be handling high-level waste samples. The Balance of Facilities includes 23 separate facilities (e.g., Steam Plant, Chiller Plant, Switchgear Stations) as well as site utilities. These facilities are similar to those required for large industrial complexes. The Low-Activity Waste Facility, Analytical Laboratory and Balance of Facilities (except for the switchgear stations and standby power plant) are not expected to be impacted by the revised seismic criteria. Based on the status of design and construction, the confidence in meeting the schedule and maintaining cost expectations is between medium to high for these facilities, and thus requires a moderate amount of funds for contingency. The major systems in the High-Level Waste Facility are the melters and off-gas systems. This facility is impacted by the revised seismic criteria. Based on the status of design and construction, the confidence in meeting the schedule and maintaining cost expectations is below medium, and thus requires a considerable amount of funds for contingency. The Pretreatment Facility has numerous first-of-a-kind chemical/radionuclide systems which have been demonstrated with only limited scale operations. This facility is also impacted by the revised seismic criteria. Based on the status of design and construction, the confidence in meeting the schedule and maintaining cost expectations is fairly low, and thus requires a substantial amount of funds for contingency.

Planned FY 2006 Activities: The strategy is to emphasize the design and construction based on confidence in the design. Design will be completed for a component before construction is initiated. The first priority will be to proceed expeditiously with the Low-Activity Waste Facility, Analytical Laboratory, and Balance of Facilities. Since the design of these facilities was not expected to be impacted by the revised seismic criteria, construction was not slowed. For FY 2006, the design and construction of these facilities will proceed. The next priority will be to proceed with the design of the High-Level Waste Facility and Pretreatment. For FY 2006, design will proceed to incorporate the revised seismic criteria, as well as the rest of the facility design. The U. S. Army Corps of Engineers is providing an over-the-shoulder review of the design of the components affected by seismic criteria prior to releasing the component for construction.

Proposed FY 2007 Activities: For the Pretreatment and High-Level Waste facilities, construction will begin to ramp-up critical path work. Engineering effort will be targeted at increasing the time between design completion and start of construction activities. Required procurements will continue with delivery of equipment that was substantially complete prior to work stoppage. Construction of concrete

walls and slabs at the upper levels of the facility will commence, as well as continued installation of structural steel. Completion of piping modules for placement in one of the Pretreatment black cells (shielded cells for which no maintenance nor entry is planned for the 40-year design life of the plant) will also be a focus of construction efforts. Receipt at the High-Level Waste facility of the Remote HEPA Filter Housings, six Melter Cave Shield Doors and four Melter Feed Pumps are anticipated. For the Low-Activity Waste Facility, Analytical Laboratory and Balance of Facilities design efforts will continue and necessary long-lead procurements will be purchased. Furthermore, construction will be dramatically reduced to focus on the critical path work.

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

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	812,389
FY 2006	520,759	524,815	621,668
FY 2007	690,000	690,000	690,000
FY 2008	580,325	580,325	580,325
FY 2009	432,455	432,455	430,455
FY 2010	339,152	339,152	339,152
FY 2011	98,230	98,230	245,411
Total, Design/Construction.....	5,781,000	5,781,000	5,781,000

- (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) FY 2006 - FY 2011 Appropriations, Obligations, and Costs reflect the existing baseline. New estimates have yet to be determined.

When the baseline for the project was validated in FY 2001, the following work breakdown structure was implemented: Pretreatment Facility, Low-Activity Waste Facility, High-Level Waste Facility, Balance of Facilities, Analytical Laboratory, Undistributed Bulk Materials (general materials utilized for all facilities), and Shared Services (engineering for general design and construction activities). With the shift in appropriations at the subproject level, the work breakdown structure will be revised accordingly.

Costs by Fiscal Year and by Subproject

This table provides appropriations, obligations, and costs at the total project level from FY 2001 through FY 2005, and then, the costs for each of the five subprojects for FY 2006 through FY 2011. This corresponds to the shift in appropriations at the project level through FY 2005, and then at the subproject level starting in FY 2006. The breakout of the costs by fiscal year for each of the subprojects for FY 2006 through FY 2011 is provided in the data sheet for each subproject.

Costs by Fiscal Year and by Subproject

Fiscal Year	Appropriations	Obligations	Costs
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	812,389
FY 2006*	0	4,056	0
Subtotal	3,120,079	3,120,079	2,873,989
Low Activity Waste	414,053	414,053	465,121
Analytical Laboratory	120,329	120,329	145,350
Balance of Facilities	244,593	244,593	261,631
High-Level Waste	755,846	755,846	813,964
Pretreatment	1,126,100	1,126,100	1,220,945
Subtotal	2,660,921	2,660,921	2,907,011
Total	5,781,000	5,781,000	5,781,000

*The \$4,056,000 FY 2006 Obligation reflects unobligated carry-over from prior years that cannot be attributed to any of the five subprojects at this time.

The following table breaks out appropriations by Subproject.

By Subproject (dollars in thousands)

	FY 2005 & Prior	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Out- years	Total
Low-Activity	0	161,376	77,800	71,535	53,061	41,806	8,475	0	414,053
Analytical Lab	0	44,552	21,800	22,026	16,338	12,872	2,741	0	120,329
Bal of Facilities	0	64,352	48,900	52,648	39,051	30,768	8,874	0	244,593
High-Level	0	102,964	253,700	160,515	119,062	93,808	25,797	0	755,846
Pretreatment	0	147,515	287,800	273,601	204,943	159,898	52,343	0	1,126,100
Overall Project	3,120,079	0	0	0	0	0	0	0	3,120,079
Total Project Appropriations	3,120,079	520,759	690,000	580,325	432,455	339,152	98,230	0	5,781,000

6. Total Estimated Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Construction

Construction / Contingency	452,800	550,000
Construction / Contractor Fee.....	225,000	225,000
Construction / DOE Contingency and Technical Programmatic Risk Assessment.....	100,000	100,000
Construction / Facility Mods/Process Equipment	2,574,369	2,475,261
Construction / Interim Contract Operations During Transition From Privatization.....	50,000	50,000
Construction / Pre, Cold, & Hot Commissioning	630,175	658,870
Construction / Project Management	572,389	572,389
Total, Construction.....	4,604,733	4,631,520
Preliminary and Final Design	1,176,267	1,149,480
Total, TEC.....	5,781,000	5,781,000

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
Total	3,495,657	690,000	580,325	430,455	339,152	245,411	0	5,781,000

By Subproject (dollars in thousands)

	FY 2005 & Prior	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Out- years	Total
Low-Activity	0	190,668	77,800	71,535	53,061	41,806	30,251	0	465,121
Analytical Lab	0	63,000	21,800	22,026	16,338	12,872	9,314	0	145,350
Bal of Facilities	0	68,000	48,900	52,648	39,051	30,768	22,264	0	261,631
High-Level	0	119,000	253,700	160,515	119,062	93,808	67,879	0	813,964
Pretreatment	0	181,000	287,800	273,601	202,944	159,898	115,702	0	1,220,945
Overall Project	2,873,989	0	0	0	0	0	0	0	2,873,989
Total Project Costs	2,873,989	621,668	690,000	580,325	430,455	339,152	245,411	0	5,781,000

This Construction Project Data Sheet is based on a baseline of \$5,781,000,000 and a completion date of FY 2011, which is currently under review.

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter)	1Q FY 2010
Expected Useful Life (number of years)	20
Expected Future Start of D&D for New Construction (fiscal quarter).....	TBD

The start of operations date is currently under review. Due to the uncertainty of the length of time necessary to treat and immobilize the 53 million gallons of radioactive tank waste, the start of decontamination and decommissioning has not been estimated. The useful life of the plant is 40 years, but it is anticipated the waste will be treated and immobilized in 20 years.

The annual facility operating costs for the WTP (following start-up and commissioning) 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.

9. Required D&D Information

Information is not applicable to this line item.

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 DOE would pay for waste processed. Two privatization contracts were signed in September 1996 with BNFL, Inc., a subsidiary of BNFL plc, with Bechtel National, Incorporated as a subcontractor and Lockheed-Martin for the preparation of conceptual designs. 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. 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, and DOE decided to issue a Request for Proposal for the design, construction and commissioning of the WTP. In December 2000, DOE awarded a cost-plus incentive fee contract.

The cost-plus incentive fee (CPIF) contract which was signed in December 2000 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 an annual funding profile of \$362,000,000 for FY 2001 and \$690,000,000 for FY 2002 and beyond. In April 2003, Modification A029 was negotiated with the principal change of increasing the thru-put capacity of the Pretreatment and High-Level Waste Facilities, increasing the target costs and revising the fee structure. The cost and fee structure was: 1) 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, and 5) several incentive fee payments based on schedule performance for \$225,000,000. The target cost was based on an annual funding profile of \$362,000,000 for FY 2001 and \$690,000,000 for FY 2002 and beyond.

The project was executed in accordance with the project management requirements in DOE Order 413.3 and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets, which was issued in October 2000. 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

The following critical decision is planned for the future.

- Critical Decision 4: Approved Start of Operation - 1Q FY 2010

The following contract milestones and baseline project milestones will be revised once the updated 2005 Estimate At Completion has been reviewed by the United States Army Corps of Engineers and the Department has sufficient confidence to establish a revised technical, cost and schedule baseline.

Table 10.1

Treatment and Immobilization Contract Milestones

Milestone Title	Date
Start of Construction	July 10, 2002 A
Move High-Level Waste Melter #1 into Facility	November 30, 2007
Completion of Hot Commissioning	June 30, 2011
Completion of Contract Requirements	July 31, 2011

A = Actual Date

01-D-16A Low-Activity Waste Facility

1. Significant Changes

In FY 2006, Congress appropriated funds separately into five subprojects, and the Low-Activity Waste Facility is one of these new subprojects. This Construction Project Data Sheet is based on the overall Waste Treatment and Immobilization Plant project, 01-D-416, baseline of \$5,781,000,000 and a completion date of FY 2011, which is currently under review. The financial data for this subproject is based on a parametric assignment of costs. Once the new work breakdown structure is established, costs will be allocated and displayed in the five subprojects.

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

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.....	465,121	N/A	N/A	TBD or N/A	TBD	TBD

Other Project Costs are already included in this subproject's total estimated cost except for operations and decontamination and decommissioning costs. Those costs are included in PBS ORP-0014 Office of River Protection - Radioactive Liquid Tank Waste Stabilization and Disposition project.

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 placed 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 facility throughput of 30 metric tons of glass per day.

The Department is evaluating the ability to commission the Low-Activity Waste Facility no later than 2011 and begin to process low-activity waste. This would require this facility, along with the Analytical Laboratory and Balance of Facilities subprojects, to be commissioned in relatively the same time period.

Status as of the end of FY 2005: 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 concrete slab placements for the -21', +3', +28' elevations are complete and the concrete placements for the +48' elevation are 75 percent complete. Structural steel for the main facility is 90 percent complete, and the roofing steel is being installed. At the +28' elevation the de-mineralized water tank and the caustic blow-down tank are in place. The installation of trim steel for the siding installation has started. The siding contractor started installing siding at the end of December. Excavation for the East Export Bay is complete and Balance of Facilities is installing under-slab utilities. The Q-deck for the roof elevation +68' was manufactured and delivered, installation started in November 2005. On going construction activities include fireproofing, application of Special Protective Coating, installation of heating, ventilation, and air conditioning, cable trays, conduit, piping, commodities, and forms, rebar, embeds and penetrations.

Proposed work for FY 2006: Civil construction activities on the main facility will continue as well as major equipment installations (container finishing line, off gas equipment, etc). Construction will start on the Annex building, electrical switchgear building, and the Container Export and Import Bay. Commodities (HVAC, cable tray, piping, electrical, conduit) will continue to be installed. Engineering activities will continue.

Proposed work for FY 2007: Final design engineering will near completion and long-lead procurements will continue.

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

Compliance with Project Management Order

- Critical Decision - 4: Approved Start of Operation for Low-Activity Waste Facility – 1Q FY 2010 (This date is under review.)

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Prior Years	51,068	51,000	0
FY 2006	161,376	161,376	190,668
FY 2007	77,800	77,800	77,800
FY 2008	71,535	71,535	71,535
FY 2009	53,061	53,061	53,061
FY 2010	41,806	41,806	41,806
FY 2011	8,475	8,543	30,251
Total, Design/Construction.....	465,121	465,121	465,121

Refer to general comment in the 01-D-416 project level data sheet.

6. Total Estimated Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Construction

Construction / Buildings.....	150,509	N/A
Construction / Contractor Fee.....	21,834	N/A
Construction / DOE Contingency and Technical Programmatic Risk Assessment.....	105,275	N/A
Construction / Pre, Cold, & Hot Commissioning	100,481	N/A
Construction / Project Management	44,339	N/A
Total, Construction.....	422,438	0
Preliminary and Final Design.....	42,683	N/A
Total, TEC.....	465,121	0

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
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Total	190,668	77,800	71,535	53,061	41,806	30,251	0	465,121
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8. Related Operations and Maintenance Funding Requirements

See acquisition approach outlined in the 01-D-416 project level data sheet.

9. Required D&D Information

Information is not applicable to this line item subproject.

10. Acquisition Approach (formerly Method of Performance)

The following baseline project milestones included in Table 10.1 will be revised once the updated 2005 Estimate At Completion has been reviewed by the U.S. Army Corps of Engineers and the Department has sufficient confidence to establish a revised technical, cost and schedule baseline.

Table 10.1

Low-Activity Waste Facility Milestones

Milestone Title	Date
Start Construction	July 10, 2002 A
Complete Design	September 30,2006
Complete Construction.....	April 30, 2008
Initiate Hot Start	January 31, 2011
Complete Hot Commissioning	June 30, 2011

A = Actual Date

01-D-16B Analytical Laboratory

1. Significant Changes

In FY 2006, Congress appropriated funds separately into five subprojects, and the Analytical Laboratory is one of these new subprojects. This Construction Project Data Sheet is based on the overall project, 01-D-416, baseline of \$5,781,000,000 and a completion date of FY 2011, which is currently under review. The financial data for this subproject is based on a parametric assignment of costs. Once the new work breakdown structure is established, costs will be allocated and displayed in the five subprojects.

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

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.....	145,350	N/A	N/A	TBD or N/A	TBD	TBD

Other Project Costs are already included in this subproject's total estimated cost except for operations and decontamination and decommissioning costs. These costs are included in PBS ORP-0014 Office of River Protection - Radioactive Liquid Waste Tank Stabilization and Disposition.

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 2005: Construction of the Analytical Laboratory began in July 2003. Construction work in FY 2005 included excavation and backfill of approximately 32,000 cubic yards of soil, concrete placements with in-slab utilities (pipe/drains/liners) for the C2, C3 and C5 tank cells. The C5 tank has also been placed within the C5 cell. Over 5,000 linear feet of underground and in-slab piping has been installed. Rebar and embed installation supporting over 5,100 cubic yards of concrete has been completed. Construction started rebar and formwork for the 14 radioactive laboratories and the 14 hot cells as well as framing activities for the hot cell window frames, service modules and embedments.

Proposed work for FY 2006: Continued construction of the Analytical Lab facility. Engineering will continue working on the Auto Sampling System design which should be completed during FY 2006. Modeling of piping, electrical and HVAC will continue in order to support engineering, procurement and construction. Construction will finish in-slab utilities (piping/drain/embed) installations for future concrete basemat placements and start erection of the structural steel. In addition, installation of siding and roofing, fire proofing and special protective coating applications, mechanical process and handling systems installations and architectural finishes are expected to start during FY 2006.

Proposed work for FY 2007: Final design engineering will near completion and long-lead procurements will continue.

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

Compliance with Project Management Order

- Critical Decision - 4: Approved Start of Operation for the Analytical Laboratory - 1Q FY 2010 (This date is under review.)

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Prior Years	25,021	25,000	0
FY 2006	44,552	44,552	63,000
FY 2007	21,800	21,800	21,800
FY 2008	22,026	22,026	22,026
FY 2009	16,338	16,338	16,338
FY 2010	12,872	12,872	12,872
FY 2011	2,741	2,762	9,314
Total, Design/Construction.....	145,350	145,350	145,350

Refer to general comment in the 01-D-416 project level data sheet.

6. Total Estimated Costs

(dollars in thousands)

	Current Estimate	Previous Estimate
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Construction

Construction / Buildings.....	19,041	N/A
Construction / Contractor Fee.....	6,823	N/A
Construction / DOE Contingency and Technical Programmatic Risk Assessment.....	34,000	N/A
Construction / Pre, Cold, & Hot Commissioning	35,267	N/A
Construction / Project Management	44,339	N/A
Total, Construction.....	139,470	0
Preliminary and Final Design.....	5,880	N/A
Total, TEC.....	145,350	0

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
Total	63,000	21,800	22,026	16,338	12,872	9,314	0	145,350

8. Related Operations and Maintenance Funding Requirements

See acquisition approach outlined in the 01-D-416 project level data sheet.

9. Required D&D Information

Information is not applicable to this line item subproject.

10. Acquisition Approach (formerly Method of Performance)

The following baseline project milestones included in Table 10.1 will be revised once the updated 2005 Estimate At Completion has been reviewed by the U.S. Army Corps of Engineers and the Department has sufficient confidence to establish a revised technical, cost and schedule baseline.

Table 10.1

Analytical Laboratory Milestones

Milestone Title	Date
Start Construction	July 10, 2002 A
Complete Design	January 24, 2006
Complete Construction	November 05, 2007
Initiate Cold Start.....	August 28, 2008
Complete Cold Start.....	May 21, 2010
Initiate Hot Start.....	August 16, 2010
Complete Hot Commissioning.....	January 31, 2011

A = Actual Date

01-D-16C Balance of Facilities

1. Significant Changes

Reference 01-D-416 WTP Construction Project Data Sheet.

In FY 2006, Congress appropriated funds separately into five subprojects, and the Balance of Facilities is one of these new subprojects. This Construction Project Data Sheet is based on the overall project, 01-D-416, baseline of \$5,781,000,000 and a completion date of FY 2011, which is currently under review. The financial data for this subproject is based on a parametric assignment of costs. Once the new work breakdown structure is established, costs will be allocated and displayed in the five subprojects.

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
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FY 2007	4Q FY1998	4Q FY2007	4Q FY2002	3Q FY2008	N/A	N/A
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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
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FY 2007.....	261,631	TBD	N/A	TBD or N/A	TBD	TBD
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Other Project Costs are already included in this subproject's total estimated cost except for operations and decontamination and decommissioning costs. These costs are included in PBS ORP-0014 Office of River Protection - Radioactive Liquid Waste Tank Stabilization and Disposition.

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 2005: The Balance of Facilities project overall is approximately 54 percent complete (based on hours). Engineering has completed designs for Important To Safety switchgear building, plant service air, final grade drawings, and completed the route for the 13.8KV main switchgear building. Design of the Glass Former Storage Facility is currently in progress at the 50 percent design review stage. The slab is complete for the Chiller Compressor Plant and major equipment is being installed as it arrives. The Liquid Effluent Retention Facility pipe spools are being delivered to site, with construction to start in FY 2006. Construction completed placing the concrete slabs for the Important To Safety switchgear buildings. Substantial construction completion has been made on the Cooling Towers, Main Switchgear Building, Steam Plant, Process/Potable Water Tanks, fuel oil facility, and Non-radioactive Liquid Disposal tanks. Subcontractor turnover activities for the Steam Plant and Field Erected Tanks have been initiated, including punch list generation. In addition to the above, Balance of Facilities continues installation of underground utilities and waste transfer lines.

Proposed work for FY 2006: Fabrication, delivery and installation of the Glass Former Storage Facility silos. Construct the utility racks to the main process facilities. Continuing construction of the Balance of Facilities mentioned in the FY 2005 status. Start construction on the Liquid Effluent Retention Facility pipe line.

Proposed work for FY 2007: Construction will complete on the Chiller/Compressor Plant, and will complete tie-in of the Cooling Towers. Only minor construction activities are planned with long-lead procurement items continuing.

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

Compliance with Project Management Order

- Critical Decision - 4: Approved Start of Operation for Balance of Facilities - 1Q FY 2010 (This date is under review.)

5. Financial Schedule

(dollars in thousands)

Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Prior Years	17,038	17,000	0
FY 2006	64,352	64,352	68,000
FY 2007	48,900	48,900	48,900
FY 2008	52,648	52,648	52,648
FY 2009	39,051	39,051	39,051
FY 2010	30,768	30,768	30,768
FY 2011	8,874	8,912	22,264
Total, Design/Construction.....	261,631	261,631	261,631

Refer to general comment in the 01-D-416 project level data sheet.

6. Total Estimated Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Construction		
Construction / Buildings.....	74,440	N/A
Construction / Contractor Fee.....	12,282	N/A
Construction / DOE Contingency and Technical Programmatic Risk Assessment.....	72,000	N/A
Construction / Pre, Cold, & Hot Commissioning	48,878	N/A
Construction / Project Management	44,339	N/A
Total, Construction.....	251,939	0
Preliminary and Final Design.....	9,692	N/A
Total, TEC.....	261,631	0

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
Total	68,000	48,900	52,648	39,051	30,768	22,264	0	261,631

8. Related Operations and Maintenance Funding Requirements

See acquisition approach outlined in the 01-D-416 project level data sheet.

9. Required D&D Information

Information is not applicable to this line item subproject.

10. Acquisition Approach (formerly Method of Performance)

The following baseline project milestones included in Table 10.1 will be revised once the updated 2005 Estimate At Completion has been reviewed by the U.S. Army Corps of Engineers and the Department has sufficient confidence to establish a revised technical, cost and schedule baseline.

Table 10.1

Balance of Facilities Milestones

Milestone Title	Date
Start Construction	July 10, 2002 A
Complete Design	September 30, 2006
Complete Construction	April 30, 2008
Initiate Hot Start.....	January 31, 2011
Complete Hot Commissioning.....	June 30, 2011

A = Actual Date

01-D-16D High-Level Waste Facility

1. Significant Changes

Reference 01-D-416 WTP Construction Project Data Sheet.

In FY 2006, Congress appropriated funds separately into five subprojects, and the High-Level Waste Facility is one of these new subprojects. This Construction Project Data Sheet is based on the overall project, 01-D-416, baseline of \$5,781,000,000 and a completion date of FY 2011, which is currently under review. The financial data for this subproject is based on a parametric assignment of costs. Once the new work breakdown structure is established, costs will be allocated and displayed in the five subprojects.

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

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.....	813,964	TBD	N/A	TBD or N/A	TBD	TBD

Other Project Costs are already included in this subproject's total estimated cost except for operations and decontamination and decommissioning costs. These costs are included in PBS ORP-0014 Office of River Protection - Radioactive Liquid Waste Tank Stabilization and Disposition.

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 2005: Over 6,900 cubic yards of concrete were poured for 23 individual slabs of the 0' level elevation bringing the 0' elevation slab up to 68 percent completion. Installation of walls started in FY 2005 resulting in over 1,400 cubic yards of concrete being poured for 19 individual walls bringing the 0' level walls up to 27 percent completion. To support the installation of these walls and slabs, 1,150 tons of reinforcing steel and 250 tons of embed were installed. Installation started on cable trays, piping and pipe hangers in the -21' level.

Engineering developed proposed resolutions to technical issues associated with hydrogen generation in piping and vessels. The revised seismic criteria resulted in a review of the structural design of the facility, the design of piping and installed components.

Proposed work for FY 2006: Engineering will complete their design modifications for resolving the hydrogen in piping and vessels. Ventilation design maturity will allow additional ducting to be issued for fabrication. Platforms and multi-commodity steel designs will be issued to the upper levels of the facility. Main structural steel and piping will be analyzed against the revised seismic criteria and drawings will resume being issued for fabrication. Construction will be significantly limited.

Proposed work for FY 2007: Engineering will be completed for the process flow diagrams and mass balance calculations, and drawings will be completed for steel installation at the upper levels of the facility. With completion of analysis against the revised seismic criteria, construction efforts will continue ramp-up to complete critical path work. Receipt of the Remote HEPA Filter Housings, structures for the two High-Level Waste Melters, six Melter Cave Shield Doors and four Melter Feed Pumps are anticipated. Concrete installation of walls and slabs will continue.

Work will continue with the installation of wall and slabs. Approximately 3,400 cubic yards of concrete will be poured for elevated slabs and 4,500 cubic yards will be poured for walls. Large shield doors will be installed in four sections of the facility. To support the installation of these walls and slabs, 1,100 tons of reinforcing steel and 240 tons of embed will be installed. Approximately 100 tons of structural steel, which supports the installation of the next level of the facility, will be installed in 12 areas of the facility. Cable trays, stainless steel liner plate, piping and pipe hangers will continue to be installed in the -21' level.

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

Compliance with Project Management Order

- Critical Decision - 4: Approved Start of Operation for High-Level Waste Facility - 1Q FY 2010 (This date is under review.)

5. Financial Schedule

(dollars in thousands)

Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Prior Years	58,118	58,000	0
FY 2006	102,964	102,964	119,000
FY 2007	253,700	253,700	253,700
FY 2008	160,515	160,515	160,515
FY 2009	119,062	119,062	119,062
FY 2010	93,808	93,808	93,808
FY 2011	25,797	25,915	67,879
Total, Design/Construction.....	813,964	813,964	813,964

Refer to general comment in the 01-D-416 project level data sheet.

6. Total Estimated Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Construction

Construction / Buildings.....	351,993	N/A
Construction / Contractor Fee.....	38,209	N/A
Construction / DOE Contingency and Technical Programmatic Risk Assessment.....	196,500	N/A
Construction / Pre, Cold, & Hot Commissioning.....	108,100	N/A
Construction / Project Management	44,339	N/A
Total, Construction.....	739,141	0
Preliminary and Final Design.....	74,823	N/A
Total, TEC.....	813,964	0

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
FY 2007.....	119,000	253,700	160,515	119,062	93,808	67,879	0	813,964

8. Related Operations and Maintenance Funding Requirements

See acquisition approach outlined in the 01-D-416 project level data sheet.

9. Required D&D Information

Information is not applicable to this line item subproject.

10. Acquisition Approach (formerly Method of Performance)

The following baseline project milestones included in Table 10.1 will be revised once the updated 2005 Estimate At Completion has been reviewed by the U.S. Army Corps of Engineers and the Department has sufficient confidence to establish a revised technical, cost and schedule baseline.

Table 10.1

High-Level Waste Facility Milestones

Milestone Title	Date
Start Construction	July 10, 2002 A
Complete Design	July 28, 2007
Complete Construction	April 30, 2008
Initiate Hot Start.....	April 1, 2011
Complete Hot Commissioning.....	June 30, 2011

A = Actual Date

01-D-16E Pretreatment Facility

1. Significant Changes

Reference 01-D-416 WTP Construction Project Data Sheet.

In FY 2006, Congress appropriated funds separately into five subprojects, and the Pretreatment Facility is one of these new subprojects. This Construction Project Data Sheet is based on the overall project, 01-D-416, baseline of \$5,781,000,000 and a completion date of FY 2011, which is currently under review. The financial data for this subproject is based on a parametric assignment of costs. Once the new work breakdown structure is established, costs will be allocated and displayed in the five subprojects.

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	TBD	TBD

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.....	1,220,945	TBD	N/A	TBD or N/A	TBD	TBD

Other Project Costs are already included in this subproject's total estimated cost except for operations and decontamination and decommissioning costs. These costs are included in PBS ORP-0014 Office of River Protection - Radioactive Liquid Waste Tank Stabilization and Disposition.

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 Highly Radioactive 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 2005: In FY 2005, the engineering for the Pretreatment Facility progressed. Over 300,000 feet of piping design had been completed and released for construction. Engineering started checking this piping to assure that the design is sufficiently robust to accommodate the new seismic design criteria. Design of the concrete walls has been completed through the 77' elevation and structural steel design has been completed through the 98' elevation. These designs are being checked against the seismic design criteria as well. Construction has installed 28 major vessels on the 0' elevation and two vessels at the -45' elevation. The concrete walls are 98 percent complete up to the 28' elevation and 91 percent complete up to the 56' elevation. About 28 percent of the floor slabs at the 28' and 56' elevations have been placed. Installation of reinforcing steel for the walls above the 56' elevation has been started. The pipe module for one of the black cells has been completed and is ready for installation. Drain piping and electrical conduit has been installed throughout the building to support the installation of concrete. Stainless steel liner plate for the secondary containment system has been installed in many of the black cells and two shielding doors have been installed.

Proposed work for FY 2006: In FY 2006, design of the concrete structure is expected to be completed along with structural steel, HVAC, and ultra filter vessels. All of the major vessels will be checked to determine if they meet the seismic design criteria and work will be initiated to provide additional bracing that is identified by the seismic analysis. Piping that had been released for construction will be checked and additional piping will be designed. The revised seismic criteria are being utilized for the design for the structures and major vessels. The U.S. Army Corps of Engineers has reviewed and validated the seismic criteria and affected designs. The criteria have been presented to the Defense Nuclear Facilities Safety Board staff and will be presented to the Board members. The U.S. Army Corps of Engineers will also perform over-the-shoulder reviews of the structural designs. These reviews are planned to be completed in the summer 2006.

Proposed work for FY 2007: With completion of analysis against the revised seismic criteria, construction efforts will begin to ramp-up to complete critical path work; however, the engineering effort is still targeted at increasing the time between design completion and start of construction activities. Procurements required to support engineering and construction activities during the year will continue. Equipment that was substantially complete at the end of 2005 will continue to be completed and delivered to the site as appropriate. Construction of concrete walls and slabs at the upper levels of the facility will be undertaken, as well as continued installation of structural steel. Ventilation piping,

drain piping, conduit, and grounding will continue to keep pace with the concrete and structural steel construction. Completion of piping modules for placement in one black cell will also be a focus of construction efforts.

The pipe module for another black cell will be completed. Construction of concrete walls and slabs above the 56' elevation will be undertaken as well as structural steel. Vessels to support the ultra filtration and high level waste feed will be fabricated. Ventilation piping, drain piping, conduit, and grounding will continue to keep pace with the concrete and structural steel construction.

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

Compliance with Project Management Order

- Critical Decision - 4: Approved Start of Operation for Pretreatment Facility - 1Q FY 2010 (This date is under review.)

5. Financial Schedule

(dollars in thousands)

Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Prior Years	94,845	94,668	0
FY 2006	147,515	147,515	181,000
FY 2007	287,800	287,800	287,800
FY 2008	273,601	273,601	273,601
FY 2009	204,943	202,944	202,944
FY 2010	159,898	159,898	159,898
FY 2011	52,343	54,519	115,702
Total, Design/Construction.....	1,220,945	1,220,945	1,220,945

Refer to general comment in the 01-D-416 project level data sheet.

6. Total Estimated Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Construction		
Construction / Buildings.....	692,585	N/A
Construction / Contractor Fee.....	57,314	N/A
Construction / DOE Contingency and Technical Programmatic Risk Assessment.....	145,025	N/A
Construction / Pre, Cold, & Hot Commissioning.....	193,528	N/A
Construction / Project Management.....	44,339	N/A
Total, Construction.....	1,132,791	0
Preliminary and Final Design.....	88,154	N/A
Total, TEC.....	1,220,945	0

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
FY 2007.....	181,000	287,800	273,601	202,944	159,898	115,702	0	1,220,945

8. Related Operations and Maintenance Funding Requirements

See acquisition approach outlined in the 01-D-416 project level data sheet.

9. Required D&D Information

Information is not applicable to this line item subproject.

10. Acquisition Approach (formerly Method of Performance)

The following baseline project milestones included in Table 10.1 will be revised once the updated 2005 Estimate At Completion has been reviewed by the U.S. Army Corps of Engineers and the Department has sufficient confidence to establish a revised technical, cost and schedule baseline.

Table 10.1

Pretreatment Facility Milestones

Milestone Title	Date
Start Construction	Nov. 26, 2002 A
Complete Design	July 28, 2007
Complete Construction	December 31, 2008
Initiate Hot Start.....	October 31, 2009
Complete Hot Commissioning.....	June 30, 2011

A = Actual Date

Savannah River

Funding by Site

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
Savannah River National Laboratory	50,900	49,207	43,300
Savannah River Operations Office	13,327	12,916	12,542
Savannah River Site	1,227,015	1,116,597	1,028,552
Total, Savannah River	1,291,242	1,178,720	1,084,394

Site Overview

The Savannah River Site is a key Department of Energy (DOE) industrial complex dedicated to 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.

The Savannah River Site encompasses over 300 square miles with more than 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 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. However, if a viable reuse is identified, the DOE Savannah River Operations Office will remove a facility or group of facilities from the decommissioning scope.

Site Description

The Savannah River Site is divided into 18 site areas, according to the types of mission activities that occurred at each. All waste types will be treated, stored and disposed. All nuclear material will be stabilized and safely stored. Groundwater contaminant plumes will be remediated to meet drinking water standards.

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 scope of this cleanup project is stabilization and disposition of all EM-owned nuclear material; receipt and disposition of spent nuclear fuel; removal of waste from and closure of all radioactive liquid waste tanks; treatment and disposition of solid waste; decommissioning of all Savannah River Site EM facilities; and remediation of groundwater plumes and soil contamination.

The Savannah River cleanup strategy has three primary objectives: (1) Eliminate the highest risks first through safe stabilization, treatment, and disposition of EM owned nuclear materials, spent nuclear fuel, and waste; (2) Significantly reduce costs of continuing operations and surveillance and maintenance; (3) Decommission all EM-owned facilities and remediate groundwater and contaminated soils, using an area closure approach.

Site Completion (End-State)

The EM Cleanup Project and mission will be complete by 2025, and ongoing National Nuclear Security Administration nuclear industrial missions will continue. The Savannah River Site is a site with an enduring mission and is not a closure site

Regulatory Framework

The Savannah River Site works closely with various oversight groups, environmental regulators, and stakeholders in accomplishing its work. The site is proud of the collaborative relationships with these external parties and credits the cooperative nature of these relationships with many cleanup accomplishments. In addition, local communities and Congressional, state, and local officials typically are very supportive of Savannah River Site, understanding well the critical role Savannah River Site plays within the region and the nation and the important nature of the cleanup work.

Savannah River and its contractors will continue to proactively work 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 as described as follows.

The Savannah River Site *Federal Facility Agreement* - In August 1993, Savannah River, the 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 signed the *Federal Facility Agreement*. The *Federal Facility Agreement* governs environmental remediation and waste tank closure programs. The major purpose of the *Federal Facility Agreement* is to ensure that the environmental impacts associated with past and present activities are investigated and that appropriate action is taken as necessary to protect the human health and the environment. The document establishes the roles and responsibilities of the three parties, lays the foundation for timely remediations conducted under the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation, and Liability Act, and describes the remediation process and associated priority of environmental remediation projects. Appendices to the *Federal Facility Agreement* specify the work to be done for each year and are negotiated annually among all three parties. The current *Federal Facility Agreement Appendix E*, “Out Year Milestones,” has been revised to align the Savannah River Site enforceable agreements with the renegotiated management and operations contract and with the closure strategy.

Federal Facility Compliance Act- This agreement defines requirements for preparing and submitting a site treatment plant 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.

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 the Federal Repository would delay site completion and increase storage costs;

- 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 disposition strategy for excess plutonium stored on site by EM.

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 2025, at which time landlord and interface responsibilities will transition to the National Nuclear Security Administration (FY 2026). Activities to ensure a smooth transition will be required.

Major program interfaces are described briefly below.

National Nuclear Security Administration – Defense Programs – Tritium

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 at Savannah River Site.

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 33 metric tons of surplus weapons-usable plutonium in a manner that meets the “Spent Fuel Standard.” The Spent Fuel Standard is achieved when weapons-usable plutonium is made as inaccessible and unattractive for weapons use as is the plutonium that exists in spent nuclear fuel from commercial reactors.

Three new facilities (the Pit Disassembly and Conversion Facility, the Mixed Oxide Fuel Fabrication Facility, and the Waste Solidification Building) will be required to accomplish this plutonium disposition mission. Implementation of these new plutonium missions may result in additional waste generation that may require EM disposition. New plutonium missions constitute a small percentage increase in waste volumes over existing waste management obligations. Assumptions are that the National Nuclear Security Administration will deactivate and decommission their own facilities and will be responsible for 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. Existing EM facilities along with a new low-enriched uranium loading facility are being used to dilute approximately 16 of the 21 metric tons of highly enriched uranium located at Savannah River Site and owned by the EM program. The remaining five metric tons of highly enriched uranium are being shipped directly to a Tennessee Valley Authority vendor for dilution.

Savannah River National Laboratory

The Savannah River National Laboratory is expected to be an enduring laboratory. Its mission is to conduct applied research and development to meet the science and technology needs of the Savannah River Site and the Nation, with its primary focus on Environmental Management, National Security, and Energy Security. A key role for the laboratory is to explore further development/improvement of

regional and national relationships with industry, universities and state governments to enhance research programs by integrating capabilities of industry and academia into the work of the lab.

Lastly, the Savannah River National Laboratory will be expected to maintain operable essential infrastructure elements of technical area facilities through 2025 to serve EM and the National Nuclear Security Administration needs, most notably shielded cells used to analyze high activity waste. Savannah River National Laboratory has provided significant support to the Hanford Waste Treatment Research and Technology Program. Primary areas of support have been in 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. The Savannah River National Laboratory is indirectly funded by EM and the National Nuclear Security Administration. EM funding was \$50,900,000 in FY 2005; and is projected to be \$49,207,000 in FY 2006; and is estimated to be \$43,300,000 FY 2007.

Office of Science – Savannah River Ecology Laboratory

The Savannah River Ecology Laboratory provides site ecological evaluations and research. The University of Georgia, which manages the Savannah River Ecology Laboratory, employs approximately 120 employees.

United States Forest Service – Savannah River Forest Station

The Savannah River Forest Station is an independent unit of the U.S. Forest Service, which manages Savannah River Site forest resources, provides forest fire protection, manages Savannah River Site secondary road systems, conducts erosion control, performs soil restoration, and conducts exterior boundary maintenance. Funding for services provided by U.S. Forest Service is reimbursed by the EM program. There are approximately 90 Savannah River Forest Station employees at Savannah River Site.

Waste Isolation Pilot Plant

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. Deinventory 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.

Federal Repository

Operation of a Federal Repository is critical to the completion of the EM cleanup for disposition of high level waste and spent nuclear fuel at Savannah River Site.

Hazardous and Mixed Waste Disposal (Commercial)

Hazardous waste and mixed low-level waste (radioactive waste which also contains hazardous constituents) is treated and disposed of offsite.

Low-Level Waste Disposal

Low-level waste is disposed of either onsite in E Area or offsite at other DOE sites and at commercial disposal facilities.

Receive Waste (Naval Reactors)

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, and by direct shipment, to the Tennessee Valley Authority vendor. The vendor also provides natural uranium for the blending. Savannah River Site depends on the Tennessee Valley Authority to provide and accept these materials to enable deinventory of H Area and K Area.

Idaho National Laboratory

Deinventory of H Canyon is dependent on transferring excess Neptunium to the Idaho National Laboratory for use in producing plutonium (shipments are in progress).

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.

Spent Nuclear Fuel

Savannah River Site receives, stores, and will ultimately ship (for permanent disposal) spent nuclear fuel from both domestic and foreign research reactors. This program requires extensive interface with reactor owners, and other DOE programs.

Contract Synopsis

The majority of cleanup scope falls within the Management and Operating contract (currently Westinghouse Savannah River Company) which expires December 31, 2006. Savannah River is employing new strategies to achieve Departmental objectives. EM is developing an acquisition strategy for new contract(s), with the majority of cleanup activities under new contracts in 2007.

Cleanup Benefits

Specific program benefits realized from the EM Cleanup Project are significant. For example, removal of radioactive liquid waste will be completed by 2025 and will produce 17 percent fewer Defense Waste Processing Facility canisters than originally planned. 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. 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 2025.

In FY 2007, the Office of Engineering and Construction Management will conduct external independent reviews of EM projects. At Savannah River, seven projects will be reviewed at an approximate cost of \$400,000. Additionally, the 3013 Container Surveillance and Storage Capability line item will be reviewed at an approximate cost of \$250,000. These funds will be transferred to the Office of Engineering and Construction Management using the Working Capital Fund.

Direct maintenance and repair at the Savannah River Site is estimated to be \$6,435,000.

Funding Schedule by Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
Savannah River Site					
2012 Completion Projects					
SR-0011B / NM Stabilization and Disposition-2012.....	382,147	266,224	232,468	-33,756	-12.7%
SR-0040B / Nuclear Facility D&D - 2012.....	0	0	3,664	3,664	+100.0%
Subtotal, 2012 Completion Projects.....	382,147	266,224	236,132	-30,092	-11.3%
2035 Completion Projects					
HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository					
	11,240	13,751	0	-13,751	-100.0%
SR-0011C / NM Stabilization and Disposition-2035.....	73,874	74,357	41,160	-33,197	-44.6%
SR-0012 / SNF Stabilization and Disposition.....	10,404	11,161	22,668	11,507	+103.1%
SR-0013 / Solid Waste Stabilization and Disposition.....	103,924	111,867	85,276	-26,591	-23.8%
SR-0030 / Soil and Water Remediation.....	126,220	93,425	103,150	9,725	+10.4%
SR-0040 / Nuclear Facility D&D	76,832	56,646	0	-56,646	-100.0%
SR-0040C / Nuclear Facility D&D - 2035.....	0	0	12,542	12,542	+100.0%
SR-0100 / Non-Closure Mission Support	6,761	5,333	5,000	-333	-6.2%
SR-0101 / Savannah River Community and Regulatory Support.....	6,566	7,583	7,542	-41	-0.5%
Subtotal, 2035 Completion Projects.....	415,821	374,123	277,338	-96,785	-25.9%
Tank Farm Activities					
SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035.....	331,974	538,373	570,924	32,551	+6.0%
SR-0014C-T / Radioactive Liquid Tank Waste Stabilization and Disposition-HLW Legis Proposal	161,300	0	0	0	0%
Subtotal, Tank Farm Activities	493,274	538,373	570,924	32,551	+6.0%
Total, Savannah River Site	1,291,242	1,178,720	1,084,394	-94,326	-8.0%
Total, Savannah River	1,291,242	1,178,720	1,084,394	-94,326	-8.0%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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SR-0011B / NM Stabilization and Disposition-2012

(life-cycle estimate \$5,579,817K)..... 382,147 266,224 232,468

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

The Savannah River Site will deactivate the F-Area facilities by FY 2006, an acceleration of one year from the previous plan. The H Area facilities will continue to stabilize and disposition legacy nuclear materials through FY 2011; they will be deactivated by the end of FY 2015. Other DOE program offices are funding some activities concurrently with EM mission work in H Canyon (e.g., National Nuclear Security Administration highly enriched uranium blend down).

The remaining F-Complex deactivation work involves completion of the cooling tower for 235-F; shutdown of major processing equipment; disposition of depleted uranium oxide; and completion of FB-Line deactivation. The remaining materials to be stabilized/dispositioned in H Area include: highly enriched uranium solutions; neptunium solutions; Savannah River Site unirradiated Mk-22 tubes; miscellaneous fuels; Savannah River Site plutonium residues; enriched uranium residues; and other legacy materials identified by DOE.

This PBS scope also includes the Receiving Basin for Off-Site Fuels that have been de-inventoried, deactivated and placed in Long Term Surveillance pending inclusion in PBS SR-0040 at the end of FY 2006 for decommissioning as well as design and construction of the 3013 Container Surveillance and Storage Capability.

An analysis of the Department’s Design Basis Threat criteria has led to the decision to shut down 235-F as quickly as possible and relocate the 3013 Container Surveillance and Storage Capability 235-F project, 04-D-423, and the associated Project Engineering and Design, Various Locations, 04-D-414, sub-project 04-01 to 105-K building. To comply with the latest Design Basis Threat criteria, the previously planned project to modify the 235-F building to provide the needed surveillance and storage capability project would incur extraordinary capital and operating expense increases. Because the 105-K building is already a Category 1 Special Nuclear Materials Storage Facility being modified to meet the 2005 Design Basis Threat criteria, the Department’s new strategy is to cancel upgrades in the 235-F building and upgrade the 105-K building. This PBS includes an appropriation in FY 2006 of \$18,415,000 for line item 04-D-414 for Project Engineering and Design. A request of \$2,935,000 to complete design of the 105-K facility is included in FY 2007. The revised project will deliver the same capability planned for 235-F, including container surveillance equipment that meets the DOE Standard 3013, as well as additional storage capability for the 3013 containers. FY 2005 included an appropriation of \$3,000,000 for the 04-D-423 Container Surveillance and Storage Capability in 105-K line item. There was no appropriation in FY 2006. In FY 2007 we are requesting \$21,300,000 for continued construction.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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The original acquisition strategy was to locate the 3013 Container Surveillance and Storage Capability in the 235-F building. In September 2004, the Department of Energy directed a significant change in the Design Basis Threat. Analysis shows that the original strategy to use the 235-F building is no longer cost effective due to the estimated \$135,000,000 increase required for the Design Basis Threat security upgrades. As a result, the 3013 Container Surveillance and Storage Capability, was relocated to the 105-K building.

This PBS also includes an appropriation of \$10,000,000 in FY 2006 for the Plutonium Vitrification project. Funds will be used to conduct and prepare the alternatives and evaluation, and conceptual design to support analyses of disposition strategies of stored excess plutonium.

The end-states for this project consist of F and H Area facilities and Receiving Basin for Off-site Fuel deactivated which would then be included in PBS SR-0040, (Nuclear Facility D&D), for long term surveillance, maintenance and decommissioning. After decommissioning, these facilities will be transitioned to PBS SR-0030, (Soil and Water Remediation), Defense 2035 Site Acceleration Completion account, for area closures.

OECM has validated the near term (current contract period) performance baseline Total Project Cost of \$991,000,000 and a schedule completion date of November 2006. OECM has not endorsed the reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Continue H Canyon and HB-Line processing of legacy materials and spent nuclear fuel identified by DOE; continue H Canyon support of the National Nuclear Security Administration-funded 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 monitoring condition.
- Complete design and initiate construction for 3013 Surveillance Capability Line Item.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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).....	1,673	2,308	2,943	3,010	98%

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Initiate the decommissioning of the 235-F facility and seven associated support facilities which will provide accelerated risk reduction as well as reduced surveillance and maintenance in an earlier time frame.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Nuclear Facility Completions (Number of Facilities).....	7	8	13	40	32%
Radioactive Facility Completions (Number of Facilities)	2	4	5	7	71%
Industrial Facility Completions (Number of Facilities).....	164	189	276	299	92%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Initiate the decommissioning of the 235-F facility and seven associated support facilities (December 2006) 					

**HQ-SNF-0012X / SNF Stabilization and Disposition-
Storage Operations Awaiting Geologic Repository (life-
cycle estimate \$76,405K).....**

11,240 13,751 0

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

This PBS was created to manage the non-legacy SNF 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.

In FY 2007, the following activities are planned:

- No activity planned.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Receive up to two foreign research reactor spent nuclear fuel shipments (September 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Receive up to three domestic research reactor spent nuclear fuel shipments (September 2006)

SR-0011C / NM Stabilization and Disposition-2035

(life-cycle estimate \$1,780,348K).....	73,874	74,357	41,160
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This PBS can be found within the Defense Environmental Cleanup appropriation.

This PBS scope 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 105-K, as a line-item project, 04-D-423, 3013 Container Surveillance and Storage Capability. This project is in support of FB-Line deinventory and therefore, 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 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 2017.

EM is reviewing options to transfer or disposition the remaining fissile materials that cannot go into the mixed-oxide fuel process. After the special nuclear materials are transferred to their final disposition facilities, the K Area will be deactivated, placing the facilities in a minimum surveillance and maintenance condition, pending transfer of the facilities to PBS SR-0040, Nuclear Facility D&D, for decommissioning, which is the end-state for this project.

OECM has validated the near term (current contract period) performance baseline Total Project Cost of \$253,000,000 and a schedule completion date of November 2006. OECM has not endorsed the reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Attain operational acceptance and commence operations of K-Area Interim Surveillance.
- 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.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Material Access Areas eliminated (Number of Material Access Areas)	0	0	0	1	0%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued operation of K Area Material Storage facility including intrasite material transfers (FY 2005) • Initiate conceptual design of the Plutonium Disposition Facility (October 2005) • Downgrade 235-F to below Category I safeguards and security facility (September 2006) • Continue K-Area special nuclear material program facility capability (September 2006) • Continue 235-F special nuclear material program facility capability (September 2006) • Complete operations of Metallurgical Building and turnover to D&D (PBS SR-0040) (November 2006) • Complete 235-F deinventory and transfer to PBS SR-0040 for decontamination and decommissioning (December 2006) • Complete shipments of neptunium to Idaho (September 2007) 					

SR-0012 / SNF Stabilization and Disposition (life-cycle estimate \$1,485,657K) 10,404 11,161 22,668

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 Geologic Repository, which includes funding for the receipt, storage, and preparation for depositing at Savannah River. All spent fuel activities at Savannah River are conducted in a single area and consolidated for storage in a single basin.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 dispositioning of spent nuclear fuel and deactivating the spent nuclear fuel facilities by 2022. 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 preparation of the non-legacy spent nuclear fuel for final disposition in the monitored geologic repository in accordance the cleanup plan for the Savannah River Site.

OECM has validated the near term (current contract period) performance baseline Total Project Cost of \$113,000,000 and a schedule completion date of November 2006. OECM has not endorsed the reasonableness of the lifecycle baseline.

In FY 2007, 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).

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
---------	---------	---------

- Maintained capability to receive and store spent nuclear fuel at the Savannah River Site in support of non-proliferation goals (FY 2005)
- Maintain L Area spent nuclear fuel receipt, storage, and shipping facilities in an operable condition capable of supporting planned program requirements (September 2006)

SR-0013 / Solid Waste Stabilization and Disposition

(life-cycle estimate \$1,893,281K)..... 103,924 111,867 85,276

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 and deactivation for the Consolidated Incinerator Facility project, general “landlord” functions which are necessary for the general operation of the site, and care of the site's shared infrastructure components and centralized support activities. Procurement and installation of capital equipment/general plant projects, which support landlord facilities and operations, are also covered by this project. Legacy inventories of low- level waste, mixed low- level waste, and hazardous waste will be eliminated by the end of FY 2006. Drummed transuranic legacy waste will be eliminated by the end of FY 2006.

In addition, boxed/bulk transuranic legacy waste will be eliminated by FY 2009. Also, this scope will cover surveillance and maintenance activities for the Consolidated Incinerator Facility, through FY 2008, with deactivation in FY 2006-2007. Alternative disposal options for PUREX (i.e., Plutonium – Uranium Extraction) waste are being developed to allow 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 2025.

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

OECM has validated the near term (current contract period) performance baseline Total Project Cost of \$312,000,000 and a schedule completion date of November 2006. OECM has not endorsed the reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Complete shipment of drummed legacy transuranic waste to the Waste Isolation Pilot Plant, in addition to the continued receipt and storage of newly generated transuranic waste.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- 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.
- Continue the initiative for stabilization of organic PUREX solvent/waste, with treatment beginning by FY 2007.
- Maintain effective waste minimization and waste certification programs.
- Continue support across the Savannah River Site to provide cost effective/efficient management of support activities for the accomplishment of the site missions.
- Continue the Cold War Artifact Program to ensure compliance with the National Historic Preservation Act as applied to the Savannah River Site.
- Complete necessary common site infrastructure projects for continued operations in support of site missions.
- Dispose of sanitary waste.
- Initiate deactivation of the Consolidated Incinerator Facility.
- Support General Waste Stream Management, including utilities, safety compliance, etc.
- Establish high-activity transuranic waste capability.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	3,687	4,527	5,367	15,326	35%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	78,952	86,324	104,324	219,320	48%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Elimination of all legacy low-level/hazardous waste/mixed waste (September 2006) • Dispose remainder of legacy low-level waste/mixed low-level waste (September 2006) • Complete disposal of legacy drummed transuranic waste at the Waste Isolation Pilot Plant (4,000 drums/840 m3) (September 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Establish High Activity Transuranic Waste Capability (September 2007)
- Complete shipments of Low Activity Transuranic Waste Drums to the Waste Isolation Pilot Plant (September 2007)
- Complete installation and start-up of Non-Destructive Examination and Non-Destructive Assay systems for boxed transuranic waste (September 2006)

SR-0030 / Soil and Water Remediation (life-cycle estimate \$2,645,826K) 126,220 93,425 103,150

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

The Soil and Water Remediation PBS scope includes assessment and remediation of contaminated waste sites and groundwater, thereby reducing risk to the site worker, the public, and the environment by 2025. For the 515 waste sites at the Savannah River Site, 330 will be completed through FY 2006. For the remaining 185, particular attention is paid to waste sites with mobile contaminants that already have or have the potential to migrate 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 aggressively remove or immobilize substantial sources of contaminants and remediate contaminated groundwater using passive and natural remedies to keep the cost of the remedy in line with planned end-states. This supports the clean-up objectives of constructing final remedies for soil and groundwater by 2025. Waste sites and groundwater will be managed such that all regulatory compliance agreements are met. Compliance agreements reflect prioritization as negotiated with the two primary regulatory oversight agencies, the United States Environmental Protection Agency and the South Carolina Department of Health and Environmental Control. All projects will use the streamlined regulatory process developed among DOE, the Environmental Protection Agency, and South Carolina to shorten schedules, maximize innovation, and reduce costs to achieve accelerated risk reduction. This project includes the Old Radioactive Waste Burial Ground and the Dynamic Underground Stripping project.

OECM has validated the near term (current contract period) performance baseline Total Project Cost of \$399,000,000 and a schedule completion date of November 2006. OECM has not endorsed the reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Accelerate remediation of significant sub-projects including: Western Sector Dynamic Underground Stripping Project, D-Area Expanded Operable Unit, F and H Groundwater Barrier Wall and Base Injection, and General Separations Area consolidation Unit.
- Operate and maintain groundwater remediation systems.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

SR-0040C / Nuclear Facility D&D - 2035 (life-cycle

estimate \$2,907,633K) 0 0 12,542

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

EM has created this new PBS and transferred scope from SR-0040 to allow for more focused management for completing workscope.

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 transitioned to a non-EM Organization, as part of the EM cleanup project. In FY 2007, 1,005 of these facilities were transferred to this PBS with the remainder being transferred to PBS SR-0040B.

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.

In FY 2007, the following activities are planned:

- Complete the decommissioning and decontamination of approximately 30 facilities in both M and D Areas.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Initiate decommissioning and decontamination of the Consolidated Incinerator Facility, the Receiving Basin for Off-site Fuels, and P and R Reactors.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Nuclear Facility Completions (Number of Facilities).....	0	0	0	155	0%
Radioactive Facility Completions (Number of Facilities)	0	0	0	33	0%
Industrial Facility Completions (Number of Facilities).....	0	0	0	517	0%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed decommissioning of three industrial and radioactive facilities (FY 2005) • Complete D&D of M Area Facilities (November 2006) • Complete D&D of D Area Heavy Water Plant Facilities (November 2006) • Initiate decommissioning and decontamination of the Consolidated Incinerator Facility, the Receiving Basin for Off-site Fuels, and P and R Reactors (September 2007) 					

SR-0100 / Non-Closure Mission Support (life-cycle estimate \$352,879K) 6,761 5,333 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, 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 2025. Beginning in 2026, remaining support activities, for example, natural resource management will be transferred to either Office of Legacy Management or another Program Secretarial Office.

In FY 2007, 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.
- Archaeological Research involves technical expertise to meet Savannah River Site's cultural resources

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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.
- Project management provides project management support and research on monitored natural attenuation and other remediation approaches.
- Grant programs are executed with southeast Historically Black Colleges and Universities focused on scientific research related to environmental issues.
- DOE Summer Diversity Intern Program is conducted to provide undergraduate studies in science, engineering and other technical backgrounds with a unique opportunity to recruit and develop a pool of talented individuals.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continue grants to regulatory agencies under the Federal Facility Agreement and Agreement-in-Principle (including emergency management activities) (FY 2005/September 2006/September 2007) • Conduct atmospheric, water, terrestrial, and biological monitoring and provided independent oversight of the sampling activities (FY 2005/September 2006/September 2007) • Continue emergency planning and preparedness for the State of South Carolina from simulated or actual release of hazardous substances (FY 2005/September 2006/September 2007) • Successfully manage Savannah River Site lands and natural resources in full compliance with Federal and state regulatory requirements (September 2006/September 2007) • Manage a comprehensive fire management program that successfully protects the Savannah River Site from both on-site and off-site wildland fires (September 2006/September 2007) • Maintain Savannah River Site secondary roads/bridges and perform site boundary maintenance (September 2006/September 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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SR-0101 / Savannah River Community and Regulatory Support (life-cycle estimate \$172,993K)..... 6,566 7,583 7,542

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 2025. 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 2007, 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 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continue grants to regulatory agencies under the Federal Facility Agreement and Agreement-in-Principle (including emergency management activities) (FY 2005) • Conduct atmospheric, water, terrestrial, and biological monitoring and provided independent oversight of the sampling activities (FY 2005) • Continue emergency planning and preparedness for the State of South Carolina from simulated or actual release of hazardous substances (FY 2005) • Successfully manage Savannah River Site lands and natural resources in full compliance with Federal and state regulatory requirements (September 2006/September 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Manage a comprehensive fire management program that successfully protects the Savannah River Site from both on-site and off-site wildland fires (September 2006)
- Maintain Savannah River Site secondary roads/bridges and perform site boundary maintenance (September 2006)

**SR-0014C / Radioactive Liquid Tank Waste
Stabilization and Disposition-2035 (life-cycle estimate**

\$11,379,403K) 331,974 538,373 570,924

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. 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 meets its Federal Facilities Agreement commitments for waste tank disposition.

This project will 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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. The objective of the Salt Waste Processing Facility is to meet production processing rates required to support Savannah River Site cleanup goals by 2019.

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 by FY 2020. It will also result in the permanent closure of the remaining 49 underground storage tanks by FY 2020 (two of the original 51 tanks have already been closed in place in FY 1998 using grout).

In FY 2005, \$43,476,601 was appropriated for the construction of the Glass Waste Storage Building II, line item 04-D-408. In FY 2006, \$6,905,000 was appropriated to complete construction of that facility.

For the Salt Waste Processing Facility, a total of \$23,469,000 was appropriated in FY 2005, \$34,990,000 was appropriated in FY 2006, and \$37,500,000 is requested in FY 2007 for Project Engineering and Design 03-D-414.

Additionally, \$25,792,000 was appropriated in FY 2005, \$495,000 was appropriated and \$20,000,000 was rescinded from the prior year in FY 2006, and \$25,700,000 is requested in FY 2007 for the construction of Salt Waste Processing Facility, 05-D-405.

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 change will add 26 months to the project schedule, and require re-design and additional engineering and construction efforts. Because of this delay, Savannah River has been constructing a temporary facility to assure that waste tanks space will be available to continue the Defense Waste Processing Facility operations. 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 is \$30,995,000.

OECM has validated the near term (current contract period) performance baseline Total Project Cost of \$1,634,000,000 and a schedule completion date of November 2006. OECM has not endorsed the reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Continue Tank Farm and Effluent Treatment Project capability-based operations.
- Continue bulk waste removal.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Continue sludge preparation for the Defense Waste Processing Facility feed.
- Continue Tank 48 disposition.
- Using the Interim Salt Processing System, develop Cesium removal capability which includes: complete construction of Modular Caustic Side Solvent Extraction Unit and declare ready for hot operations; commence operation of combined facilities (241-96H, 512-S and Modular Caustic Side Solvent Extraction Unit); and continue installation of waste transfer lines to support future salt processing activities. Develop enhanced actinide capability to remove strontium, uranium, plutonium, and neptunium – complete modifications of 241-96H and declare ready for hot operations.
- Continue salt processing tank preparation and waste characterization.
- Continue tank deactivation.
- Continue operational closure of two additional waste tanks.
- Continue design and construction of the Salt Waste Processing Facility.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Liquid Waste in Inventory eliminated (Thousands of Gallons).....	0	0	0	33,100	0%
Liquid Waste Tanks closed (Number of Tanks).....	2	2	2	51	4%
High-Level Waste packaged for final disposition (Number of Containers).....	1,969	2,219	2,469	5,060	49%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Began preparing tanks 4 and 6 for bulk waste removal (FY 2005) • Produced 250 canisters of vitrified high-level waste (FY 2005) • Produce 250 canisters of vitrified high-level waste (September 2006) • Complete bulk waste removal of one additional waste tank (September 2006) • Declare 241-96H ready for hot operations (September 2007) • Commence operations of the Modular Caustic Side Solvent Extraction Unit (September 2007) • Prepare Sludge Batch 4 (September 2007) 					

FY 2007 vs. FY 2006 (\$000)

2035 Completion Projects

**HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations
Awaiting Geologic Repository**

- FY 2006 is the last year of funding for this PBS. In FY 2007 funds are transferred to PBS ID-0012B-D, RL-0012, and SR-0012. -13,751

SR-0011C / NM Stabilization and Disposition-2035

- The decrease is primarily attributed to the completion of operations in the F-Area plutonium storage facility and a new strategy to consolidate plutonium storage into one facility in K-Area. The F Area storage facility will complete deinventory by November 2006 at which time all surveillance and monitoring costs and deactivation costs will be captured in the SR-0040B PBS. -33,197

SR-0012 / SNF Stabilization and Disposition

- Stabilization and Disposition of Spent Nuclear Fuel in FY 2006 was in two PBS's; HQ-SNF-0012X (\$13,000,000) and SR-0012 (\$11,000,000). In FY 2007 all stabilization and disposition activities for Spent Nuclear Fuel are in PBS SR-0012 (\$22,000,000). The decrease of \$3,000,000 results from the consolidation of all Spent Nuclear Fuel into one single basin..... 11,507

SR-0013 / Solid Waste Stabilization and Disposition

- Decrease is attributable to the completion of shipment to the Waste Isolation Pilot Plant of drummed legacy transuranic waste as well as waste stream volume reductions. Also, installation and start-up of Non-Destructive Examination and Non-Destructive Assay systems for boxed transuranic waste is scheduled to be completed in FY 2006. -26,591

SR-0030 / Soil and Water Remediation

- Increase due to the acceleration of remediation activities at various sub-projects including the Western Sector Dynamic Underground Stripping project, F and H Groundwater Barrier Wall, and the General Separations Area. 9,725

SR-0040 / Nuclear Facility D&D

- In FY 2007, all work scope associated with this PBS has been transferred to PBS SR-0040B (2012 Completion Projects) and PBS SR-0040C (2035 Completion Projects) to provide increased visibility to F Area Material Storage facilities that will be completed by 2012. The decrease of \$56,646,000 in FY 2007 is due to the following: a shift of \$3,664,000 to PBS SR-0040B to cover the work scope that was transferred to this new PBS; a shift of \$12,542,000 to PBS SR-0040C to cover the work transferred to this new PBS; a reduction of \$40,440,000 due to critical mission needs and high priority projects (i.e. Salt Waste Processing Facility and the Soil and Groundwater program) to meet regulatory compliance issues. -56,646

FY 2007 vs. FY 2006 (\$000)

SR-0040C / Nuclear Facility D&D - 2035

- This is a new PBS in FY 2007. The increase reflects the transfer of work scope from PBS SR-0040. 12,542

SR-0100 / Non-Closure Mission Support

- No significant change. -333

SR-0101 / Savannah River Community and Regulatory Support

- No significant change. -41

Tank Farm Activities

SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035

- Increase is due to the Defense Waste Processing Facility evaporator General Plant Project, which begins construction in FY 2007, increases in bulk waste removal activities and increase for the design and construction of the Salt Waste Processing Facility project. 32,551

Total, Savannah River..... -94,326

**05-D-405, Salt Waste Processing Facility (SWPF), Savannah River Site, Aiken,
South Carolina**

1. Significant Changes

In response to the Defense Nuclear Facilities Safety Board concerns, the Department has increased the safety level of the confinement system from a Performance Category 2 to Performance Category 3.

This change will add 26 months to the project schedule, and require re-design and additional engineering and construction efforts.

As a result, the Total Project Cost is increasing over 25%, from \$440,000,000 to \$680,000,000.

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	1Q FY2006	1Q FY2007	N/A	N/A
FY 2006.....	4Q FY2004	3Q FY2006	3Q FY2006	4Q FY2009	N/A	N/A
FY 2007.....	4Q FY2004	1Q FY2008	3Q 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	TBD or N/A	TBD	TBD
FY 2006.....	336,040	103,960	N/A	TBD or N/A	TBD	440,000
FY 2007.....	559,600	120,400	N/A	TBD or N/A	TBD	680,000

No construction funds will be used until the Performance Baseline has been validated.

FY 2006: Includes \$83,851,000 of Project Engineering and Design funding appropriated under line item 03-D-414 and \$103,960,000 of operations funded support costs.

FY 2007: Includes \$162,000,000 of Project Engineering and Design funding appropriated under line item 03-D-414 and \$120,400,000 of operations funded support costs.

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 84,000,000 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 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 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. 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 processing a nominal 6,000,000 gallons per year to meet the Savannah River Site cleanup goals. 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.

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 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 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 (PC-3) within a Hazardous Category-2 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 contractor as a result of these proposed changes forms the basis for the budget profile and funding scenarios presented in the project data sheet. 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) and a corresponding 26 month increase to the project's schedule.

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.

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

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: Approve Performance Baseline - December 2006
- Critical Decision - 3a/3b: Approve Start of Construction (Long Lead Procurement/Site Preparation/Limited Construction) - December 2006
- 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	48,000
FY 2007	37,500	37,500	40,469
FY 2008	10,001	10,001	31,149
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
Out-years.....	365,613	365,613	365,613
Total, Construction.....	397,600	397,600	397,600
Total, TEC.....	559,600	559,600	559,600

6. Total Estimated Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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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
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Other Project Costs.....	120,400	103,960
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7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
TEC (Design)	90,382	40,469	31,149	0	0	0	0	162,000
TEC (Construction)	0	31,987	80,000	76,402	91,011	118,200	0	397,600
OPC Other than D&D	32,000	9,000	5,000	5,000	25,000	44,400	0	120,400
Total, Project Cost.....	122,382	81,456	116,149	81,402	116,011	162,600	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-414, Environmental Management, Project Engineering and Design, Various Locations

1. Significant Changes

The original acquisition strategy was to locate the 3013 Container Surveillance and Storage Capability in the 235-F Building. In September 2004, the Department of Energy directed a significant change in the Design Basis Threat. Analysis shows that the original strategy to use 235-F Building is no longer cost effective due to the estimated \$135 million increase required for the Design Basis Threat security upgrades. As a result, the 3013 Container Surveillance and Storage Capability was relocated to the 105-K Building. This data sheet reflects a design request for the 105-K building.

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
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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

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
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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	TBD or N/A	N/A	N/A
FY 2007 Budget Request.....	86,250	11,000	0	97,250	TBD	97,250

Preliminary estimate includes 3013 Container Surveillance and Storage Capability in 105-K cost funded by 04-D-423 (\$64,900,000). Total Project Cost does not include any cost for 2004 or 2005 Design Basis Threat.

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.

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 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 are 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 - January 2006
- Critical Decision 3: Approval to begin Demolition and Removal, and long lead procurements (and partial CD3)- July 2006
- Critical Decision 2: Project performance baseline - October 2006
- Critical Decision 4: Project Complete - September 2010

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Design

FY 2006	18,415	18,415	10,000
FY 2007	2,935	2,935	11,350
Total, Design	21,350	21,350	21,350

Construction

FY 2005	3,000	3,000	1,300
FY 2007	21,300	21,300	23,000
FY 2008	31,000	31,000	31,000
FY 2009	9,600	9,600	9,600
Total, Construction	64,900	64,900	64,900
Total, TEC	86,250	86,250	86,250

a/ Original FY 2005 appropriation was \$20,640,000, which was reduced \$165,000 due to a government-wide rescission. The project was further reduced \$17,475,000 to provide for Congressionally Directed Activities as directed in the FY 2005 Emergency Supplemental Appropriations Act. The remaining \$3,000,000 provides for the project scope to be performed in a different facility, (105-K), than the FY 2005 funds were originally appropriated fo (235-F).

6. Total Estimated Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Construction

Construction / All Other Construction.....	47,700	0
Construction / DOE Contingency and Technical Programmatic Risk Assessment.....	17,200	0
Total, Construction	64,900	0
Preliminary and Final Design	21,350	45,750
Total, TEC	86,250	45,750

Other Project Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Conceptual Planning.....	2,400	TBD
Start-up	1,200	TBD
Other Project Costs.....	7,400	TBD
Total, OPC.....	11,000	0

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
TEC (Design)	10,000	11,350	0	0	0	0	0	21,350
TEC (Construction)	1,300	23,000	31,000	9,600	0	0	0	64,900
Conceptual Planning.....	2,400	0	0	0	0	0	0	2,400
Other Project-Related Costs	450	1,800	3,300	2,650	400	0	0	8,600
Total, Project Cost	14,150	36,150	34,300	12,250	400	0	0	97,250

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	N/A	N/A	N/A	N/A
Maintenance	N/A	N/A	N/A	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 may be accomplished by the Management and Operating contractor. Specific scopes of work within this project may be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

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

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 413.3. In advance of the validated project baseline, the only construction funding released for expenditures will be for up to \$1,000,000 in long-lead procurement items as permitted by the DOE Order 413.3.

04-D-423, Container Surveillance and Storage Capability in 105-K, Savannah River Site, Aiken, South Carolina (SR-0011B)

1. Significant Changes

The original acquisition strategy was to locate the 3013 Container Surveillance and Storage Capability in the 235-F Building. In September 2004, the Department of Energy directed a significant change in the Design Basis Threat. Analysis shows that the original strategy to use the 235-F Building is no longer cost effective due to the estimated \$135 million increase required for the Design Basis Threat security upgrades. As a result in April 2005, the 3013 Container Surveillance and Storage Capability was relocated to the 105-K Building. This data sheet reflects a construction request for the 105-K building.

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

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	TBD or N/A	N/A	N/A
FY 2007 Budget Request.....	86,250	11,000	0	97,250	TBD	97,250

Preliminary estimate includes Environmental Management Project Engineering and Design funded under 04-D-414 (\$21,350,000). Total Project Cost does not include any cost for 2004 or 2005 Design Basis Threat security upgrades.

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 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 are 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 - FY 2006
- Critical Decision 3: Approval to begin Demolition and Removal, and long lead procurements (and partial CD3) - 4Q FY 2006
- Critical Decision 2: Project performance baseline - 1Q FY 2007
- Critical Decision 4: Project Completion - 4Q FY 2010

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
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Design/Construction by Fiscal Year

Design

FY 2006	18,415	18,415	10,000
FY 2007	2,935	2,935	11,350
Total, Design	21,350	21,350	21,350

Construction

FY 2005	3,000	0	0
FY 2006	0	3,000	1,300
FY 2007	21,300	21,300	23,000
FY 2008	31,000	31,000	31,000
FY 2009	9,600	9,600	9,600
Total, Construction	64,900	64,900	64,900
Total, TEC	86,250	86,250	86,250

a/ Original FY 2005 appropriation was \$20,640,000, which was reduced \$165,000 due to a government-wide rescission. The project was further reduced \$17,475,000 to provide for Congressionally Directed Activities as directed in the FY 2005 Emergency Supplemental Appropriations Act. The remaining \$3,000,000 provides for the project scope to be performed in a different facility, (105-K) than the FY 2005 funds were originally appropriated for (235-F).

6. Total Estimated Costs

(dollars in thousands)

	Current Estimate	Previous Estimate
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Construction

Construction / All Other Construction.....	47,700	0
Construction / DOE Contingency and Technical Programmatic Risk Assessment	17,200	0
Total, Construction	64,900	0
Preliminary and Final Design	21,350	45,750
Total, TEC	86,250	45,750

Other Project Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Conceptual Planning.....	2,400	TBD
Start-up	1,200	TBD
Other Project Costs.....	7,400	TBD
Total, OPC.....	11,000	0

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
TEC (Design)	10,000	11,350	0	0	0	0	0	21,350
TEC (Construction)	1,300	23,000	31,000	9,600	0	0	0	64,900
Conceptual Planning.....	2,400	0	0	0	0	0	0	2,400
OPC Other than D&D	450	1,800	3,300	2,650	400	0	0	8,600
Total, Project Cost.....	14,150	36,150	34,300	12,250	400	0	0	97,250

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	N/A	TBD	N/A	TBD
Maintenance	0	TBD	0	TBD
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 may be accomplished by the Management and Operating contractor. Specific scopes of work within this project may be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

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

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 413.3. In advance of the validated project baseline, the only construction funding released for expenditures will be for up to \$1,000,000 in long-lead procurement items as permitted by the DOE Order 413.3.

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

1. Significant Changes

In response to the Defense Nuclear Facilities Safety Board concerns, the Department has increased the safety level of the confinement system for the Salt Waste Processing Facility from a Performance Category 2 to Performance Category 3.

This change will add 26 months to the project schedule, and require re-design and additional engineering and construction efforts.

As a result, the Total Project Cost is increasing over 25%, from \$440,000,000 to \$680,000,000.

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	1Q FY2006	1Q FY2007	N/A	N/A
FY 2006.....	4Q FY2004	3Q FY2006	3Q FY2006	4Q FY2009	N/A	N/A
FY 2007.....	4Q FY2004	1Q FY2008	3Q 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	TBD or N/A	TBD	TBD
FY 2006.....	336,040	103,960	N/A	TBD or N/A	TBD	440,000
FY 2007.....	559,600	120,400	N/A	TBD or N/A	TBD	680,000

No construction funds will be used until the Performance Baseline has been validated.

FY 2006: Includes \$83,851,000 of Project Engineering and Design appropriated under line item 03-D-414 and \$103,960,000 of operations funded support costs (\$440,000,000 preliminary estimate).

FY 2007: Includes \$162,000,000 of Project Engineering and Design 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 84,000,000 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 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 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. 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 processing a nominal 6,000,000 gallons per year to meet the Savannah River Site cleanup goals. 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.

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 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 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 contractor as a result of these proposed changes forms the basis for the budget profile and funding scenarios presented in the 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) and a corresponding 26 month increase to the project's schedule.

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.

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

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: Approve Performance Baseline - December 2006
- Critical Decision - 3a/3b: Approve Start of Construction (Long Lead Procurement/Site Preparation/Limited Construction) - December 2006
- 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
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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	48,000
FY 2007	37,500	37,500	40,469
FY 2008	10,001	10,001	31,149
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	31,992
Outyears	365,613	365,613	365,608
Total, Construction	397,600	397,600	397,600
Total, TEC	559,600	559,600	559,600

6. Total Estimated Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Construction

Construction / All Other Construction.....	397,600	253,031
Preliminary and Final Design	162,000	83,851
Total, TEC	559,600	336,882

Other Project Costs

(dollars in thousands)

Current Estimate	Previous Estimate
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Other Project Costs	120,400	103,960
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7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
TEC (Design)	90,382	40,469	31,149	0	0	0	0	162,000
TEC (Construction)	0	31,987	80,000	76,402	91,011	118,200	0	397,600
OPC Other than D&D	32,000	9,000	5,000	5,000	25,000	44,400	0	120,400
Total, Project Cost	122,382	81,456	116,149	81,402	116,011	162,600	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 with Parsons 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

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Appropriation	FY 2007 Request
Closure Sites			
Ashtabula.....	8,752	15,841	295
Closure Sites Administration.....	0	0	25,896
Columbus.....	21,190	9,405	0
Fernald.....	322,538	324,344	258,877
Miamisburg	111,593	104,478	34,869
Rocky Flats.....	645,679	564,514	1,000
Total, Closure Sites	1,109,752	1,018,582	320,937

Sites included in the Closure Activities are: Ashtabula, Columbus, Fernald, Mound, and Rocky Flats projects.

Closure Activities will 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. 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 is 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 Ashtabula Closure Project consists of remediation of facilities, disposition of equipment, and remediation of affected land areas and groundwater. Facility decommissioning will primarily be accomplished by demolition and disposal of debris in off-site disposal facilities. Contaminated soil, asphalt, and concrete will be shipped to a low-level waste disposal site for burial. Groundwater remediation will be accomplished through source-term removal to on-site release limits. The project end-state of the site is expected to be completed by December 2006. Groundwater remediation will continue as part of the long-term stewardship program. Groundwater monitoring activities may continue for an additional 5-year period after the active groundwater remediation is complete. At the end of the project, 32 facilities will have been demolished or free-released. An estimated 37,000 tons of soil, concrete, and asphalt will have been remediated as part of the cleanup effort. All legacy waste and all equipment formerly used during production will have been shipped for disposal to licensed burial sites.

Site Description

The Ashtabula Closure facility is located one mile south of Lake Erie approximately 50 miles northeast of Cleveland, Ohio.

Site Cleanup Strategy/Scope of Cleanup (End State)

The site of the former Reactive Metals, Inc. extrusion plant will be remediated per an approved Ohio Department of Health Decommissioning Plan. Completion will allow the Ohio Department of Health to release the site to the owner, the RMI Titanium Company.

The scope of the Ashtabula Closure Project includes the environmental restoration of three release sites that were contaminated by Weapons Program activities from 1962 to 1988. The three release sites are: Buildings and Equipment; Solid Waste Management Unit soil and groundwater; Non-Solid Waste Management Unit soil. The Buildings and Equipment release site will be remediated principally by demolition or free-release of 32 site buildings and disposal of remediation waste, including equipment, as low-level waste. The Solid Waste Management Unit release site will be remediated by bioremediation followed by soil excavation, ex-situ vapor stripping, 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, will be accomplished principally by excavation and shipment to a disposal site. Non-Solid Waste Management Unit soils are estimated at 27,000 tons. Bulk waste shipment of all remediation waste, including contaminated soil, will be by railroad gondola cars. Interim support facilities will be provided during remediation. Remediation of the trichloroethylene-contaminated soils will be by low temperature thermal desorption. Remediation of groundwater contamination will continue as part of long-term stewardship.

Site Completion (End State)

With the exception of Area C-West, which is 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, all property will remain with the current owners. All property is being remediated for "Free and Unrestricted Use". This project end-state for the site land areas will be reached by the end of 2006. As part of long-term stewardship, groundwater monitoring by means of well sampling and analysis will continue for a 5-year period after the end of active groundwater remediation. Although unlikely, additional groundwater treatment would be required if at any time during the monitoring cycle, contamination above regulatory limits is detected in the groundwater.

Regulatory Framework

The Site Treatment Plan provides details of the planned 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 to 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 Project Uncertainties and Assumptions (per Project Risk Management Plans)

It is assumed that the contract awarded for final remediation of the Ashtabula Closure Project in the fall of 2005 will allow final site remediation to be completed by the end of 2006, and no additional regulatory issues that impact the scope or pace of cleanup will arise.

Interdependencies

Completing off-site disposition of low-level waste is dependent upon identifying disposition pathways and facilitating off-site transport.

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 has chosen 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 is planned for completion in 2006. At that time it is expected that the site will have remediated to satisfy provisions of the Ohio Department of Health Decommissioning Plan. The site will then be released back to the RMI Titanium Company.

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 has been 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 describes the project's technical basis for release of buildings, materials and grounds.

Completion of the West Jefferson site accelerated cleanup consists of four primary objectives: 1) decontamination and demolition of three large buildings: JN-1, High Energy Hot Cell Facility (20,200 square feet); JN-2, Critical Assembly Building (13,000 square feet), and JN-3, Reactor Building (10,000 square feet); 2) cleanup of related external areas (contaminated filter beds and buried utilities); 3) waste

management activities (packaging, transportation, and disposal of transuranic waste, low-level waste and contaminated soils and debris); and 4) surveillance and maintenance (phased out as site hazards are reduced). The end-state objective is to safely remediate Battelle facilities to levels of residual contamination allowing future use of the site without radiological restrictions by the end of FY 2006 or sooner, thereby releasing DOE from all future liability. 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 (End State)

The West Jefferson facility will be remediated per a Nuclear Regulatory Commission approved decommissioning plan which will allow the Nuclear Regulatory Commission license currently held by Battelle to be terminated upon completion. The scope of the Columbus Closure Project is 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 have 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)

The project end-state will be reached in FY 2006. As a general end-state, areas where buildings have been demolished or contaminated materials have been excavated will be backfilled, compacted to a degree that will enable future construction, and covered with grass. Known contamination will be 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 (e.g., possibly leaving the section of sanitary sewer that runs under the dam in place and filling it with grout material to fix the contamination and render the pipe unusable) will be made on a case-by-case basis by mutual agreement between DOE and Battelle.

Regulatory Framework

The Site Treatment Plan provides 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 Project Uncertainties and Assumptions (per Project Risk Management Plans)

Project completion of the Columbus Closure project is expected to occur in FY 2006.

Interdependencies

Completing off-site disposition of the transuranic waste is dependent upon identifying a disposition pathway and facilitating off-site transport.

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

Work associated with final remediation and completion of DOE's responsibilities at the West Jefferson site is planned for completion in FY 2006. At that time it is expected that the site will be 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.

Physical cleanup at Fernald is expected to be completed by September 30, 2006, with final contract fee and post closure liabilities due in FY 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 (End State)

The Fernald wastes include 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 remained from the uranium metals production. The strategy to remediate these sources includes characterization, treatment, packaging, transportation, and final disposition. Following the completion of these activities, all process-generated waste will be dispositioned, and any related structures will be demolished.

Site Completion (End State)

The project end-state will be reached in FY 2006. The final remedial actions include: 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.

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.

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 Project Uncertainties and Assumptions (per Project Risk Management Plans)

DOE's plan for Fernald silos residues (wastes) is as follows. Silo 1 and 2 waste is going to Waste Control Specialists, LLC, Texas for storage pending ultimate disposal. Silo 3 waste is going to Envirocare, Utah for disposal.

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; however, Fluor Fernald is on track to complete physical cleanup by September 30, 2006, with final contract fee and post-closure liabilities due in FY 2007.

Cleanup Benefits

Work associated with final remediation and completion of DOE's responsibilities at the Fernald site is planned for completion in FY 2006. 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 will be transferred to the Office of Legacy Management for long term monitoring and maintenance.

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 which had a target completion date of March 31, 2006 (the current amended target completion date is September 30, 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, ten miles southwest of Dayton and 31 miles north of Cincinnati.

Site Cleanup Strategy/Scope of Cleanup (End State)

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 is dominated by residual spread of thorium and plutonium. However, other radionuclides such as radium, actinium and cesium are found in lesser amounts. Solid waste stabilization and disposition activities at the Miamisburg Closure Project involve 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 is currently being 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 end-state for this project is the disposition of all waste streams to approved disposal sites by September 30, 2006.

Site Completion (End State)

DOE will complete the Record of Decision for Parcel 6/7/8 before declaring EM completion by late CY 2006.

Regulatory Framework

In 1993 DOE/U.S. Environmental Protection Agency and the Ohio Environmental Protection Agency signed the Federal Facility Agreement.

Critical Project Uncertainties and Assumptions (per Project Risk Management Plans)

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 may continue into FY 2007, and may delay closure.

Interdependencies

Off-site shipment of waste will continue without obstruction.

Contract Synopsis

DOE has a cost plus incentive fee closure contract with CH2M Hill Mound, Inc. with a target completion date of September 30, 2006. 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.

Cleanup Benefits

Successful site cleanup, closure and turnover of 24 buildings and 306 acres to the Miamisburg Mound Community Improvement Corporation is expected to occur in 2007. When site cleanup and transfer

occurring, the long-term stewardship mission at Miamisburg Closure Project will be transferred to DOE's Office of Legacy Management.

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 1951 with a mission to manufacture nuclear weapons components from materials such as plutonium, beryllium, and uranium. When operations ceased, large amounts of plutonium, plutonium compounds, and metallic residues remained at the various site facilities. Significant volumes of hazardous and radioactive waste generated during production operations were also present throughout numerous buildings and soil was contaminated, resulting in the site being placed on the National Priorities List. In 1991, EM acquired the Rocky Flats Plant and the site transitioned to a new mission: cleaning up the contamination and waste from past production activities. It was at this time that the Rocky Flats Plant became the Rocky Flats Environmental Technology Site. By 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 will transfer to the Office of Legacy Management.

Site Cleanup Strategy/Scope of Cleanup (End State)

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 Project Uncertainties and Assumptions (per Project Risk Management Plans)

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. In FY 2007 the long-term stewardship mission at the site will transfer to the Office of Legacy Management.

Contract Synopsis

On February 1, 2000, Kaiser-Hill Company, L.L.C. 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.

Funding Schedule by Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
Closure Sites					
Ashtabula					
OH-AB-0030 / Soil and Water Remediation-Ashtabula	8,752	15,841	295	-15,546	-98.1%
Closure Sites Administration					
CBC-0100-FN / CBC Post Closure Administration - Fernald.....	0	0	8,696	8,696	+100.0%
CBC-0100-MD / CBC Post Closure Administration - Mound	0	0	11,200	11,200	+100.0%
CBC-0100-RF / CBC Post Closure Administration - Rocky Flats.....	0	0	6,000	6,000	+100.0%
Subtotal, Closure Sites Administration	0	0	25,896	25,896	+100.0%
Columbus					
OH-CL-0040 / Nuclear Facility D&D-West Jefferson.....	21,190	9,405	0	-9,405	-100.0%
Fernald					
OH-FN-0013 / Solid Waste Stabilization and Disposition-Fernald	164,212	47,633	0	-47,633	-100.0%
OH-FN-0030 / Soil and Water Remediation-Fernald	125,279	214,835	258,500	43,665	+20.3%
OH-FN-0050 / Non-Nuclear Facility D&D- Fernald.....	31,600	61,008	0	-61,008	-100.0%

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
OH-FN-0101 / Fernald Community and Regulatory Support.....	1,447	868	377	-491	-56.6%
Subtotal, Fernald	322,538	324,344	258,877	-65,467	-20.2%
Miamisburg					
OH-MB-0013 / Solid Waste Stabilization and Disposition-Miamisburg	54,358	64,774	0	-64,774	-100.0%
OH-MB-0030 / Soil and Water Remediation-Miamisburg	28,092	36,745	4,519	-32,226	-87.7%
OH-MB-0040 / Nuclear Facility D&D-Miamisburg.....	28,110	2,167	0	-2,167	-100.0%
OH-MB-0100 / Miamisburg Post-Closure Administration	0	0	30,350	30,350	+100.0%
OH-MB-0101 / Miamisburg Community and Regulatory Support	1,033	792	0	-792	-100.0%
Subtotal, Miamisburg.....	111,593	104,478	34,869	-69,609	-66.6%
Rocky Flats					
RF-0013 / Solid Waste Stabilization and Disposition.....	178,499	1,980	0	-1,980	-100.0%
RF-0030 / Soil and Water Remediation.....	192,090	424,080	1,000	-423,080	-99.8%
RF-0040 / Nuclear Facility D&D-North Side Facility Closures	179,775	121,823	0	-121,823	-100.0%
RF-0041 / Nuclear Facility D&D-South Side Facility Closures	87,013	10,890	0	-10,890	-100.0%
RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities	6,280	2,476	0	-2,476	-100.0%
RF-0101 / Rocky Flats Community and Regulatory Support.....	2,022	3,021	0	-3,021	-100.0%
Subtotal, Rocky Flats	645,679	564,270	1,000	-563,270	-99.8%
Total, Closure Sites	1,109,752	1,018,338	320,937	-697,401	-68.5%
Program Support					
Rocky Flats					
CBC-RF-0102 / Rocky Flats Future Use	0	244	0	-244	-100.0%
Total, Defense Environmental Cleanup.....	1,109,752	1,018,582	320,937	-697,645	-68.5%
Total, Closure Sites	1,109,752	1,018,582	320,937	-697,645	-68.5%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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OH-AB-0030 / Soil and Water Remediation-Ashtabula (life-cycle estimate \$144,350K)..... **8,752** **15,841** **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 demolition to free-release levels. Contaminated soil will be shipped to a low-level waste disposal site for burial. Groundwater remediation will be accomplished through source removal to on-site release limits followed by natural attenuation. Risk assessment will be conducted to confirm that natural attenuation provides adequate protection of the groundwater.

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

As of September 2005, all major production facilities (21) were demolished, resulting in the disposition of approximately 584,000 m³ of radioactive remediation generated waste.

The OECM validated the lifecycle Total Project Cost of \$157,000,000 and a schedule completion date of September 2006.

In FY 2007, the following activities are planned:

- Remediation of the Ashtabula Closure Project will be complete in 2006. Regulatory closure will take place in FY 2007. Ground water remediation efforts will continue as part of a long-term stewardship program under the Office of Legacy Management.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	104	104	104	104	100%
Radioactive Facility Completions (Number of Facilities).....	20	25	25	25	100%
Industrial Facility Completions (Number of Facilities).....	1	7	7	7	100%

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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closure. All costs for these activities prior to site closure are included in the individual site project PBS. Post-closure liabilities will initiate in FY 2006 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 workman's compensation claims.

In FY 2007, 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. Based upon the components of the post-closure liabilities, various end-dates are estimated through FY 2070.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

CBC-0100-RF / CBC Post Closure Administration - Rocky Flats (life-cycle estimate \$6,000K) 0 0 6,000

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 current site closure contractor.

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. Note: PBS RF-0100 Rocky Flats Environmental Technology Site Contract Liabilities funds other post-closure activities.

In FY 2007, the following activities are planned:

- Continue support for ongoing litigation and potential workmen's compensation claims.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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OH-CL-0040 / Nuclear Facility D&D-West Jefferson

(life-cycle estimate \$145,814K)..... 21,190 9,405 0

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

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. DOE’s responsibilities will be complete once the Battelle license with the Nuclear Regulatory Commission has been terminated.

As of September 2005, the site completed packaging of remote-handled transuranic waste in preparation for shipment off-site; completed two transuranic waste shipments to Hanford for interim storage; and decontaminated and completed closure of JN-3 Reactor Building and JN-2 Critical Assembly Building in preparation for demolition. Work is progressing well toward final decontamination and removal of equipment/materials in JN-1 High Energy Hot Cell Facility.

The OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Project activities will be completed by the end of FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Nuclear Facility Completions (Number of Facilities).....	0	1	1	1	100%
Radioactive Facility Completions (Number of Facilities).....	14	14	14	14	100%
Remediation Complete (Number of Release Sites).....	1	2	2	2	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed decontamination/stabilizing of the fuel storage pool and transfer canal in JN-1 High Energy Hot Cell Facility. (FY 2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Completed decontamination/stabilization of the high-bay area surfaces in JN-1 High Energy Hot Cell Facility. (FY 2005)
- Completed demolition and debris removal for JN-2 and JN-3 facilities. (FY 2005)
- Complete independent verification characterization activities to support site release from DOE back to Battelle (November 2005)
- Complete demobilization of equipment and infrastructure associated with site remediation (November 2005)
- Facilitate termination of Nuclear Regulatory Commission license for Battelle, the site owner, completing DOE/EM's responsibilities at West Jefferson (September 2006)

OH-FN-0013 / Solid Waste Stabilization and

Disposition-Fernald (life-cycle estimate \$1,593,936K)..... 164,212 47,633 0

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

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 m³ 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 m³ of remediation waste was shipped to the Nevada Test Site leaving approximately 60,583 m³ for off-site disposition.

As of September 2005, 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 Envirocare for disposition. Operation of Silo 3 Treatment Facility was started and the Accelerated Waste Retrieval of Silos 1 and 2 material was completed. Remaining activities for Silo 3 include retrieving, treating, packaging and shipping the waste

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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off-site. Remaining activities for Silos 1 and 2 are to ship the processed waste to interim storage.

In FY 2007, the following activities are planned:

- No activities are planned in FY 2007.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	7,085	7,085	7,085	7,085	100%
Remediation Complete (Number of Release Sites)	2	4	4	4	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Began Dispositioning of Silos 1 and 2 Material (FY 2005) • Completed waste pits remedial action operations/Complete Waste Pits Project (FY 2005) • Complete container loading of Silos 1 and 2 material (January 2006) 					

OH-FN-0030 / Soil and Water Remediation-Fernald
(life-cycle estimate \$1,382,730K)..... 125,279 214,835 258,500

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 ultimately 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 September 30, 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.

Educational outreach and maintenance of an on-site information facility are being employed as a form of community-based institutional controls.

As of September 2005, Fernald excavated 1,792,010 yds³ (162,367 yds³ in FY 2005) of soil and placed 1,863,327 yds³ (91,376 yds³ in FY 2005) of soil and debris in the On-site Disposal Facility; certified 787 (27 in FY 2005) acres clean; and completed construction of the On-Site Disposal Facility Cell 3 Cap; as well as Cells 7 and 8 liners at Fernald.

In FY 2007, the following activities are planned:

- Final contract fee payment for project physical completion.
- Transfer operation of the Converted Advanced Waste Water Treatment Facility to the Office of Legacy Management.
- Long-term stewardship activities are transferred to the Office of Legacy Management.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	0	0	2	2	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the construction of the On-Site Disposal Facility Cell 3 and 4 Caps (FY 2005) • Excavated 600,000 cubic yards (459,000 m³) of soils and below grade debris to reduce contamination levels (FY 2005) • Placed 600,000 cubic yards of material in the On-Site Disposal Facility (FY 2005) • Complete Area 7 Silos general area excavation (February 2006) • Complete remaining Release Sites (December 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Transfer operations of the Converted Advanced Waste Water Treatment Facility to the Office of Legacy Management (December 2006)

OH-FN-0050 / Non-Nuclear Facility D&D-Fernald

(life-cycle estimate \$283,310K)..... 31,600 61,008 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.

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 2005, Fernald decontaminated and demolished 75 percent of facilities (192 of 255 buildings) and completed six facilities.

In FY 2007, the following activities are planned:

- There are no planned activities.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Radioactive Facility Completions (Number of Facilities)	28	29	29	29	100%
Industrial Facility Completions (Number of Facilities).....	1	1	1	1	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the decontamination and dismantlement of two radioactive facilities and one industrial facility (FY 2005) • Completed Operable Unit 1 complex demolition (November 2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Complete decontamination and dismantlement of miscellaneous structures (Phase 11) (May 2006)

OH-FN-0101 / Fernald Community and Regulatory

Support (life-cycle estimate \$13,988K)..... 1,447 868 377

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 2007, the following activities are planned:

- Continue to provide funding to the Ohio Environmental Protection Agency in its role of overseeing the cleanup of the site, Payment in Lieu of Taxes, and regulatory compliance for cultural resource.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Facilitated meetings of Fernald Citizens Advisory Board. The Ohio Environmental Protection Agency reviewed and assessed final remedial actions, remedial designs and implementation, and conduct oversight of environmental monitoring programs (FY 2005) • Permit the Fernald Citizens Advisory Board to provide advice and recommendations about site remediation and help in the planning for long-term stewardship (September 2006) • Provide support for Ohio Environmental Protection Agency and Payment in Lieu of Taxes (September 2007) 					

OH-MB-0013 / Solid Waste Stabilization and

Disposition-Miamisburg (life-cycle estimate \$281,578K).. 54,358 64,774 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 operates six facilities and a rail staging area to manage waste streams, which are dispositioned when generated. Newly discovered transuranic waste will be shipped to the Savannah River Site pursuant to an agreement between the Department of Energy and the State of South Carolina.

The end-state for this project is the disposition of all waste streams to approved disposal sites by September 30, 2006.

As of September 2005, 99.9 percent (227,022 m³) of the total estimated life-cycle volume (227,237 m³) for all waste streams, including legacy low-level and mixed low-level waste and remediation generated wastes, were shipped.

In FY 2007, the following activities are planned:

- No waste disposition activities are planned after FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	3,947	3,947	3,947	3,947	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the shipment of 1,783 m³ of remediation waste to the Nevada Test Site for disposal (FY 2005) • Completed the shipment of 60,643 m³ of remediation waste to Envirocare for disposal (FY 2005) • Disposed of 7,054 m³ of hazardous soils waste (FY 2005) • Complete the shipment of 191 m³ of remediation waste to Envirocare (March 2006) • Dispose of remaining soils (September 2006) 					

**OH-MB-0030 / Soil and Water Remediation-
Miamisburg (life-cycle estimate \$156,953K)..... 28,092 36,745 4,519**

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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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.

This PBS also contains 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. The Miamisburg Closure Project Site Transition Plan established an October 1, 2006, transfer date; however, due to the Miamisburg Closure Project's decision in April 2005 to install a Package Plant for sanitary sewage treatment, the Miamisburg Closure Project contract completion date is expected to be late summer 2006 (instead of March 2006). DOE will also need to finalize the Record of Decision for Parcel 6/7/8 before declaring EM completion, and this activity will likely not occur until early FY 2007. Accordingly, this PBS includes EM work scope, through the end of FY 2007, for the following seven functional areas: Program Management, Environmental, Records Management, Information Management, Property Management, Stakeholder and Regulator Relations, and Procurement.

As of September 2005, 68.5 percent of the Potential Release Sites (122 of 178) were completed.

The OECM has validated the near-term (current contract period) performance baseline Total Project Cost of \$34,000,000 and a schedule completion date of March 2006. The OECM also endorsed the reasonableness of the lifecycle Total Project Cost of \$169,000,000 and a schedule completion date of March 2006.

In FY 2007, the following activities are planned:

- 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 may continue into FY 2007, delaying site completion.
- Work scope to cover any potential long-term stewardship "gaps" between EM acceptance of the contractor's declaration of physical completion and the date EM transfers site custodianship to the Office of Legacy Management.
- Cost Recovery Grant payments to the Ohio Environmental Protection Agency and Payment-in-Lieu-of-Taxes in support of Parcel 6/7/8 Record of Decision and excess real property conveyances to Miamisburg Mound Community Improvement Corporation.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	0	100%
Remediation Complete (Number of Release Sites)	146	183	184	184	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> Completed the restoration of Potential Release Site 66, which is the largest excavation activity in the baseline (FY 2005) Complete Potential Release Site 76 excavation and verification (October 2005) Complete the excavation and verification of Potential Release Site 131 (Soil beneath Buildings R, SW, and B Slab) (March 2006) Transfer at least 100 acres of Parcel 6/7/8 to the Miamisburg Mound Community Improvement Corporation (September 2006) 					

OH-MB-0040 / Nuclear Facility D&D-Miamisburg
(life-cycle estimate \$482,423K)..... 28,110 2,167 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.

As of September 2005, 100 facilities were demolished or transferred to the Miamisburg Mound Community Improvement Corporation, leaving 35 facilities still to be demolished or transferred to the Miamisburg Mound Community Improvement Corporation. Of these 35 facilities, 10 are radiologically contaminated, and most of the remaining 25 facilities have some industrial contamination, all of which require decontamination and decommissioning. One of the transition buildings (Building T, which is a heavily reinforced subterranean concrete structure) must undergo extensive decommissioning and decontamination before transfer. The R and SW buildings, which are Nuclear Category 2 buildings, have

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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significant radiological contamination that must be mitigated prior to demolition. By the end of December 2005, all facilities at the Miamisburg Closure Project were either physically demolished or transferred or readied for transfer to the Miamisburg Mound Community Improvement Corporation.

The OECM has validated the near-term (current contract period) performance baseline Total Project Cost of \$107,000,000 and a schedule completion date of March 2006. The OECM also endorsed the reasonableness of the lifecycle Total Project Cost of \$483,000,000 and a schedule completion date of March 2006.

In FY 2007, the following activities are planned:

- No nuclear facility deactivation, decontamination, decommissioning, or demolition activities are planned after FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Nuclear Facility Completions (Number of Facilities).....	7	8	8	8	100%
Radioactive Facility Completions (Number of Facilities).....	10	11	11	11	100%
Industrial Facility Completions (Number of Facilities).....	97	116	116	116	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the verification of residual contamination for T Building (173,000 square feet), which will be transferred to the Miamisburg Mound Community Improvement Corporation (FY 2005) • Continued the reduction of source term in the nuclear facilities to minimize risk for the project and to accelerate work in nuclear facilities resulting in improvements in the critical path schedule for the Miamisburg Closure Project (FY 2005) • Complete the demolition of Buildings R/SW and Building 58 (includes slab and underground line removal) (December 2005) 					

OH-MB-0100 / Miamisburg Post-Closure

Administration (life-cycle estimate \$844,738K)..... 0 0 30,350

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) and Financial Accounting Standard 106 (Employers' Accounting for Post-Retirement Benefits Other Than Pension). Post-closure liabilities will initiate in FY 2006 with the completion of the Miamisburg Closure Project contract and extend through the estimated lifetime of current site workers and their beneficiaries.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Fund liabilities associated with the end of the Mound Closure Project prime contract, including claims related to health and welfare benefits. Based upon the components of the post-closure liabilities, various end-dates are estimated through FY 2070. Post-closure contractor pension and retiree benefits will be administered by the Office of Legacy Management.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

OH-MB-0101 / Miamisburg Community and Regulatory Support (life-cycle estimate \$9,466K)..... 1,033 792 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 2007, 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.

In FY 2007, the following activities are planned:

- All obligations under PBS OH-MB-0101 will cease at the end of FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

RF-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate \$824,494K)..... 178,499 1,980 0

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 m³, low-level and mixed low-level waste with an estimated life-cycle total of 254,962 m³; 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 m³ of low-level and mixed low-level waste was shipped for disposal and 14,468 m³ 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 2007, the following activities are planned:

- Activity is complete in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	15,300	15,300	15,300	15,300	100%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	602,188	602,188	602,188	602,188	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed site deinventory of legacy transuranic waste to off-site disposal (FY 2005) • Complete site deinventory of legacy low-level/mixed low-level waste to off-site disposal (October 2005) 					

RF-0030 / Soil and Water Remediation (life-cycle estimate \$2,138,418K) 192,090 424,080 1,000

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,

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 are also included in this PBS.

In FY 2007, the following activities are planned:

- Final filing of the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision will be completed during FY 2007. This funding will support final regulatory completion of the Rocky Flats Site.
- Long-term stewardship activities transfer to the Office of Legacy Management in FY 2007.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	333	336	336	336	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed remediation of 30 release sites (including 903 Pad Lip and Americium Zone, the East Firing Range, completion of the Original Landfill Cap construction, and restoration of Ponds B-1, B-2, and B-3) (FY 2005) • Complete remediation of remaining release site (December 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 \$1,923,493K)..... 179,775 121,823 0

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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The scope of this PBS is to decontaminate and decommission all facilities on the north side of the Rocky Flats site. This decontamination and decommissioning activity includes all facility closure activities, including demolition of four nuclear building complexes. The nuclear building complexes included in this PBS are: Building 371/374 Cluster, Building 707 Cluster, Building 776/777 Cluster, and Building 771/774 Cluster. The total square footage of the facilities included in this PBS is approximately one million square feet. The activities that will be performed include building stabilization/deactivation, decontamination, demolition, and dismantlement. This PBS includes 6 Material Access Areas, 6 Nuclear Facilities, 22 Radioactive Facilities, and 141 Industrial Facilities. In addition to the decontamination and decommissioning activity, this PBS also provides technical support for the Rocky Flats Field Office, site utilities, and Government Furnished Services/Items.

Building stabilization includes: 1) removing a building from operation, 2) placing the building in a safe and stable condition that eliminates or mitigates hazards, and 3) ensuring adequate protection to the workers and the environment. Building deactivation 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 2007, the following activities are planned:

- Activity is complete in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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)	19	22	22	22	100%
Industrial Facility Completions (Number of Facilities).....	136	141	141	141	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed decontamination and decommissioning of remaining radioactive and industrial facilities (October 2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Completed decontamination and decommissioning of remaining radioactive and nuclear facilities (October 2005)

RF-0041 / Nuclear Facility D&D-South Side Facility

Closures (life-cycle estimate \$778,537K)..... 87,013 10,890 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 2007, the following activities are planned:

- Activity is complete in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	1	100%
Radioactive Facility Completions (Number of Facilities)	23	32	32	32	100%
Industrial Facility Completions (Number of Facilities).....	161	176	176	176	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> Completed decontamination and decommissioning of remaining radioactive and industrial facilities (October 2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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RF-0100 / Rocky Flats Environmental Technology Site

Contract Liabilities (life-cycle estimate \$3,755,536K) **6,280** **2,476** **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 2007, the following activities are planned:

- Reflects the transfer of post-closure pension and other-than-pension benefits for former Rocky Flats non-Federal workers to the Office of Legacy Management.
- Reflects transfer of litigation activities to the Consolidated Business Center (funded under PBS CBC-0100-RF).

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Supported site litigation activities and former site management and operations, and existing site contractor contract closeouts (FY 2005) • Support site litigation activities and former site management and operations, and existing site contractor contract closeouts (September 2006) 					

RF-0101 / Rocky Flats Community and Regulatory

Support (life-cycle estimate \$36,556K)..... **2,022** **3,021** **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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 2007, the following activities are planned:

- Activity is complete in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Provided educational and financial assistance up to the agreed upon level of support. Support to the Colorado Department of Public Health and Environment, the U.S. Fish and Wildlife Service, the City of Westminster, the Pueblo Community College (SEEDS Program) (FY 2005) • Provide educational and financial assistance up to the agreed upon level of support. Support to the Colorado Department of Public Health and Environment, the U.S. Fish and Wildlife Service, the City of Westminster, the Pueblo Community College (SEEDS Program) (September 2006) 					

CBC-RF-0102 / Rocky Flats Future Use (life-cycle estimate \$2,431K) 0 244 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 expected to provide a report to Congress with the FY 2007 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 to coincide with the Rocky Flats closure by December 2006.

In FY 2007, the following activities are planned:

- Provide the Annual Report to Congress in December 2006. FY 2006 funding is utilized to support development of the report.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Provide Annual Report to Congress on funding the Rocky Flats Wildlife Refuge Act (December 2005/December 2006) 					

Total, Closure Sites **1,109,752** **1,018,582** **320,937**

Explanation of Funding Changes

FY 2007 vs.
FY 2006
(\$000)

Defense Environmental Cleanup

Closure Sites

Ashtabula

OH-AB-0030 / Soil and Water Remediation-Ashtabula

- Decrease is due to completion of remediation activities in FY 2006. -15,546

Closure Sites Administration

CBC-0100-FN / CBC Post Closure Administration - Fernald

- Increase is due to the transfer of post-closure administration activities, contract liabilities and workers' compensation to the EM Consolidated Business Center from Fernald..... 8,696

CBC-0100-MD / CBC Post Closure Administration - Mound

- Increase is due to the transfer of post-closure administration activities, contract liabilities and workers' compensation to the EM Consolidated Business Center from Mound, PBS OH-MD-0100. 11,200

CBC-0100-RF / CBC Post Closure Administration - Rocky Flats

- Increase supports the transfer of post-closure administration activities, contract liabilities and workers' compensation to the EM Consolidated Business Center from Rocky Flats, PBS RF-0100. 6,000

Columbus

OH-CL-0040 / Nuclear Facility D&D-West Jefferson

- Decrease is due to completion of activities in FY 2006. -9,405

Fernald

OH-FN-0013 / Solid Waste Stabilization and Disposition-Fernald

- Decrease is due to the planned completion of activities in 2006..... -47,633

OH-FN-0030 / Soil and Water Remediation-Fernald

- Increase supports final contract fee payment..... 43,665

FY 2007 vs. FY 2006 (\$000)

OH-FN-0050 / Non-Nuclear Facility D&D-Fernald

- Decrease is due to planned completion of decontamination and dismantlement activities planned in 2006. -61,008

OH-FN-0101 / Fernald Community and Regulatory Support

- Decrease in funding is due to less oversight by the Citizens Advisory Board as the site approaches closure. -491

Miamisburg

OH-MB-0013 / Solid Waste Stabilization and Disposition-Miamisburg

- Decrease is due to completion of waste disposition in FY 2006. -64,774

OH-MB-0030 / Soil and Water Remediation-Miamisburg

- Decrease reflects completion of soil and water remediation activities in FY 2006..... -32,226

OH-MB-0040 / Nuclear Facility D&D-Miamisburg

- Decrease is due to the planned completion of facility D&D activities in FY 2006. .. -2,167

OH-MB-0100 / Miamisburg Post-Closure Administration

- Increase is due to the initiation of post-closure administration activities in FY 2007 and post-closure contract termination and litigation..... 30,350

OH-MB-0101 / Miamisburg Community and Regulatory Support

- Decrease is due to site closure in FY 2006. -792

Rocky Flats

RF-0013 / Solid Waste Stabilization and Disposition

- Decrease is due to completion of off-site disposal of remaining legacy and newly generated waste..... -1,980

RF-0030 / Soil and Water Remediation

- Decrease reflects payment of conditional and final contract target incentive fee and remediation of remaining release sites in FY 2006. Also reflects the transfer of long-term stewardship activities to the Office of Legacy Management..... -423,080

RF-0040 / Nuclear Facility D&D-North Side Facility Closures

- Decrease is due to the demolition of the remaining radioactive and nuclear facilities (Buildings 371, 776, and 777) in FY 2006..... -121,823

FY 2007 vs. FY 2006 (\$000)

RF-0041 / Nuclear Facility D&D-South Side Facility Closures

- Decrease is due to completion of decontamination and decommissioning of all remaining facilities in FY 2006. -10,890

RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities

- Decrease in funding supports the transfer of post-closure pension and benefits of non-Federal workers to the Office of Legacy Management. The funds identified for this transfer were not included in the FY 2006 budget request. Also, reflects the transfer of \$6,000,000 to the Consolidated Business Center (PBS CBC-0100-RF) to support ongoing litigation. -2,476

RF-0101 / Rocky Flats Community and Regulatory Support

- Decrease is due to site closure in FY 2006. -3,021

Program Support

CBC-RF-0102 / Rocky Flats Future Use

- Decrease in funding is due to transfer of activity to the Fish and Wildlife Service in FY 2007. -244

Total, Closure Sites..... -697,645

NNSA Sites

Funding by Site

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Appropriation	FY 2007 Request
NNSA Sites			
California Site Support	746	545	370
Kansas City Plant	3,478	4,481	0
Lawrence Livermore National Laboratory	61,971	29,283	11,580
Los Alamos National Laboratory	116,699	141,277	91,627
Nevada Off-Sites	0	2,818	0
Nevada	97,700	84,177	79,668
NNSA Service Center	9,502	8,221	26,122
NNSA Sites & Nevada Off-Sites	300	0	0
Pantex	24,016	19,458	23,726
Sandia National Laboratories	20,084	9,672	0
Total, NNSA Sites	334,496	299,932	233,093

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, Sandia National Laboratories, and Lawrence Livermore National Laboratory Main Site is scheduled for FY 2006. Long-term response actions for these three 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 the 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 instituting monitoring programs for surface water and groundwater.

Site Completion (End State)

The Kansas City Plant will have 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 will 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 has been approved by the regulator. The agreed upon remedy consists of engineered and institutional controls and monitoring as well as a Bioaccumulation Study in FY2005, 2008, and 2013. The Statement of Basis is being prepared by the regulator, which will be issued for a 45-day public review period.

Infiltration of Legacy polychlorinated biphenyls Contamination into Storm Sewers – Consent Judgment is being negotiated between the Kansas City Plant and the State to achieve a new polychlorinated biphenyls limit of 0.5 parts per billion. Corrective actions will be a part of the finalized Judgment.

Longer Term Projects:

Long Term Remedial Action – Since all environmental restoration work is scheduled for completion in FY 2006 at the Kansas City Plant, all associated Long-term response actions activities will be funded by the National Nuclear Security Administration beginning in FY 2007. Long-term response actions 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 become effective in 2006. If the Consent Judgment is not completed by September 2006, it will not affect the KCP site completion.

Critical Project Uncertainties and Assumptions

It is assumed that no adverse public comment will arise from the issuance of the Resource Conservation and Recovery Act Statement of Basis for the 95th Terrace Site and that a final decision document for the site will be issued early in calendar year 2006.

Interdependencies

Long-term response actions 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

Accelerated 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 FY 2005; transfer of the Newly Generated Waste Program to National Nuclear Security Administration in FY 2006; completion of the Livermore Site remedial activity build-out in FY 2006 and transition to long-term response actions 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 response actions in FY 2009. Starting in FY 2007, the National Nuclear Security Administration will be responsible for long-term response actions for the Lawrence Livermore National Laboratory Main Site.

Site Description

Livermore Site

Livermore 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.

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 will facilitate work execution were assembled.

Site Completion (End State)

At completion, all required treatment facilities would be constructed and fully operational. Soil and groundwater remediation activities will continue, as well as monitoring and regulatory reporting. 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 response actions for the Lawrence Livermore

National Laboratory Main Site. The EM program includes completion of the Livermore Site remedial activity build-out in FY 2006 and transition to long-term response actions 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 response actions in FY 2009.

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. By the end-state of this project, all legacy waste will have been disposed in federal and/or commercial facilities.

Livermore Site Completion - Past operations at the Lawrence Livermore National Laboratory Site resulted in the release and subsequent migration of contaminants into the soil and groundwater. The major contaminants are volatile organic compounds, primarily trichloroethylene. To date, the project has completed construction, installation, and operation of thirty (30) treatment systems through the end of FY 2004, four were installed in FY 2005, and five are planned for installation in FY 2006.

Longer Term Projects:

Site 300 Completion - Soil and groundwater contamination will be understood and cleanup levels for these contaminants will be codified in a Record of Decision. The treatments 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 Livermore 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 Site 300 federal facility agreement was signed in 1991. Subsequently, an interim Record of Decision was signed in 2002 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 2007.

The contractor and DOE jointly hold a Resource Conservation and Recovery Act Part B permit for several waste management facilities that was issued by the State of California on May 27, 1999. A Resource Conservation and Recovery Act Part B permit is held for one building at Site 300, issued on May 23, 1996. Another Resource Conservation and Recovery Act Part B permit for the Explosive Waste Treatment Facility was issued on October 9, 1997. Also in place is the Federal Facilities Compliance Act Site Treatment Plan Consent Order between DOE and the State of California that addresses schedules and volumes for the disposition of mixed waste from the Lawrence Livermore National Laboratory site. The Site Treatment Plan became effective February 7, 1997.

Critical Project Uncertainties and Assumptions

At Site 300, the major uncertainty is the final negotiation of cleanup levels. The baseline assumes that the state and Environmental Protection Agency will agree to similar cleanup standards negotiated for the Livermore Site, as well as accept monitored natural attenuation for the cleanup of several on-site plumes.

Interdependencies

For the legacy waste project and 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 and legacy waste disposition 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. DOE is monitoring the performance of the contractor in implementing cleanup strategies and will evaluate whether an alternative contracting mechanism may result in a more efficient cleanup.

Cleanup Benefits

Near-Term

The investment of funding for Lawrence Livermore National Laboratory has yielded dividends, including final disposition of legacy waste inventories by FY 2005 and the construction of all groundwater treatment facilities at the Livermore Site by 2006.

Longer-Term

Site 300 will be complete with final cleanup levels negotiated and treatment facilities constructed and operational by the end of FY 2008.

Los Alamos National Laboratory

Site Overview

The Environmental Management program at Los Alamos National Laboratory is 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 from past nuclear weapons development and nuclear research operations.

Site Description

Los Alamos National Laboratory is located in Los Alamos County, in north-central New Mexico, 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. Also, there are three other distinct geographical areas associate with 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 governments.

Technical Area (TA) 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.

Corrective Actions -This area includes investigations and subsequent remediation of potential release sites intermixed with active Los Alamos National Laboratory operations.

Technical Area-54 - Former and active waste disposal areas for the Los Alamos National Laboratory are located at Technical Area-54, and includes decontamination and decommissioning and several major material disposal areas (G, H, and L).

Site Cleanup Strategy/Scope of Cleanup

Driven by the 2005 Consent Order issued by the State of New Mexico, cleanup of legacy potential release sites and the shipment of legacy transuranic wastes is a condition of continued operation of Los Alamos National Laboratory in support of the National Nuclear Security Administration weapons mission. 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 strategy for the environmental restoration is through a risk based methodology that complies with regulatory requirements and adheres to future land use scenarios. The transuranic waste disposition strategy is to characterize, package, and ship waste to Waste Isolation Pilot Plant. The scope of the EM projects at Los Alamos National Laboratory is to: (1) protect and monitor the regional aquifer; (2) cleanup contaminated sites on Los Alamos National Laboratory and surrounding private and government-owned lands to levels appropriate for the intended land use; (3) decontaminate and decommission excess, process-contaminated facilities; (4) retrieve and ship legacy transuranic wastes to the Waste Isolation Pilot Plant; and (5) conduct long-term surveillance and monitoring.

Site Completion (End State)

The end state for EM 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. End date for cleanup operations is 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 security-classified solid-form waste. It consists of nine 60-foot 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 Consent Order requires completion of corrective action at material disposal area H by September 30, 2006.

Airport Remediation - The Airport Landfill consists of a historic sanitary landfill at the former TA-73. The Ash Pile project consists of a solid waste incinerator facility and ash debris, from this incinerator, that was dumped off the top of the mesa. The corrective actions at the airport are scheduled for completion in FY 2007. Redesign of the main landfill cover began on March 21, 2005. A remedy completion report is due to New Mexico Environmental Department by March 30, 2007.

Cañon de Valle/260 Outfall - The Cañon de Valle/260 outfall includes the characterization and remediation at 140 Solid Waste Management Units/Administrative Order on Consents located within TA-14, -15, and -16. These Solid Waste Management Units/ Administrative Order on Consents are expected to remain as industrial sites under DOE control for the foreseeable future.

Mixed low-level waste - The legacy canisters (15) have disposal options, but 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. In addition, two legacy items in inventory are considered shock-sensitive and will require specialized treatment. This project is scheduled for FY 2005- FY 2007.

Longer-Term Projects:

Technical Area-21 - This project will characterize and remediate, if necessary, all Solid Waste Management Units and Administrative Order on Consents 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 occupying Delta Prime East. This project is scheduled for FY 2007 – 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 and Administrative Order on Consents (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 and Administrative Order on Consents 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 and Administrative Order on Consents in the aggregate by 2012.

Watershed Integration - The watershed integration work includes the activities of the Canyons Aggregates, 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. This project is scheduled for FY 2007 – FY 2015.

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. 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 August 2009.

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 August 2009.

Remote Handled Transuranic Waste - The remote handled retrieval project mission is to retrieve the transuranic waste from thirty-three lined shafts and six unlined shafts, canisters and torpedoes and place it in inspectable storage configuration (if required) by August 2009. This project also includes site stabilization and eradication of any contaminated soils resulting from any breached containers.

Regulatory Framework

The primary regulatory driver for the EM Projects at Los Alamos National Laboratory is the March 1, 2005 Compliance Order on Consent. The Consent Order prescribes a specific corrective action scope and timeframe for Los Alamos National Laboratory, 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 are the 1995 Federal Facilities Compliance Agreement, Public Law 105–119, 10 CFR 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 Project Uncertainties and Assumptions

The following assumptions create uncertainties and programmatic risks:

DOE has yet to complete its validation of the site baseline that is consistent with the requirements of the 2005 Consent Order and an independent cost estimate. Accordingly, there is significant uncertainty in this project at this time.

The New Mexico Environmental 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; there leaving in place contaminants whose presence does not pose unacceptable health and environmental risk.

Waste Isolation Pilot Plant Permit, Section 311 modification requests will be approved before October 1, 2007. This approval is critical to the schedule assumptions made for the Legacy Waste Disposition Project. A draft permit was received November 22, 2005.

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 the Los Alamos National Security, LLC. This contract is a management and operations cost-reimbursable contract with performance-based provisions. Individual tasks are executed through management and operations issued procurements. Acquisition planning and execution is conducted throughout the life of the Los Alamos National Laboratory EM Program by the management and operations contractor. The management and operations contractor awards subcontracts to provide significant flexibility to achieve cleanup in the most cost-effective manner.

Cleanup Benefits

The EM 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 project 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. Other locations (known as "NV Offsites") within the continental United State were used based on the purpose of the test or geologic formation. The Nevada Site Office is currently responsible for characterization and remediation activities at these eight non-Nevada Test Site underground test locations ("Offsites") in the continental United States. These sites include Amchitka Island, Alaska; the Rio Blanco Site and Rulison Site in Colorado; the Salmon Site in Mississippi; the Central Nevada Test Area; Project Shoal Site in Nevada; Gnome-Coach Site in New Mexico; and the Gasbuggy Site in New Mexico. These Offsites are transferring to the Office of Legacy Management beginning in FY 2007 because EM has completed the major cleanup at these sites. For most of the sites, no work remains other than that associated with long-term response actions. Where additional cleanup is needed, it is minor in scope and within the capabilities of Legacy Management to complete.

The Nevada Test Site 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.

Site Description

The Nevada Test Site is located 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.

Nevada Test Sites - Amchitka Island is the southernmost island of the Rat Island Group in the Aleutian Islands, about 1,340 miles southwest of Anchorage, Alaska. The total island area is approximately 74,000 acres. The Rio Blanco Site is located in northwest Colorado about 37 miles northwest of Rifle, and about 52 miles northeast of Grand Junction. The total site area is approximately 25 acres. The Rulison Site is privately owned and located in west-central Colorado (Grand Valley) about eight miles southwest of Rifle. The total site size is approximately 50 acres. The Salmon Site in Mississippi is owned by DOE and is located in a sparsely populated area in the southwest region of the state, 21 miles southwest of Hattiesburg. The total site size is approximately 1,470 acres. The Central Nevada Test Area is located in south-central Nevada about 60 miles northeast of Tonopah. The total size of the site is approximately 2,560 acres. The Project Shoal Site is located in western Nevada, 30 miles southeast of the town of Fallon. The total site size is approximately 2,560 acres. The Gnome-Coach Site is located about 27 miles southeast of Carlsbad in New Mexico. The total site size is approximately 680 acres. The Gasbuggy Site is located in northwestern New Mexico, in the Carson National Forest, about 55 miles east of the town of Farmington. The total site size is approximately 640 acres.

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 is to assess and perform appropriate corrective actions at 878 former underground test locations, 100 atmospheric test locations, more than 1,000 other industrial-type sites, and approximately 88 Offsite locations. The waste management project is to support 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 also addresses surface and shallow subsurface radiological soil contamination on the Nevada Test Site and Nevada Test and Training Range (87 corrective action sites grouped into 18 Corrective Action Units). Contamination at these sites is the result of historic nuclear detonations, safety related tests, and hydronuclear experiments.

The industrial-type sites have been organized into corrective action units based on geography, technical similarity, or other appropriate reasons, for purposes of determining corrective actions.

Lastly, the cleanup strategy for the Offsites is also under the environmental restoration project and includes the necessary remediation of contamination (radioactive or hazardous as applicable) at the surface and shallow subsurface. Surface contaminants are primarily hydrocarbons associated with drilling operations, with fewer instances of hazardous metals and other chemicals, and radioactive constituents from the nuclear tests where venting occurred or drill-back materials were spilled. These sites are transferring to the Office of Legacy Management beginning in FY 2007.

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. End date for clean up activities is FY 2027.

The end state for the Nevada Test 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 Test Site Office envisions sites on the Nevada Test and Training Range to have total transuranics equating to a less than 25 millirem per year dose for military land-use scenario and site control relinquished to the United States Air Force. Remaining close-in-place sites on the Nevada Test Site will be inspected and monitored as necessary.

The end state for the Nevada Test 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 site sub-project is expected to be completed in FY 2018.

The end state for the Nevada Test 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 Test 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.

Near Term Projects:

The primary short-term Nevada Test Site Office project will be the completion of disposition of all legacy transuranic / mixed transuranic waste and material by the end of FY 2007.

Longer Term Projects:

The majority of the scope within the Nevada Test Site Office Environmental restoration and Waste Management Projects are long-term (earliest completion of significant scope other than transuranic / mixed transuranic waste is not planned until FY 2018).

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 Project 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.

A change in plans from limited to complete remediation (i.e., from “close in place” to “clean close”) of contaminated areas on the Nevada Test Site.

Contaminated soil areas that are on the Nevada Test Site will be closed in place with institutional controls.

Subsurface contamination in and around the Offsite test cavities will not be removed, and post-closure monitoring will be conducted as agreed upon in the individual site completion reports for the subsurface.

The long-term hydrologic monitoring program will continue annually at each Offsite location except Amchitka (which will be monitored every five years) until subsurface completion is agreed upon. After subsurface completion, final long-term hydrologic monitoring program will be defined in the individual site completion reports for the subsurface.

Current land-use designations and subsurface intrusion restrictions at all Offsite locations will continue into the foreseeable future.

Interdependencies

Nevada Site Office EM is dependent on successful negotiations with the U.S. Air Force and the state of Nevada to establish a final soils corrective action level.

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 TRUPACT IIs and approved shipping corridors 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. Bechtel Nevada (the Management and Operating Contractor for the Nevada Test Site) is contracted to perform environmental restoration field remediation activities and all waste management scope on the Nevada Test Site (including Nevada Test and Training Range). Stoller-Navarro Joint Venture (the architect engineer for Nevada Site Office EM) is contracted to perform site investigation and characterization activities on the Nevada Test Site (including Nevada Test and Training Range), and field environmental restoration activities at the Offsite locations. 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 human health and environment impacts; restore 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. Disposal of radioactive waste from across the DOE complex adds risk to the Nevada Test Site while removing risk from other sites.

Pantex Site Office

Site Overview

Pantex has a continuing mission to support nuclear weapons in the stockpile program. 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 activities 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 in 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 400 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

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 end state at 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 and readily sustain and protect human health and the environment, consistent with the planned land use for Pantex surrounding areas

There will be some environmental hazards from active Pantex industrial operations remaining after achieving the end state. These hazards are known and will be controlled per the final Compliance Plan to be negotiated prior to the end of FY 2008. In general, 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 will remove the facilities currently in the EM scope at the Pantex Plant by the end of FY 2006. 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 response actions 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 Response Actions/Long-Term Surveillance and maintenance activities will continue to meet 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 Environmental Protection Agency and the State of Texas, the Texas Natural Resources Conservation Commission has authority for investigations conducted under the Resource Conservation and 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 Project 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.
- Active sites are not included in the Pantex baseline.

Interdependencies

None

Contract Synopsis

The Pantex Plant is operated by BWXT Pantex, LLC, 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: The Pantex Plant has achieved many accomplishments using the accelerated approach submitted in the Risk Based End State document, dated September 2004.

Long Term Benefits: The current schedule is to complete the Pantex Plant at the end of FY 2008. Long-term response action activities will be funded in the National Nuclear Security Administration budget beginning in FY 2009.

Sandia National Laboratories

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 risk-based end state with either an industrial or recreational end-use. Some of the areas being cleanup up passed residential risk without additional remediation. For groundwater, an acceptable residential risk scenario with monitored natural attenuation is being pursued. Two hundred sixty five (265) sites were subject to investigation and potential corrective action. Remediation activities (fieldwork) are complete at 99 percent of the sites. All remaining remediation activities, which

include installing a cover and bioshield at the Mixed Waste Landfill and drilling additional monitoring wells for the Canyons Groundwater cleanup area, are on schedule as prescribed by the Corrective Measures Evolutions.

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 remedial action according to the designated land-use and regulatory agreements. Long-term response actions are all activities necessary to protect 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 will complete all necessary corrective actions at 265 environmental restoration release sites in FY 2006. FY 2006 is the final year of requested funding within the EM program.

Regulatory Framework

The regulatory driver for completing this work is the April 2004 New Mexico Environment Department Compliance Order on Consent. As of July 2005, 155 of the 265 sites have been approved for No Further Action through the regulatory process. The remaining 110 sites are in various stages of completion ranging from waiting for regulatory approval to requiring remediation.

Critical Project Uncertainties and Assumptions

There are two critical project uncertainties based primarily on New Mexico Environmental Department's regulatory approval not being in place. The work schedule is jeopardized by New Mexico Environmental Department's regulatory uncertainty. Second, the requirement for additional public review of closure documents could delay completion. Regulatory uncertainty on two groundwater areas will also 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 Environmental 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 Corrective Measure Study documents. This also extends the corrective measure study process and project schedule. It is assumed that these two activities will not impact life-cycle costs.

Interdependencies

Long-term response actions will be funded by National Nuclear Security Administration after EM completion, beginning in FY 2007.

Contract Synopsis

The current contract between DOE and Sandia National Laboratories will exist for the remainder of the EM project. Sandia National Laboratories will also maintain several Task Order sub-contracts active beyond FY 2006 to assist in the completion of administrative closure requirements.

Cleanup Benefits

Near term benefits through FY 2006 include the completion of all EM work scope.

Separations Process Research Unit

Site Overview

The Separations Process Research Unit is an inactive Atomic Energy Commission chemical processing pilot plant that supported nuclear weapons activities from 1949-1953. The plant was used to research the process of separating plutonium from irradiated uranium. Operations contaminated the four non-reactor nuclear facilities comprising the processing plant, auxiliary structures used to manage waste, and approximately thirty acres of surrounding land including the groundwater. There are six solid waste management units identified within the Separations Process Research Unit land areas. These areas comprise about 30 acres of the 170-acre Knolls Atomic Power Laboratory site. The non-reactor nuclear facilities include Building H2, the chemical processing building G2, the pipe tunnel connecting G2 and H2, and support structures. The auxiliary structures include seven tanks and tank enclosures containing process residues. The soil in the lower level parking lot, rail bed, north field, and associated groundwater in the vicinity of Building H2 (the waste handling facility) are contaminated.

Site Description

Separations Process Research Unit is located within the currently operating 170-acre Schenectady Naval Reactors' Knolls Atomic Power Laboratory near Schenectady, New York. The Mohawk River forms the northern boundary of the site. Both industrial and residential areas also bound the site.

Site Cleanup Strategy/Scope of Cleanup

The cleanup strategy for the Separations Process Research Unit EM Project is to disposition the facilities and remediate the identified land areas. This will eliminate a DOE legacy facility that has been inactive for fifty years and allow DOE to close an inactive small site, stabilize and consolidate transuranic waste, 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. In order to implement this strategy, there is waste (transuranic, low-level, mixed and hazardous) associated with the Separations Process Research Unit Project that needs to be characterized and disposed prior to completing the decontamination and decommissioning of the nuclear facilities and cleanup or stabilization of the associated soil areas as planned. Plans are to cleanup soils in other Separations Process Research Unit related areas and address any groundwater issues encountered.

To date those soil areas not proximate to the nuclear facilities, as well as Separations Process Research Unit related groundwater, have been characterized. Data from this characterization are currently being evaluated to identify any appropriate response. In addition, one ancillary Separations Process Research Unit structure, the K-6 storage facility, has been decontaminated and decommissioned.

Site Completion (End State)

The EM project will be complete by FY 2014. To complete the Separations Process Research Unit Project in the short term, the soil and groundwater characterization data collected to date must be evaluated and appropriate remedies and responses for any contaminated soil and/or groundwater areas must be developed in concert with DOE management and state regulators. In addition, the remaining ancillary non-nuclear facilities structures, i.e. the Cooling Tower/Pump House and K5 retention basins must be decontaminated, decommissioned, and removed.

In the longer term, contaminated soil and groundwater from the land areas (North Field, Lower Level Parking Lot, Railbed Area) and non-nuclear facilities will be remediated, if required. In addition, the nuclear facilities (H2, G2, Tunnels, and Tanks) must be decontaminated, decommissioned, and removed and associated soil and groundwater remediated.

Regulatory Framework

Schenectady Naval Reactors and Knolls Atomic Power Laboratory are operating under a Resource Conservation and Recovery Act Treatment, Storage, and Disposal permit, and all cleanup activities must be conducted in accordance with a Resource Conservation and Recovery Act Part B Operating permit under the Hazardous and Solid Waste Amendments of 1984. The Separations Process Research Unit is currently covered by this permit but has submitted an application for a separate permit for corrective actions to the State of New York. If approved, the State will administratively transfer the appropriate Solid Waste Management Units from the Knolls Atomic Power Laboratory Resource Conservation and Recovery Act Part B Permit and allow administration under a streamlined process that allows for accelerated clean up to be handled as remediation waste.

Critical Project Uncertainties and Assumptions

Because a CD-0 package was recently submitted for this project, there are still a number of uncertainties. The more significant are:

Agreement on cleanup end state, “farmer subsistence” support by the landlord (Naval Reactors), and “industrial” favored by EM, could have a significant funding impact.

Interdependencies

The major interdependency related to Separations Process Research Unit is the ongoing relationship with the Naval Reactors, the Schenectady Naval Reactors Office 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 Schenectady Naval Reactors 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, and Hanford. The project will work with these sites to ensure the expeditious transportation of waste and compliance with site waste acceptance criteria.

Contract Synopsis

EM activities are accomplished through direct contracts issued by the Separations Process Research Unit Project. These include a site characterization contract that is nearing completion. An existing EM Indefinite Delivery/Indefinite Quantity contract is currently being used to install a security fence to segregate the Separations Process Research Unit facilities from Knolls Atomic Power Laboratory operations.

A new EM Indefinite Delivery/Indefinite Quantity contract is being planned for decontamination and decommissioning of the cooling tower and K5 retention basins. Subject to Acquisition Executive approval, a prime contract will be initiated to complete the nuclear facilities' decontamination and decommissioning, soil and groundwater remediation, and project closeout and transition to Knolls Atomic Power Laboratory.

Cleanup Benefits

The benefits of completing the Separations Process Research Unit Project relate to eliminating the surveillance and maintenance costs related to the nuclear facilities and eliminating or reducing the environmental and human health risk posed by the Separations Process Research Unit residual contamination. In addition, remediation and removal of Separations Process Research Unit facilities and contaminated areas will enable the Naval Reactors to more efficiently and effectively meet its programmatic mission needs.

In FY 2007, the Office of Engineering and Construction Management will conduct external independent reviews of EM projects. At the Separations Process Research Unit, one project will be reviewed at an approximate cost of \$150,000. These funds will be transferred to the Office of Engineering and Construction Management using the Working Capital Fund.

Funding Schedule by Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
NNSA Sites					
California Site Support					
VL-FOO-0013B-D / Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense)	476	486	90	-396	-81.5%
VL-FOO-0100-D / Oakland Community and Regulatory Support (Defense).....	270	59	280	221	+374.6%
Subtotal, California Site Support	746	545	370	-175	-32.1%
Kansas City Plant					
VL-KCP-0030 / Soil and Water Remediation-Kansas City Plant	3,478	4,481	0	-4,481	-100.0%
Lawrence Livermore National Laboratory					
HQ-SW-0013Y / Solid Waste Stabilization and Disposition-NNSA Current Generation ...	26,415	0	0	0	0%
VL-LLNL-0013 / Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory	9,095	0	0	0	0%
VL-LLNL-0030 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site	13,980	16,038	0	-16,038	-100.0%
VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300	10,881	13,245	11,580	-1,665	-12.6%
VL-NV-0030 / Soil and Water Remediation-Nevada Test Site	1,600	0	0	0	0%
Subtotal, Lawrence Livermore National Laboratory	61,971	29,283	11,580	-17,703	-60.5%
Los Alamos National Laboratory					
VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy	40,148	42,374	44,592	2,218	+5.2%
VL-LANL-0030 / Soil and Water Remediation-LANL	76,104	98,418	28,310	-70,108	-71.2%
VL-LANL-0040-D / Nuclear Facility D&D-LANL (Defense).....	0	0	17,700	17,700	+100.0%
Subtotal, Los Alamos National Laboratory	116,252	140,792	90,602	-50,190	-35.6%
Nevada Off-Sites					
NV-0030 / Soil and Water Remediation-Nevada Offsites	0	2,818	0	-2,818	-100.0%
Nevada					
VL-NV-0013 / Solid Waste Stabilization and Disposition-Nevada Test Site.....	9,093	8,430	4,430	-4,000	-47.4%
VL-NV-0030 / Soil and Water Remediation-Nevada Test Site	79,754	68,202	67,180	-1,022	-1.5%

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
VL-NV-0080 / Operate Waste Disposal Facility-Nevada	5,135	5,024	5,458	434	+8.6%
VL-NV-0100 / Nevada Community and Regulatory Support.....	1,918	2,521	2,600	79	+3.1%
VL-SV-0100 / South Valley Superfund.....	1,800	0	0	0	0%
Subtotal, Nevada	97,700	84,177	79,668	-4,509	-5.4%
NNSA Service Center					
VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle.....	4,051	1,744	1,622	-122	-7.0%
VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit	5,451	6,477	24,500	18,023	+278.3%
Subtotal, NNSA Service Center.....	9,502	8,221	26,122	17,901	+217.7%
NNSA Sites & Nevada Off-Sites					
VL-FAO-0100-D / Nuclear Material Stewardship (Defense).....	300	0	0	0	0%
Pantex					
VL-PX-0030 / Soil and Water Remediation-Pantex	19,308	14,357	19,394	5,037	+35.1%
VL-PX-0040 / Nuclear Facility D&D-Pantex	4,708	5,101	4,332	-769	-15.1%
Subtotal, Pantex	24,016	19,458	23,726	4,268	+21.9%
Sandia National Laboratories					
VL-SN-0030 / Soil and Water Remediation-Sandia	20,084	9,672	0	-9,672	-100.0%
Total, NNSA Sites.....	334,049	299,447	232,068	-67,379	-22.5%
Non-Defense Environmental Cleanup					
Small Sites					
Los Alamos National Laboratory					
VL-LANL-0040-N / Nuclear Facility D&D-LANL (Non-Defense).....	447	485	1,025	540	+111.3%
Total, NNSA Sites.....	334,496	299,932	233,093	-66,839	-22.3%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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VL-FOO-0013B-D / Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense) (life-cycle estimate \$15,724K) **476** **486** **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 2007, the following activities are planned:

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

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

VL-FOO-0100-D / Oakland Community and Regulatory Support (Defense) (life-cycle estimate \$4,470K) **270** **59** **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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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funding is mandated by the Federal Facilities Agreement signed by DOE, Environmental Protection Agency, and the State of California.

In FY 2007, the following activities are planned:

- Continue support of State regulatory oversight (funding for State Grants) of environmental programs at the Lawrence Livermore National Laboratory sites. This includes the review of data and documentation associated with waste management and environmental restoration activities as required by Resource Conservation Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • 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 programs (FY 2005) • Provide state regulatory oversight of legacy waste management and environmental restoration activities at two Lawrence Livermore National Laboratory sites (FY 2005/September 2006/September 2007) • Provide state review of data and documentation associated with environmental cleanup at two Lawrence Livermore National Laboratory sites (FY 2005/September 2006/September 2007) • 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 2006/September 2007) 					

VL-KCP-0030 / Soil and Water Remediation-Kansas

City Plant (life-cycle estimate \$28,367K) 3,478 4,481 0

This PBS can 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. Projects necessary to complete environmental restoration are scheduled for completion by the end of FY 2006 under an accelerated cleanup approach. Kansas City has completed 42 of 43 release sites. The 95th Terrace project is the final release site requiring remediation. The Corrective Measures Study for the 95th Terrace project was approved on October 5, 2004 by the State. The last step in the 95th Terrace project process is development of the Corrective Measures Implementation Work Plan and its subsequent approval. Other release sites with limited risks will continue to be managed through institutional controls.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 117 were completed as of September 2005. The approved remedial actions required by the Record of Decision, and identified in the Performance Management Plan (August 2002) strategic initiatives, will be implemented by the end of FY 2006. Acceleration of these remedial actions will reduce the risks, overall liability, and mortgage at the Livermore Site associated with 39 distinct groundwater plumes contaminated with volatile organic compounds, nitrate, tritium, and/or metals. Activities in the scope of the project focus on the build-out of the required remediation system scheduled to be complete in FY 2006. The proposed end-state is that the Livermore Site remediation systems be phased into long-term operation and maintenance, and that the associated environmental monitoring be transferred to the National Nuclear Security Administration. Through the end of FY 2004, the project has completed build-out of 26 groundwater treatment systems and 4 soil vapor treatment systems, four systems were installed in FY 2005, and five are to be completed in FY 2006.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

- This project was completed in the first quarter of FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	117	120	120	120	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Constructed, installed, and operated a portable treatment unit in the southern portion of the East Traffic Circle Source Area (FY 2005) • Constructed, installed, and operated a portable treatment unit at the Treatment Facility E Hotspot (FY 2005) • Constructed, installed, and operated a portable treatment unit at the Treatment Facility 406 Hotspot (FY 2005) • Constructed, installed, and operated a portable treatment unit at Treatment Facility D Hotspot (FY 2005) • Construct, install, and operate a portable treatment unit at the northern portion of the East Traffic Circle Source Area (December 2005) • Construct, install, and operate a portable treatment unit at the Treatment Facility B/C Hotspot (December 2005) • Construct, install, and operate a portable treatment unit at the Treatment Facility 5475 South (December 2005) • Construct, install, and operate a portable treatment unit at the Treatment Facility 406 South (December 2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Construct, install, and operate a portable treatment unit at the Buildings 511/514 Source Area (December 2005)
- Construct, install, and operate a portable treatment unit at the Building 419 Source Area (December 2005)

**VL-LLNL-0031 / Soil and Water Remediation-
Lawrence Livermore National Laboratory - Site 300
(life-cycle estimate \$123,832K).....**

10,881 13,245 11,580

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

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.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

- In FY 2007, the following activities are planned:
- Complete Building 834 Operable Unit Five Year Review.
- Complete Site Wide Final Proposed Plan in support of the Final Record of Decision.
- Prepare and submit Site-Wide Final Record of Decision.
- Expand the B817 proximal ground water extraction and treatment facility in the former High Explosive Lagoon Area.
- Construct the B832-distal ground water extraction and treatment facility in the Building 832 Canyon OU.
- Complete Site Wide Final Remedial Summary Report.
- Complete final amendment to the Interim Site Wide Record of Decision for the Pit 7 Complex.
- Complete the General Services Area Operable Unit final Five-Year Review.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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The Solid Waste Stabilization and Disposition Project is comprised of the treatment, storage, and disposal of all legacy transuranic and mixed low-level waste generated between 1970 and 1999 at the Los Alamos National Laboratory. The end-state is the disposal of all legacy waste from Los Alamos National Laboratory. This program is coordinated with the Soil and Water Remediation Project (PBS-VL-LANL 0030) that is responsible for compliance with the 2005 Consent Order. This order requires that Technical Area 54, where legacy waste is stored, undergo complete environmental cleanup 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 Los Alamos Solid Waste Stabilization and Disposition Project includes seven work Activities performed by Los Alamos National Laboratory unless otherwise noted: 1) Transuranic Characterization Operations: Carlsbad Field Office's Central Characterization Project and Los Alamos will characterize, certify, and ship waste to the Waste Isolation Pilot Plant. Los Alamos National Laboratory will perform prescreening, repackaging, headspace gas analysis, and drum movements. 2) Decontamination Volume Reduction System: Los Alamos National Laboratory will sort, segregate, and volume reduce transuranic waste to make it eligible for disposal at the Waste Isolation Pilot Plant. 3) Pit-9 Retrieval: Los Alamos National Laboratory will retrieve and package all below grade contact-handled transuranic waste contained in Pit-9. 4) Corrugated Metal Pipes Retrieval: Los Alamos National Laboratory will retrieve and package all below-grade contact-handled transuranic waste identified as corrugated metal pipes. 5) Trenches A-D Retrieval: Los Alamos National Laboratory will retrieve and package all below-grade contact-handled transuranic waste contained in Trenches A-D. 6) Remote-Handled Transuranic: Los Alamos National Laboratory will retrieve, process, characterize, and ship remote-handled to transuranic waste to the Waste Isolation Pilot Plant. 7) Mixed Low-Level Waste: the Los Alamos National Laboratory completed disposition of legacy mixed low-level waste in FY 2005.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is planned for February 2006.

In FY 2007, the following activities are planned:

- Characterize 1,800 m³ of contact-handled transuranic waste.
- Decontaminate and volume reduce 575 m³ of oversized transuranic waste items to make eligible for disposal at the Waste Isolation Pilot Plant.
- Complete a Request for Proposals for Pit-9 remote-handled transuranic waste retrieval and processing.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	771	2,171	3,571	9,200	39%
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	483	483	483	483	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Initiate retrieval of legacy transuranic waste stored below ground (September 2006) • Decrease legacy transuranic waste by 1,400 m3 (September 2006/September 2007) • Issue Request for Proposal for retrieval of below-grade waste at Pit-9. (September 2007) 					

VL-LANL-0030 / Soil and Water Remediation-LANL
(life-cycle estimate \$1,011,398K)..... 76,104 98,418 28,310

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

The Los Alamos National Laboratory Remediation Project has responsibility to identify, investigate and remediate when necessary areas with known or suspected chemical and or radiological contamination 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 43 square miles of the laboratory. Sites include town sites, industrial sites, firing sites, High Explosive corridor and Material Disposition Areas. The remaining scope of the Project includes the characterization, monitoring, and protection of the surface and ground waters at the Laboratory and 767 Potential Release Sites left to be investigated and remediated or closed by evaluation and assessment of human health and ecological risks. Included in the 767 sites remaining to be addressed are: 1) Characterization and capping of eight priority material disposal areas which are to follow the corrective measures study and implementation process. One of these material disposal areas is the former and active radioactive waste disposal areas for the Laboratory. It will require an integrated, staged closure in order to accommodate the schedule associated with the Legacy Waste Disposition Project, and sites within and around the town of Los Alamos. 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 an ash pile generated from an incinerator, 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 remediation project is: the protection and monitoring of the regional aquifer; cleanup of sites at Los Alamos and surrounding areas to levels appropriate for intended land use, and long-term surveillance and monitoring as needed to provide

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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necessary safeguards and protection.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is planned for February 2006.

In FY 2007, the following activities are planned:

- Remove hazardous and/or radionuclide contamination in Mortandad Canyon, the second highest risk watershed.
- Characterize and implement corrective actions in Los Alamos/Pueblo watershed, the highest risk watershed.
- Provide minimum monitoring of regional groundwater drinking-water supply wells.
- Characterize and stabilize transuranic-contaminated waste in the Technical Area-21 around the “General’s Tanks”
- Initiate corrective actions at MDA B (Technical Area-21).
- Initiate corrective actions for DP Site Aggregate potential release sites.
- Complete final engineered cover for MDA H (Technical Area-54).
- Perform corrective measures fieldwork and evaluation report for Potential Release Sites at Technical Area-16.
- Treat and/or remove hazardous waste in shallow groundwater at Technical Area-16.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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)	1,398	1,460	1,480	2,124	70%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Installed three deep wells (FY 2005) • Submit investigation report for Material Disposition Area V to the New Mexico Environment Department (April 2006) • Install two permeable reactive barriers to protect groundwater in Canyon de Valle watershed. (August 2006) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Install one passive/reactive barrier to protect groundwater (August 2006)
- Submit investigation work plan for Water Canyon, Canyon de Valle, Ancho, Chaquehui, Indio, Fence, and Portrillo Canyons to the New Mexico Environment Department. (September 2006)
- Initiate Voluntary Corrective Actions at sites within Technical Areas 0, 10, 21,31, and 45. Complete Voluntary Corrective Actions for Building 16-340 sumps and airport landfills (September 2006)
- Complete final engineered cover for MDA H (Technical Area-54) (September 2007)

VL-LANL-0040-D / Nuclear Facility D&D-LANL

(Defense) (life-cycle estimate \$17,700K)..... 0 0 17,700

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

The PBS and work-scope are new to the EM program in FY 2007. There are several facilities at Technical Area 21 that must be removed, decontaminated, and decommissioned, ahead of scheduled environmental restoration activities such as characterization or implementation of corrective measures, to meet the 2005 Consent Order milestones.

In FY 2007, the following activities are planned:

- The work plan for FY 2007 includes completion of facility characterization of buildings 21-2, 21-5, 21-149, 21-150 and 21-210 and decontamination and decommissioning of buildings 21-2, 21-5 and 21-210 totaling over 50,000 square feet. All of these facilities are currently excess and are seriously deteriorated.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completion of Building 21-0005 D&D (September 2007) • Completion of Building 21-0002 D&D (September 2007) • Completion of Building 21-0210 D&D (September 2007) 					

NV-0030 / Soil and Water Remediation-Nevada

Offsites (life-cycle estimate \$115,819K)..... 0 2,818 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Historic atmospheric and underground nuclear tests at six 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 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 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 2007, the following activities are planned:

- Activities to be transferred to the Office of Legacy Management in FY 2007.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	47	47	47	80	59%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Complete the closure of the Gnome surface (September 2006) 					

**VL-NV-0013 / Solid Waste Stabilization and
Disposition-Nevada Test Site (life-cycle estimate**

\$71,983K) 9,093 8,430 4,430

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. 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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. Disposal of the transuranic and mixed transuranic on the Nevada Test Site 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 transitioned to other uses. All the transuranic and mixed transuranic covered under this PBS will be dispositioned by the end of FY 2007.

OECD reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- The continued characterization, repackaging where necessary, decontamination, certification, and disposal of any remaining transuranic and mixed transuranic waste at Waste Isolation Pilot Plant, or at the Nevada Test Site as low-level waste or mixed low-level waste if decontaminated.
- Ship 321 m³ of transuranic waste to the Waste Isolation Pilot Plant or dispose of a portion at the Nevada Test Site as low-level waste or mixed low-level if appropriate.
- Continue the authorization basis, storage maintenance, and inspection activities in the overall scope as required by DOE Orders (e.g., for authorization basis) and Resource Conservation Recovery Act regulations (hazardous waste requirements) for as long as transuranic and mixed transuranic waste remains at the Nevada Test Site.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Transuranic Waste shipped for disposal at WIPP (Cubic meters).....	348	402	723	788	92%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued transuranic waste shipments (FY 2005) • D&D Visual Examination and Repackaging Building Glove Box (September 2006) • Final transuranic waste disposition (September 2007) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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VL-NV-0030 / Soil and Water Remediation-Nevada

Test Site (life-cycle estimate \$1,934,283K) 81,354 68,202 67,180

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 overall objective of the Nevada Site Office Environmental Remediation 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 87 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 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., hot spots). 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.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Complete Frenchman Flat phase II transport model and model documentation.
- Complete Pahute Mesa phase I transport model analysis and evaluation; complete Yucca Flat phase I transport parameter data analysis.
- Complete Rainier Mesa phase I geology data analysis; and complete Rainier Mesa phase I contaminant boundary model approach and strategy.
- Complete the characterization field work on waste disposal sites; injection wells and storage holes; mud pit; septic systems; and miscellaneous contaminated areas; complete the field remediation and closure process on storage tanks; bunkers and storage areas; unexploded ordnance sites; buried rocket site; septic systems; and Polychlorinated Biphenyl site.
- Industrial type release sites on the Nevada Test Site and Nevada Test and Training Range including the

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Tonopah Test Range; Surface activities associated with contaminated soils sites will be focused on the Nevada Test and Training Range.

- Complete remediation field work of the test location 2 site; and complete the characterization of the test location 3 site.
- Nevada Offsites will be transferred to Office of Legacy Management in FY 2007.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	780	839	857	2,002	43%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Underground Test Area Pahute Mesa (May 2006) • Industrial Site Closures (September 2006/September 2007) • Underground Test Area Yucca Flat Phase 1 (June 2007) • Complete Clean Slates 2 field work and Clean Slates 3 characterization (September 2007) 					

VL-NV-0080 / Operate Waste Disposal Facility-Nevada (life-cycle estimate \$140,719K)..... 5,135 5,024 5,458

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

In FY 2006, the State of Nevada authorized the receipt of offsite mixed low-level waste for disposal. Acceptance of low-level waste and mixed low-level waste will continue in support of the DOE complex until FY 2021. Individual disposal cells will be operationally closed as they reach capacity prior to 2021. The end-state will be the closure, and capping of the disposal areas by the EM program, with subsequent monitoring and institutional control maintained by the Nevada Test Site landlord, the National Nuclear Security Administration. Closure and long-term monitoring obligations will be implemented in accordance with regulatory requirements to minimize risk to workers, the public, and the environment as the result of disposed waste. Nevada maintains the capability to dispose low-level waste from approved generators throughout the DOE complex and mixed low-level waste from specific generators as allowed under permit conditions as administered by the state of Nevada. Projected total Nevada Test Site low-level waste and mixed low-level life-cycle disposal volume from complex-wide generators is approximately 1.2M m³.

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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Continue supporting cleanup activities across the DOE complex by disposing of an estimated 28,329 m³ of low-level waste and mixed low-level waste at the Nevada Test Site.
- Disposal of on-site generated mixed waste and continue preparations for receipt of off-site generated mixed low-level waste.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Disposed low-level waste (FY 2005) • Dispose low-level waste and mixed low-level waste (September 2006/September 2007) 					

VL-NV-0100 / Nevada Community and Regulatory

Support (life-cycle estimate \$86,716K)..... 1,918 2,521 2,600

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 efforts.

In FY 2007, 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> Continued positive State and stakeholder relationships (FY 2005) Regulator and stakeholder funding (FY 2005/September 2006/September 2007) Continue positive State and stakeholder relationships (September 2006/September 2007) 					

VL-SV-0100 / South Valley Superfund (life-cycle

estimate \$9,007K) 1,800 0 0

This PBS is closed. However, funds may still be required to reimburse the contractor for legal expenses in defending against the State of New Mexico natural resource damage lawsuit. In FY 2005, funds were shifted from other EM projects to cover these costs. Funds may be needed for this project for the same purposes in FY 2006 and possibly beyond.

No activities planned other than the possible need to fund legal expenses as indicated above.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	1	1	1	1	100%

VL-FAO-0101 / Miscellaneous Programs and

Agreements in Principle (life-cycle estimate \$83,819K) 4,051 1,744 1,622

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

This project includes the New Mexico, Texas, and Missouri Agreements-in-Principle between DOE and the respective state designated lead agencies to provide environmental oversight and monitoring for independent verification of DOE compliance with federal, state, and local laws, including regulations at Los Alamos National Laboratory, Sandia National Laboratories/New Mexico, the Pantex Plant, and the Kansas City Plant. These Agreements in Principle provide support to the states to evaluate the adequacy of DOE activities related to environmental monitoring and conduct periodic state monitoring of discharges, emissions, or biological parameters for verifying the effectiveness of DOE programs. The Agreements-in-Principle are projected to continue for the duration of the environmental remediation projects within these states. The project end-date is 2015.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Continue monitoring environmental restoration, waste management, and environmental quality activities and perform public outreach to support the New Mexico and Texas Agreements-in-Principle."
- Continue waste management oversight and monitoring at the Los Alamos National Laboratory and the Sandia National Laboratories.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued legacy waste management activities oversight and monitoring at the Los Alamos National Laboratory and the Sandia National Laboratories; conduct expanded storm water monitoring at the Los Alamos National Laboratory (FY 2005) • New Mexico, Texas and Missouri Agreement in Principles fulfill agreements. (FY 2005) • Texas and Missouri Agreements-in-Principle: Continue monitoring of environmental restoration, waste management, and environmental quality activities and perform public outreach to support the Texas and Missouri Agreements-in-Principle (FY 2005) • New Mexico, Texas and Missouri fulfill Agreements-in-Principle. (September 2006) • New Mexico and Texas fulfill Agreements-in-Principle (September 2007) 					

VL-SPRU-0040 / Nuclear Facility D&D-Separations

Process Research Unit (life-cycle estimate \$247,033K)..... 5,451 6,477 24,500

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

The Separations Process Research Unit is an inactive Atomic Energy Commission facility that supported nuclear weapons activities in the early 1950s and is located at the Knolls Atomic Power Laboratory in New York. The Separations Process Research Unit was a chemical processing pilot plant used to research the process of separating plutonium from irradiated uranium. Operations contaminated the four nuclear facilities, auxiliary structures used to manage waste, and approximately thirty acres of surrounding land and groundwater. There are six solid waste management units identified within the land areas. The project objectives, subject to Acquisition Executive review and approval, are to 1) remove or stabilize the chemical and radiological contamination in the land and groundwater; 2) remove the transuranic waste contained in the waste tanks and tank 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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. Environmental sample analysis and data reduction is in progress, and project planning documents are being prepared.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Initiate the removal of the nuclear facilities and continue the effort to either remove or stabilize chemical and radiological contaminants in approximately thirty acres of land and groundwater, and return them to the site for continued mission use.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Transuranic Waste shipped for disposal at WIPP (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	6	6	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Installed Security Fencing (FY 2005) • Completed Ground Water Characterization (FY 2005) • Complete Cooling Tower Demolition (February 2006) • Install Security Fencing for Nuclear Facilities (September 2006) • Demolish structure K5 (September 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) 					

VL-FAO-0100-D / Nuclear Material Stewardship (Defense) (life-cycle estimate \$108,180K)..... 300 0 0

This PBS 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 Livermore Site and Site 300 and to support tribal universities and college activities related to environmental cleanup.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

VL-PX-0030 / Soil and Water Remediation-Pantex

(life-cycle estimate \$170,312K)..... 19,308 14,357 19,394

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 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, Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act statutory requirements. As of September 2005, the Texas Commission on Environmental Quality has approved closure of 91 release sites, leaving 146 release sites to be completed in Fiscal Years 2006-2008, with an additional 15 active release sites remaining in operation after project completion in FY 2008.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, following activities are planned:

- Continue operation/maintenance of Zone 11 (soil vapor extraction) and Zone 12 (ozone injection; ditch liners) contamination source-term Interim Corrective Measures.
- Continue operation/maintenance of passive reactive barrier (sodium dithionite) Interim Corrective Measures adjacent to Zone 12; Obtain regulator approval of Corrective Measures implementation project plan and Corrective Measures Design; Begin Corrective Measures construction for site-wide groundwater.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	101	132	218	237	92%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the Burning Grounds landfills interim corrective measure (engineered covers) to secure wastes and protect groundwater (FY 2005) • Completed construction and begin operation of Zone 11 soil vapor extraction for removal of contamination from the vadose zone and protection of groundwater (FY 2005) • Continued operation of the Burning Grounds soil vapor extraction interim stabilization measure for removal of contamination from the vadose zone and protection of groundwater (FY 2005) • Continue operation of the Burning Ground soil vapor extraction interim stabilization measure for removal of contamination from the vadose zone and protection of groundwater. (September 2006) • Submit and obtain regulator approval of Baseline Risk Assessment. (September 2006) • Commence Corrective Measures construction (September 2007) 					

VL-PX-0040 / Nuclear Facility D&D-Pantex (life-cycle estimate \$18,350K) 4,708 5,101 4,332

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 March 2005: 1) Building 8-008 - completed in FY 2001; 2) Building 11-44 - completed in

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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FY 2004; 3) Zone 10 Ruins – demolition is complete, seeding/watering/final report in progress; Building 12-24 Complex – hazard characterization completed; security fence installed; five small buildings demolished; deactivation/demolition of utilities completed; asbestos abatement in process; High Explosive decontamination and equipment dismantlement began in April 2005.

In FY 2007, the following activities are planned:

- Complete the demolition of Building 12-24 Complex.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Industrial Facility Completions (Number of Facilities).....	3	4	4	4	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed the demolition of Zone 10 Ruins (FY 2005) • Complete demolition of Building 12-24 Complex (September 2007) 					

VL-SN-0030 / Soil and Water Remediation-Sandia
(life-cycle estimate \$228,387K)..... 20,084 9,672 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 environmental restoration release sites. The end-state will be reached when: (1) all solid waste management units and areas of concern are remediated or remediation systems are constructed and operational, and all waste disposed of, and (2) when the site is placed under institutional controls and long-term monitoring in accordance with State and Federal requirements. New Mexico Environment Department’s approval is required for final determination of No Further Action. FY 2006 is the final year of requested funding when all field work is to be completed. The New Mexico Environment Department will issue all regulatory approvals in FY 2006 except for the Mixed Waste Landfill. Sandia National Laboratory and DOE will submit a Class III Permit Modification request, and New Mexico Environment Department will finalize all required documentation in FY 2007. Long-term remedial action will transfer to NNSA in FY 2007.

OECM validated the lifecycle Total Project Cost of \$231M and a schedule completion date of September 2006.

In FY 2007, the following activities are planned:

- This project is to be completed in FY 2006.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	8	8	8	8	100%
Radioactive Facility Completions (Number of Facilities)	1	1	1	1	100%
Remediation Complete (Number of Release Sites)	244	263	263	263	100%

Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)

- Completed Groundwater Data Gaps Reports to DOE (FY 2005)
- Completed Groundwater Nitrate Source Study Report (FY 2005)
- Completed Groundwater Enzyme Probe Study Reports (FY 2005)
- Submitted No Further Action proposals to the New Mexico Environment Department/Environmental Protection Agency for Solid Waste Management Units 8, 58, 68, and 91 (FY 2005)
- Submitted Groundwater Corrective Measures Evaluation Reports to the New Mexico Environment Department (FY 2005)
- Completed Corrective Measure Implementation Plan for the Mixed Waste Landfill (November 2005)
- Sandia Site Office Submit Corrective Measures Implementation Plan to the New Mexico Environment Department for Mixed Waste Landfill (November 2005)
- Complete installation of three groundwater wells, Canyons (January 2006)
- Submit final Corrective Measures Implementation (Resource Conservation and Recovery Act) Report to the New Mexico Environment Department for Chemical Waste Landfill (August 2006)

VL-LANL-0040-N / Nuclear Facility D&D-LANL (Non-Defense) (life-cycle estimate \$17,702K) 447 485 1,025

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, 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-throughs, maintaining the safety authorization basis, stack monitoring, and security.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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. In the case of any facilities demolished as part of the decontamination and decommissioning process, the remaining facility sites may be transferred to the Environmental Management program for remediation and then to the site landlord along with responsibility for any long term monitoring.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is planned for February 2006.

In FY 2007, the following activities are planned:

- Continue surveillance and maintenance for the Tritium Systems Test Assembly facility, which includes maintaining air emissions permit, facility walk-throughs, maintaining the safety basis authorization, stack monitoring, and security.
- Continue deactivation activities, such as removal of equipment.
- Complete characterization activities so that refinements can be made to implementation of baseline.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Radioactive Facility Completions (Number of Facilities)	0	0	0	1	0%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Developed Project Baseline (FY 2005) • Continued surveillance and maintenance activities at the Tritium Systems Test Assembly to ensure safe and environmentally compliant conditions until final demolition (FY 2005) • Continue surveillance and maintenance activities at the Tritium Systems Test Assembly to ensure safe and environmentally compliant conditions until final demolition (September 2006/September 2007) 					

Total, NNSA Sites..... 334,496 299,932 233,093

Explanation of Funding Changes

FY 2007 vs.
FY 2006
(\$000)

Defense Environmental Cleanup

NNSA Sites

California Site Support

VL-FOO-0013B-D / Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Defense)

▪ No significant change.	-396
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VL-FOO-0100-D / Oakland Community and Regulatory Support (Defense)

▪ No significant change.	221
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Kansas City Plant

VL-KCP-0030 / Soil and Water Remediation-Kansas City Plant

▪ This decrease reflects completion of activities in FY 2006.	-4,481
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Lawrence Livermore National Laboratory

VL-LLNL-0030 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site

▪ This decrease reflects completion of activities in FY 2006.	-16,038
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VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300

▪ Decrease in funds due to completion of interim actions to support Site-Wide Final Record of Decision.	-1,665
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Los Alamos National Laboratory

VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy

▪ Increase funding due to increased number of drums of legacy transuranic waste retrieved and characterized, and increased remote handled transuranic waste processing scope.	2,218
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FY 2007 vs. FY 2006 (\$000)

VL-LANL-0030 / Soil and Water Remediation-LANL

- Decrease reflects a change in strategy to address groundwater concerns in Mortandad and Los Alamos/Pueblo Canyons, and from completion of Consent Order milestones in FY 2006. -70,108

VL-LANL-0040-D / Nuclear Facility D&D-LANL (Defense)

- Funding for this new PBS addresses start of decontamination and decommissioning activities at several facilities in Technical Area-21. 17,700

Nevada Off-Sites

NV-0030 / Soil and Water Remediation-Nevada Offsites

- Nevada Offsites transfer to the Office of Legacy Management in FY 2007. -2,818

Nevada

VL-NV-0013 / Solid Waste Stabilization and Disposition-Nevada Test Site

- Decrease reflects project completion during FY 2007. -4,000

VL-NV-0030 / Soil and Water Remediation-Nevada Test Site

- Decrease reflects project completion during FY 2007. -1,022

VL-NV-0080 / Operate Waste Disposal Facility-Nevada

- Increase due to projected increase in receipt of off-site generated low level mixed waste in FY 2007. 434

VL-NV-0100 / Nevada Community and Regulatory Support

- No significant change. 79

NNSA Service Center

VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle

- Reduction reflects reduced level of oversight by State of Missouri for cleanup activities due to completion of Kansas City Plant cleanup in FY 2006. -122

VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit

- Increase in funding reflects start of nuclear facilities decontamination and decommissioning field work and soil and ground water cleanup. 18,023

FY 2007 vs. FY 2006 (\$000)

Pantex

VL-PX-0030 / Soil and Water Remediation-Pantex

- Increase in funding to support completion of Site-Wide Correction Measures Design, regulator interactions, and start of Site-Wide Correction Measures construction activities. 5,037

VL-PX-0040 / Nuclear Facility D&D-Pantex

- Reduced funding reflects completion of decontamination and decommissioning of facilities in FY 2006, and completion of project waste disposal and closeout in FY 2007..... -769

Sandia National Laboratories

VL-SN-0030 / Soil and Water Remediation-Sandia

- This project is to be completed in FY 2006..... -9,672

Non-Defense Environmental Cleanup

Small Sites

VL-LANL-0040-N / Nuclear Facility D&D-LANL (Non-Defense)

- Increase provides for limited decontamination and decommissioning of the Tritium Systems Test Assembly Facility..... 540

Total, NNSA Sites -66,839

West Valley Demonstration Project

Funding by Site

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
West Valley Demonstration Project	73,628	76,329	73,400
Total, West Valley Demonstration Project.....	73,628	76,329	73,400

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 96-68):

- 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; and
- 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.

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 joint effort being supported by both DOE and New York State. 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 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 by the end of FY 2010. 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, demolition and removal of all DOE-managed facilities (foundations remain), with the exception of the 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;
- Removal of major components and decontamination of the process building; and
- 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. The end state for EM Completion will be achieved when the following actions have been performed:

- 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;
- Installation of erosion controls and environmental monitoring requirements;
- Multi-Agency Radiation Survey and Site Investigation Manual survey and sampling; and

- 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 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; and
- Transition of the site back to the State of New York.

Regulatory Framework

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 Project Uncertainties and Assumptions (per Project Risk Management Plans)

The following assumptions support the planning basis for achieving Interim End State completion by the end of FY 2010:

- 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. TRU waste).
- A disposition pathway for the Project's transuranic waste will be determined by the end of FY 2006, and Project transuranic disposition will be integrated onto the complex wide shipping schedule to support off-site disposition beginning in FY 2007.

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.

Contract Synopsis

The current prime contract at West Valley Demonstration Project will expire December, 2006. The acquisition process to competitively award a new contract for completion of the Interim End State at West Valley Demonstration Project. Additionally, a separate contract for shipment and disposal of the Radwaste Treatment System Drum Cell waste and the disposition of the Drum Cell will be competitively awarded in the FY 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 2010. 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 demolition 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.

In FY 2007, the Office of Engineering and Construction Management will conduct external independent reviews of EM projects. At West Valley, one project will be reviewed at an approximate cost of \$125,000. These funds will be transferred to the Office of Engineering and Construction Management using the Working Capital Fund.

Funding Schedule by Activity

	(dollars in thousands)				
	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Non-Defense Environmental Cleanup					
West Valley Demonstration Project					
OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley	40,214	19,305	19,500	195	+1.0%
OH-WV-0040 / Nuclear Facility D&D-West Valley	33,414	57,024	53,900	-3,124	-5.5%
Subtotal, West Valley Demonstration Project	73,628	76,329	73,400	-2,929	-3.8%
Total, West Valley Demonstration Project	73,628	76,329	73,400	-2,929	-3.8%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley (life-cycle estimate

\$229,350K) 40,214 19,305 19,500

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 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 2005, more than 9,700 m³ 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. This review is scheduled for FY07.

In FY 2007, the following activities are planned:

- Continue processing of high activity and transuranic wastes through the Remote-Handled Waste Facility.
- Initiate off-site shipment of contact handled transuranic waste for disposition.
- Continue waste management operations for disposal of low-level waste.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	10,353	18,392	20,688	20,688	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed off-site disposition of legacy Class A low-level waste with a pathway for disposal (December 2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Continue off-site disposition of low level and transuranic waste (September 2007)

OH-WV-0040 / Nuclear Facility D&D-West Valley

(life-cycle estimate \$597,511K)..... 33,414 57,024 53,900

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 2005, decontamination operations in the Head-End Cells (General Purpose and Process Mechanical Cells) and Extraction Cell #2 were completed. Efforts are underway to complete dismantlement and decontamination of the vitrification facility in-cell area. 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 FY07.

In FY 2007, the following activities are planned:

- Continue decontamination operations in the former spent nuclear fuel reprocessing facility.
- Continue removal and/or dismantlement of ancillary Project facilities/infrastructure.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Maintain safe interim storage of 275 high level waste canisters and legacy transuranic (approximately 692 m³) waste.
- Continue development of the Decommissioning and/or Long-Term Stewardship Environmental Impact Statement.
- Continue safe site operations in compliance with federal and state statutes and regulations, as well as DOE orders and requirements.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • The decontamination operations in the extraction Cell 2 was completed (FY 2005) • The decontamination operations, in the Head End Cells (General Purpose and Process Mechanical Cells) were completed (FY 2005) • The Record of Decision for Waste Management was issued (FY 2005) • The Dismantlement of the Vitrification Facility In-Cell was completed (FY 2005) • Completed removal of trailers and ancillary facilities on south end of project premises (December 2005) • Initiate dispositioning of former spent nuclear fuel processing facility (January 2006) • Continue dismantlement/removal of facilities and structures no longer necessary to support safe site operations (September 2006/September 2007) • Continue dispositioning/decontamination of former spent nuclear fuel processing facility (September 2007) • Environmental Impact Statement to be complete for record of decision in FY 2008 (September 2007) 					

Total, West Valley Demonstration Project	73,628	76,329	73,400
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Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Non-Defense Environmental Cleanup

West Valley Demonstration Project

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

▪ No significant change in funding.	195
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OH-WV-0040 / Nuclear Facility D&D-West Valley

▪ Decrease represents reduced requirements to support fabrication of remote tooling and equipment, yet continues to support decontamination operations at the former spent nuclear fuel reprocessing facility and dismantlement/removal of structures and facilities no longer needed to support safe operations.	-3,124
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Total, West Valley Demonstration Project.....	-2,929
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All Other Sites

Funding by Site

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Appropriation	FY 2007 Request
All Other Sites			
Argonne National Laboratory.....	1,779	10,382	10,726
Brookhaven National Laboratory	41,322	33,985	28,272
California Site Support	98	99	160
Energy Technology Engineering Center	18,238	8,910	16,000
Inhalation Toxicology Laboratory.....	487	302	2,931
Lab for Energy-Related Health Research.....	496	0	0
Lawrence Berkeley National Laboratory.....	4,038	3,861	0
Moab.....	7,711	27,726	22,865
Stanford Linear Accelerator Center.....	2,480	3,465	5,720
Total, All Other Sites.....	76,649	88,730	86,674

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 Site

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, one is in progress, and one is expected to start in FY 2006.

Site Description

The Argonne National Laboratory cleanup involves two key areas. Cleanup of residual contamination that 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 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.

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 2005, eleven nuclear facilities were decontaminated and decommissioned, with two facilities remaining for completion.

Site Completion (End State)

Two facilities await cleanup, Zero Power Reactor 6 and Building 301 Hot Cells. There are also approximately 50 drums of 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 of one facility for unrestricted research and development reuse (Zero Power Reactor) and decontamination and demolition of Building 301, a former Hot Cell facility. The land occupied by Building 301 will be available for unrestricted research and development reuse. Zero Power Reactor 6 will be complete in FY 2007. Building 301 decontamination and decommissioning will 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 Project Uncertainties and Assumptions

The only potentially critical project uncertainty has to do with the volume and disposal location of certain wastes anticipated to come from the Building 301 project. The DOE Argonne Site Office is actively working with stakeholders to assess the feasibility of implementing DOE’s exemption policy

for disposing some project wastes to a local landfill. No decision has been made but Argonne Site Office intends to proceed with a quantitative risk and cost study to support future decision making.

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 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 a shipping corridor be open 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.

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, currently held by the University of Chicago. Activity is underway to compete the contract, which expires September 30, 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. The only upcoming major contract anticipated is the new contract, beginning FY 2007, to operate Argonne National Laboratory.

Cleanup Benefits

In FY 2007, Argonne Site Office expects that the Zero Power Reactor 6 project will be complete and will return valuable research and development space to the Management and Operating contractor for future research use. Projects completed prior to FY 2007 yielded substantial risk reduction, and reductions in surveillance and maintenance costs. Valuable space was returned to Argonne National Laboratory for research and development purposes. Stakeholder relations were improved as a result of EM completions.

Through FY 2009, Argonne Site Office expects that the last two EM scope projects will be finished (Building 301 and remote-handled transuranic waste). These two projects will likewise reduce risk, cut surveillance and maintenance costs, and return valuable space to Argonne National Laboratory for research and development purposes. All EM remediation and facility cleanup scope is expected to be complete by FY 2009. Only minor long term stewardship scope is expected to continue post FY 2009.

In FY 2007, the Office of Engineering and Construction Management will conduct external independent reviews of EM projects. At Argonne National Laboratory, two projects will be reviewed at an approximate cost of \$125,000 each for a total of \$250,000. These funds will be transferred to the Office of Engineering and Construction Management using the Working Capital Fund.

Brookhaven Site

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 biosheild.

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 internal pile and bioshield 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 is scheduled for FY 2009. After this, 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 Project Uncertainties and Assumptions

The most significant project uncertainty involves the resolution of the High Flux Beam Reactor 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.

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. It is envisioned that decontamination and decommissioning wastes will be disposed of at Envirocare, Inc. Brookhaven Science Associates is currently seeking certification for disposal at the Nevada Test Site which will serve as a substitute or supplement to Envirocare to allow for the most rapid, cost effective waste disposal pathway.

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 through September 30, 2008.

Current plans for work in FY 2006 and beyond involve extending Brookhaven Science Associates's contract to perform the Brookhaven Graphite Research Reactor and High Flux Beam Reactor decontamination and decommissioning as an integrating contractor.

Cleanup Benefits

Near term benefits of cleanup include the completion of Brookhaven's highest priority environmental releases in the Soil and Water project in FY 2005 and continuation of groundwater treatment and operations through FY 2007; thus fulfilling DOE's commitment to cleanup the Brookhaven National Laboratory site faster by one year in response to actions by local community and environmental groups to accelerate the cleanup. Also, numerous removals of contaminated structures and soil addressed high-priority environmental releases at the Brookhaven Graphite Research Reactor facility. Starting in FY 2006, the focus will be on the planning and decontamination and decommissioning of two former research reactors, the High Flux Beam Reactor and Brookhaven Graphite Research Reactor. Community expectations are that DOE will also complete these cleanups as planned. Long term benefits include completion of the Brookhaven Graphite Research Reactor and High Flux Beam Reactor, and thus the EM cleanup, at the Brookhaven National Laboratory site in FY 2009. This will be a geographic completion for the EM program and will also allow Brookhaven National Laboratory to focus on its main mission of performing world class science for DOE's Office of Science.

In FY 2007, the Office of Engineering and Construction Management will conduct external independent reviews of EM projects. At Brookhaven National Laboratory, two projects will be reviewed at an approximate cost of \$125,000 each for a total of \$250,000. These funds will be transferred to the Office of Engineering and Construction Management using the Working Capital Fund.

Energy Technology Engineering Center (ETEC)

Site Overview

The Santa Susana Field Laboratory, owned by the Boeing Company, is located atop a range of hills between the populous Simi and San Fernando Valleys, north of Los Angeles. Area IV (the westernmost 290 acres of the site), was primarily used for DOE research and development activities. The Energy Technology Engineering Center, which was DOE's laboratory at the Santa Susana Field Laboratory, consists of government-owned facilities located on 90 acres 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 which house test apparatus for large-scale heat transfer and fluid mechanics experiments, mechanical and chemical test facilities, office buildings, and auxiliary support facilities.

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.

Site Description

Two radiological facilities (comprising a total of 11 buildings) and one sodium facility remain. In addition, fifty industrial facilities (for example, office and storage buildings, warehouses, parking lots, electrical substations) will be demolished. The two radiological facilities remaining at Energy Technology Engineering Center are the Radioactive Materials Handling Facility complex and Building 4024. The Sodium Pump Test Facility is the remaining sodium facility. (Sodium facilities are those installations where research and development related to sodium cooled reactors were performed. The facility is not radiologically contaminated.)

Site Cleanup Strategy/Scope of Cleanup

DOE is responsible for nine 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. It is anticipated that three of the nine units will be excavated to meet projected media cleanup standards.

Three small plumes, contaminated with low levels of trichloroethylene, trichloroacetic acid and tetrachloroethylene, require groundwater remediation. These units are included in the site wide Resource Conservation and Recovery Act Corrective Action Program. While the three contaminated groundwater plumes of concern to DOE are small, the groundwater contamination resulting from Boeing and National Aeronautics and Space Administration operations at the rest of Santa Susana Field Laboratory is substantial. The long-term response actions for the DOE groundwater contamination was transferred to Boeing as part of the 1998 Closure Contract. The three plumes already have interim remedial measures in place for containment of the plumes.

Site Completion (End State)

Following is a list of remaining activities that are needed to achieve completion by FY 2009:

- Decontamination and demolition of two remaining radiologically contaminated facilities
- Resource Conservation and Recovery Act Corrective Action
- Resource Conservation and Recovery Act permitted facilities (two)
- The completion date has been revised to FY 2008, due to regulatory delay in closure of RCRA regulated unit and new work scope.

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 Resource Conservation and Recovery Act chemical cleanup is regulated by the State Department of Toxics Substance Control. Decontamination and demolition of the State licensed facilities is regulated by the State Department of Health Services. The Department of Health Services does not have direct regulatory authority over DOE, however, if they determine that the site has 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 Department of Health Services concurrence on decontamination and demolition activities. The Energy Technology Engineering Center site is not on the National Priority List and therefore the Environmental Protection Agency has no regulatory authority.

Critical Project Uncertainties and Assumptions (per Project Risk Management Plans)

Risks to EM completion at Energy Technology Engineering Center include potential delays in State environmental reviews (since DOE work will be completed ahead of Boeing/National Aeronautics and Space Administration scope), and final acceptance by the regulators of DOE's zone approach to groundwater characterization and containment.

Interdependencies

There are no significant dependencies with other DOE sites.

Contract Synopsis

The current cleanup contract is held by Boeing. The three year option to extend the contract has been exercised.

Cleanup Benefits

The cleanup plan has been developed to achieve rapid, cost effective results.

Contaminated soil units will be remediated to meet the risk associated with industrial land use. Groundwater remedial systems have been constructed to prevent off-site migration and discharge to surface water. Where necessary, additional systems will be constructed to address the goal of meeting Maximum Contaminant Levels for drinking water.

EM will complete construction of remedial systems identified in the Resource Conservation and Recovery Act Corrective Measures Study Report, dispose of all remediation derived waste and complete business closure activities by the end of FY 2009.

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 Office of Science 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--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.

Interdependencies

Low-level waste is packaged and shipped by Inhalation Toxicology Laboratory to the Nevada Test Site. The small volume of transuranic waste resulting from Inhalation Toxicology Laboratory operations 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 expires at the end of FY 2006. 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

In FY 2006, groundwater monitoring and reporting will continue, as will chemical waste collection and disposal. Cleanup of the Beta Gamma Wing, the largest remaining subproject will begin. In FY 2007, cleanup of the Beta Gamma Wing will be nearly completed. Most of the remaining Inhalation Toxicology Laboratory EM activities such as the Castle area cleanup and disposal of mixed waste and radioactive sources will be completed.

In FY 2008 the Beta Gamma Wing will be completed and all remaining legacy waste will be collected and disposed. The Inhalation Toxicology Laboratory EM mission will then be completed and will be transferred to LM where Long-Term Stewardship will begin.

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) will complete construction of remedial measures by the end of FY 2006. 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)

In September 2002, a Performance Management Plan was prepared by the DOE Oakland Operation Office for the Lawrence Berkeley National Laboratory Environmental Restoration Project.

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 will complete construction of remedial systems identified in the Resource Conservation and Recovery Act corrective measures study, dispose of all remediation derived waste, complete 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 in FY 2007.

Critical Project Uncertainties and Assumptions (per Project Risk Management Plans)

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, scope growth and/or changes, and funding uncertainty. The basic elements comprising 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.

Cleanup Benefits

The cleanup plan has been developed to achieve result in rapid, cost effective solutions that drive performance and reduce risks to human health and the environment.

EM will complete construction of remedial systems identified in the Resource Conservation and Recovery Act Corrective Measures Study Report, dispose of all remediation derived waste, complete 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 in FY 2007.

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 400 acres, of which approximately 130 acres is covered by an 8.9 million cubic yards uranium mill tailings pile.

Cleanup Strategy/Scope of Cleanup

DOE's Record of Decision (issued on September 14, 2005) made the decision for the relocation of 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.

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.

Critical Project Uncertainties and Assumptions (per Project Risk Management Plans)

- Full cost of remediation will not be known until a remedial action contract(s) is awarded.
- Potential rail upgrades (to transverse the terrain incline at the tailings pile and disposal cell) will be accomplished within expected project cost and schedule.
- Vicinity Properties characterization will minimize the number of sites requiring remediation.

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

The existing technical assistance contract expires in June 2007. DOE is developing an acquisition strategy for remediation per the Record of Decision.

Cleanup Benefits

Continued maintenance and surveillance of the groundwater and mill tailings pile will ensure no further contamination of surrounding areas. Removal of the nearly 9 million cubic yards of uranium tailings away from the Colorado River will significantly reduce danger to human health and the environment.

In FY 2007, the Office of Engineering and Construction Management will conduct external independent reviews of EM projects. At Moab, one project will be reviewed at an approximate cost of \$250,000. These funds will be transferred to the Office of Engineering and Construction Management using the Working Capital Fund.

Stanford Linear Accelerator Center

Site Overview

The mission of the EM Stanford Linear Accelerator Center Project is to conduct necessary response actions at 21 remaining release sites, implement necessary long-term groundwater remediation remedies, and transfer responsibility for long-term operation and maintenance of necessary groundwater treatment systems to the Office of Science for continued mission use at the end of FY 2009. Meeting this mission will allow DOE-EM to meet ongoing obligations as defined in the DOE lease with Stanford University (April 26, 1962), comply with the California Regional Water Quality Control Board Site Cleanup Requirement Order (issued May 2005), and achieve EM completion for the Stanford Linear Accelerator Center Environmental Remediation Project. In addition, meeting this mission 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.

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.

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, 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 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 California Regional Water Quality Control Board issued a Site Cleanup Requirements Order.

Site Cleanup Strategy/Scope of Cleanup

The Office of Environmental Management will complete 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:

- identifying and defining the risks associated with existing areas of contamination that may require remediation;
- prioritizing remediation projects;
- developing remedial alternatives for areas of identified contamination;

- seeking regulatory approval, where appropriate, for the proposed remedial alternatives; and
- remediating areas using approved methodologies to reduce risk to workers, the public, and the environment in accordance with applicable regulatory requirements

The primary chemicals of concern detected in soils at Stanford Linear Accelerator Center include 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 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 system.

Site Completion (End State)

Site completion end date is FY 2009. It is anticipated that Stanford Linear Accelerator Center will continue to operate as an Office of Science DOE sponsored laboratory, and responsibility for operation and maintenance of remedial systems will be transferred from the Office of Environmental Management to the Office of Science in FY 2010. EM will complete construction of remedial systems, dispose of all remediation derived waste, complete 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.

Regulatory Framework

The California Regional Water Quality Control Board is the lead regulatory agency for the groundwater, sediment, and storm water portions of the Stanford Linear Accelerator Center Environmental Restoration Program. Stanford Linear Accelerator Center is now under a California Regional Water Quality Control Board Site Cleanup Requirements Order, which has increased the cleanup work scope and extended the planned completion date to 2009. 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 site. The U.S. Environmental Protection Agency also provides oversight regarding soil remedial actions involving polychlorinated biphenyls. The San Mateo County Department of Environmental Health Services has provided field confirmation sampling oversight for Interim Remedial Actions.

Critical Project Uncertainties and Assumptions

Groundwater

Potential beneficial uses of groundwater at Stanford Linear Accelerator Center are limited. As summarized in Demonstration that Natural Groundwater Conditions at Stanford Linear Accelerator Center Meet Exemption Criteria for Potential Sources of Drinking Water (Stanford Linear Accelerator

Center, 2001), Stanford Linear Accelerator Center demonstrated that the groundwater is not suitable for use as 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, industrial supply and industrial process supply.

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 industrial land use standards. 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 contract with DOE (then the Atomic Energy Commission) began in 1962 and extends to 2012.

Cleanup Benefits

Although the scope of the Stanford Linear Accelerator Center environmental remediation may be less substantial than that of the large EM cleanup sites, its 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.

In FY 2007, the Office of Engineering and Construction Management will conduct external independent reviews of EM projects. At the Stanford Linear Accelerator Center, one project will be reviewed at an approximate cost of \$150,000. These funds will be transferred to the Office of Engineering and Construction Management using the Working Capital Fund.

Funding Schedule by Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Non-Defense Environmental Cleanup					
Small Sites					
Argonne National Laboratory					
CH-ANLE-0030 / Soil and Water					
Remediation-Argonne National Laboratory-					
East	401	411	426	15	+3.6%
CH-ANLE-0040 / Nuclear Facility D&D-					
Argonne National Laboratory-East.....	1,378	9,971	10,300	329	+3.3%
Subtotal, Argonne National Laboratory	1,779	10,382	10,726	344	+3.3%
Brookhaven National Laboratory					
BRNL-0030 / Soil and Water Remediation-					
Brookhaven National Laboratory	31,595	6,646	6,643	-3	0%
BRNL-0040 / Nuclear Facility D&D-					
Brookhaven Graphite Research Reactor	5,575	19,921	13,703	-6,218	-31.2%
BRNL-0041 / Nuclear Facility D&D-High					
Flux Beam Reactor	4,103	7,369	7,776	407	+5.5%
BRNL-0100 / Brookhaven Community and					
Regulatory Support.....	49	49	150	101	+206.1%
Subtotal, Brookhaven National Laboratory.....	41,322	33,985	28,272	-5,713	-16.8%
California Site Support					
CBC-CA-0013B-N / Solid Waste					
Stabilization and Disposition-California					
Sites-2012 (Non-Defense)	0	59	60	1	+1.7%
CBC-CA-0100-N / Oakland Community					
and Regulatory Support (Non-Defense)	0	40	100	60	+150.0%
VL-FOO-0013B-N / Solid Waste					
Stabilization and Disposition-Oakland					
Sites-2012 (Non-Defense)	58	0	0	0	0%
VL-FOO-0100-N / Oakland Community					
and Regulatory Support (Non-Defense)	40	0	0	0	0%
Subtotal, California Site Support	98	99	160	61	+61.6%
Energy Technology Engineering Center					
CBC-ETEC-0040 / Nuclear Facility D&D-					
Energy Technology Engineering Center	0	8,910	16,000	7,090	+79.6%
VL-ETEC-0040 / Nuclear Facility D&D-					
Energy Technology Engineering Center	18,238	0	0	0	0%
Subtotal, Energy Technology Engineering					
Center.....	18,238	8,910	16,000	7,090	+79.6%
Inhalation Toxicology Laboratory					
CBC-ITL-0030 / Soil and Water					
Remediation-Inhalation Toxicology					
Laboratory	0	302	2,931	2,629	+870.5%

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
VL-ITL-0030 / Soil and Water Remediation-Inhalation Toxicology Laboratory	487	0	0	0	0%
Subtotal, Inhalation Toxicology Laboratory	487	302	2,931	2,629	+870.5%
Lab for Energy-Related Health Research VL-LEHR-0040 / Nuclear Facility D&D- Laboratory for Energy-Related Health Research.....	496	0	0	0	0%
Lawrence Berkeley National Laboratory CBC-LBNL-0030 / Soil and Water Remediation-Lawrence Berkeley National Laboratory	0	3,861	0	-3,861	-100.0%
VL-LBNL-0030 / Soil and Water Remediation-Lawrence Berkeley National Laboratory	4,038	0	0	0	0%
Subtotal, Lawrence Berkeley National Laboratory.....	4,038	3,861	0	-3,861	-100.0%
Moab CBC-MOAB-0031 / Soil and Water Remediation-Moab	0	27,726	22,865	-4,861	-17.5%
HQ-GJ-0031 / Soil and Water Remediation- Moab.....	7,711	0	0	0	0%
Subtotal, Moab	7,711	27,726	22,865	-4,861	-17.5%
Stanford Linear Accelerator Center CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center	0	3,465	5,720	2,255	+65.1%
VL-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center	2,480	0	0	0	0%
Subtotal, Stanford Linear Accelerator Center ...	2,480	3,465	5,720	2,255	+65.1%
Total, Small Sites.....	76,649	88,730	86,674	-2,056	-2.3%
Total, All Other Sites.....	76,649	88,730	86,674	-2,056	-2.3%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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CH-ANLE-0030 / Soil and Water Remediation-

Argonne National Laboratory-East (life-cycle estimate

\$30,240K) 401 411 426

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.

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 2007, 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 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	443	443	443	443	100%

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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CH-ANLE-0040 / Nuclear Facility D&D-Argonne National Laboratory-East (life-cycle estimate

\$47,808K) 1,378 9,971 10,300

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 2007, the following activities are planned:

- Complete decontamination and decommissioning of ZPPR 6 project.
- Initiate decontamination and decommissioning of building 301, a former Hot Cell facility at the Argonne National Laboratory Site
- Continue required surveillance and monitoring during decontamination.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Radioactive Facility Completions (Number of Facilities)	66	68	69	78	88%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued decontamination and decommissioning of Zero Power Reactor 6 (FY 2005) • Continued surveillance and maintenance of surplus, contaminated facilities to ensure protection of people, the environment, and the facilities (FY 2005) • Zero Power Reactor 6 D&D Project Complete (June 2007) • Complete decontamination and decommissioning of Zero Power Reactor 6 (September 2007) • Initiate decontamination and decommissioning of Building 301, a former Hot Cell facility at the Argonne National Laboratory Site (September 2007) 					

BRNL-0030 / Soil and Water Remediation-Brookhaven

National Laboratory (life-cycle estimate \$262,675K) 31,595 6,646 6,643

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

Historical practices discharges and past spills have resulted in groundwater, sediment, and soil

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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contamination at Brookhaven National Laboratory. As a result, off-site and onsite 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). This PBS addresses accelerated cleanup of these areas, under an Interagency Agreement with the United States Environmental Protection Agency, and New York State. Initiatives 1 and 2 of Brookhaven's Performance Management Plan accelerate the Superfund cleanup program 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.

In FY 2005, 17 groundwater treatment systems were built and are in operation, and all required non-reactor facility decontamination and decommissioning, soil cleanup and cleanup of the Peconic River were completed. 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. Identified contaminated sediments and soils will be excavated and disposed off-site.

As of September, 2005, approximately 1,500 homes were connected to the public water supply; three landfills were capped; and many contaminated soil, tank and cesspool cleanups have been completed. Cleanup of the on-site portion of the Peconic River is underway. Work plans have been prepared for the two remaining soil areas, the Former Hazardous Waste Management Facility and the Waste Concentration Facility. Seventeen groundwater treatment systems are operating, or have completed their mission and been shut down and/or decommissioned.

OECM has validated the near-term (current contract period) performance baseline Total Project Cost of \$57M and a schedule completion date of September 2005. OECM has not endorsed the reasonableness of the lifecycle Total Project Cost of \$266M and a schedule completion date of September 2005.

In FY 2007, the following activities are planned:

- Continuation of Long Term Response Actions and Long Term Stewardship activities covering operation, monitoring and maintenance of soil and water treatment systems.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Radioactive Facility Completions (Number of Facilities)	3	3	3	3	100%
Remediation Complete (Number of Release Sites)	77	77	77	77	100%

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)

- Completed Operable Unit I remediation (FY 2005)

BRNL-0040 / Nuclear Facility D&D-Brookhaven

Graphite Research Reactor (life-cycle estimate

\$102,009K)	5,575	19,921	13,703
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This PBS can be found within the Non-Defense Environmental Cleanup appropriation.

The Brookhaven Graphite Research Reactor was the world's first research reactor constructed solely for the peaceful use of atomic energy. The reactor operated from 1950-1969. During the initial deactivation of the reactor in 1969-1972, the spent reactor fuel was removed from the reactor and shipped to DOE's Savannah River Site. Fuel canal water was pumped to Brookhaven National Laboratory's Waste Concentration Facility for storage and processing. These actions removed more than 95 percent of the radioactive material from the facility. However, the reactor core (graphite moderator) contains residual contamination and the spent fuel canal and cooling air ducts are contaminated with fission products, such as strontium-90 and cesium-137.

This PBS scope characterizes, stabilizes, decontaminates and decommissions the reactor to remove or isolate sources of contamination and reduce any potential risk to human health and the environment. The reactor is an Area of Concern under the Brookhaven National Laboratory Interagency Agreement. The end-state of this project will be decided with the approval of the Record of Decision. Continuing activities such as access controls and surveillance and maintenance for the reactor will be transferred to the landlord (Office of Science) at project completion.

As of September, 2005: the Record of Decision has been finalized; pile fans and sump removed, pile sealed, Building 701 isolated from Building 703; above grade canal and water treatment houses structures demolished, dismantled and shipped; the above grade ducts and the filters/liners/coolers removed from the below grade ducts and disposed of off-site; remediated below grade piping to and from the canal and portions of the canal walls, and completed characterization of Building 701, the pile, remaining soils, and the above grade and below grade ducts.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is scheduled for February 2006.

In FY 2007, the following activities are planned:

- Begin removal of graphite pile bioshield.
- Completion of removal of over 60,000 graphite pile blocks

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Package, ship and dispose of graphite pile blocks.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % 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 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • DOE submitted draft below grade duct completion report to regulators, demonstrating completion of decontamination and decommissioning, for review and comment (FY 2005) • Complete removal of over 60,000 graphite pile blocks (September 2007) • Completed Work Plan 182 Canal and continued deep soil removal (FY 2005) 					

BRNL-0041 / Nuclear Facility D&D-High Flux Beam

Reactor (life-cycle estimate \$51,969K) 4,103 7,369 7,776

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

The High Flux Beam Reactor was a heavy water moderated and cooled research reactor, which used highly enriched uranium to produce an operating power level of 30-60 megawatts thermal. In 1997, a tritium plume stemming from a leak in the reactor's spent fuel storage pool was identified, and reactor operations were halted. In 1999, the High Flux Beam Reactor was permanently shut down. From 1999-2001, DOE stabilized the facility for surveillance and maintenance. This PBS scope characterizes, deactivates and decommissions selected portions of the High Flux Beam Reactor complex at Brookhaven National Laboratory. The High Flux Beam Reactor Decontamination and Decommission Project mission is to develop end-state alternatives for the disposition of the facility, select the final end-state, and conduct the planning, engineering, and implementation of the activities necessary to achieve the selected end-state.

In addition, the scope includes activities to perform routine facility maintenance; remove selected systems structures, and components inside the High Flux Beam Reactor; and to facilitate the implementation of a long-term surveillance and maintenance program that will be required while the facility awaits full decommissioning. With the completion of the High Flux Beam Reactor Decontamination and Decommissioning Project, the EM Program at Brookhaven National Laboratory will be completed.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline. A follow-on review is scheduled for February 2006.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Initiate facility decommissioning.
- Perform decontamination and decommissioning of selected systems, structures and components and perform partial demolition and removal.
- Disposal of waste resulting from demolition and decommissioning activities.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • High Flux Beam Reactor D&D Surveillance and Maintenance (FY 2005) • Planning and engineering for facility decommissioning will continue including decontamination, partial demolition, and removal of selected structures and components (FY 2005) • Establish Statement(s) of Work and Bid Packages for Indefinite Deliver/Indefinite Quantity contracts (June 2006) • Isolation of Systems to Building 750 Complete (September 2007) • Initiate facility decommissioning (September 2007) • Demolition of Buildings Complete (September 2007) 					

BRNL-0100 / Brookhaven Community and Regulatory Support (life-cycle estimate \$3,293K)..... 49 49 150

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

This PBS assists New York State in carrying out its oversight responsibilities under the Brookhaven National Laboratory Comprehensive Environmental Response, Compensation, and Liability Act Interagency Agreement between DOE, the United States Environmental Protection Agency, and the New York State Department of Environmental Conservation, for addressing remedial activities at Brookhaven National Laboratory. This 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 2007, the following activities are planned:

- 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> Continued review and grant amendment for post-buildout phase (FY 2005) DOE will review and amend grant after soil and groundwater remedy implementation (September 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 2007) 					

CBC-CA-0013B-N / Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense) (life-cycle estimate \$6,690K).....

0 59 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. Rather than each project awarding its own separate contract, economies of scale are achieved by managing waste consolidation, characterization, aggregation, packaging, and transport-especially to commercial facilities. Services for site investigations, hydrogeologic studies, regulatory review, and stakeholder liaisons are also included within this project through wide applicability of these restoration activities to multiple projects/sites. This project will end when the underlying projects/sites supported by the waste management and environmental restoration activities achieve their end-state, and there is no longer a need for a separate project to achieve multi-project/site savings and efficiencies.

In FY 2007, 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	83	83	83	83	100%

CBC-CA-0100-N / Oakland Community and Regulatory Support (Non-Defense) (life-cycle estimate \$2,360K)

0 40 100

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

This project provides funding for grants to the Regional Water Quality Control Board and California Department of Toxic Substances Control Board for oversight of the Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act programs at the Laboratory for Environmental Health-Related Research and to Indian Nations for grants supporting activities at tribal universities and colleges related to environmental cleanup.

In FY 2007, the following activities are planned:

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

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Grants are paid annually to the State of California regulatory agencies (as specified in the Federal Facility Agreement) for participation and oversight of the cleanup programs (September 2006/September 2007) 					

VL-FOO-0013B-N / Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non-Defense) (life-cycle estimate \$0K).....

58 0 0

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

The life-cycle for this PBS is zero because the associated life-cycle costs have been comparably adjusted to their follow-on PBSs.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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**CBC-E TEC-0040 / Nuclear Facility D&D-Energy
Technology Engineering Center (life-cycle estimate**

\$206,635K) 0 8,910 16,000

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). The discovery of additional contamination will result in further wells to be drilled along with additional monitoring.

The end-state is to complete cleanup in FY 2008 and return the site to the Boeing Company.

In FY 2007, the following activities are planned:

- Complete decontamination and decommissioning of Space Nuclear Auxiliary Power Reactor Environmental Test Facility Building B4024 and the radioactive materials handling facility.
- Start Corrective Measures Study phase of the Resource Conservation and Recovery Act.
- Ship 152m³ of low-level waste for disposal.
- Complete demolition of the Sodium Pump Test Facility.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	1,055	1,335	1,335	1,335	100%
Radioactive Facility Completions (Number of Facilities).....	4	4	4	6	67%
Industrial Facility Completions (Number of Facilities).....	24	24	24	24	100%
Remediation Complete (Number of Release Sites).....	4	4	4	10	40%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed decontamination and decommissioning of Space Nuclear Auxiliary Power Reactor Prototype Facility (B4059) (FY 2005) 					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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 eight consecutive quarterly 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 of as funding allows. Remaining activities to be completed are 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 2007, the following activities are planned:

- Provides for disposition from labs and facilities of 363 cubic meters of legacy low-level waste, 6 metric tons of legacy hazardous waste and a limited volume of legacy mixed low-level waste.
- 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.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Low-Level and Mixed Low-Level Waste disposed (Cubic meters).....	165	165	165	165	100%
Remediation Complete (Number of Release Sites)	9	9	9	9	100%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Inhalation Toxicology Laboratory will conduct groundwater monitoring and reporting to the New Mexico Environment Department (September 2006) • Groundwater monitoring and reporting (September 2007) 					

VL-ITL-0030 / Soil and Water Remediation-Inhalation

Toxicology Laboratory (life-cycle estimate \$0K) 487 0 0

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

The life-cycle for this PBS is zero because the associated life-cycle costs have been comparably adjusted to their follow-on PBSs.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Science. The site landlord will continue surveillance and monitoring of the site.

In FY 2007, the following long-term stewardship activities are planned:

- Activity transferred to PBS CBC-LBNL-0030 in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

CBC-MOAB-0031 / Soil and Water Remediation-Moab
(life-cycle estimate \$602,212K)..... **0** **27,726** **22,865**

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

This PBS covers remediation of the former Atlas Mill Site, with more than 12 million cubic yards of contaminated mill tailings, mill debris, contaminated ground water, and vicinity properties in Moab, Utah, under authority of the Uranium Mill Tailings Radiation Control Act. The Final Environmental Impact Statement was completed in July, 2005, and evaluated alternatives for remediation. The Record of Decision was signed on September 14, 2005 with the decision being to relocate the mill tailings to the constructed disposal site. Vicinity properties contaminated with mill tailings as a result of past construction practices will be remediated and contaminated materials will be disposed in conjunction with the mill site cleanup. When remediation is complete, consistent with the Record of Decision, disturbed areas around the former mill site will be restored to pre-mill conditions, and institutional controls on land, surface, and ground water use may be necessary to protect human health and the environment. The site is of particular public interest due to its unique setting on the banks of the Colorado River. The tailings pile is leaching contaminants to the river through the 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.

The end-state will be achieved after contaminated soil, tailings, vicinity properties, and surface and ground water are remediated. The site will then be transferred to the Office of Legacy Management for monitoring and required stewardship.

In FY 2007, the following activities are planned:

- Complete final design of Remedial Action Plan.
- Initiate construction of transportation and site infrastructure (does not include cell excavation/construction).

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- Operate and maintain site including tailings dewatering system, access controls health and safety, surface controls and environmental monitoring, vegetation and habitat improvements.
- Initiate vicinity property characterization, design and remediation.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Completed disposal of remnant chemicals (FY 2005) • Completed radiological assessment of mill site soils (FY 2005) • Completed Final Environmental Impact Statement (FY 2005) • Issued Record of Decision (FY 2005) • Complete Conceptual Design / Remedial Action Plan (August 2006) • Complete final design of Remedial Action Plan (September 2007) • Initiate vicinity property characterization, design, and remediation (September 2007) 					

HQ-GJ-0031 / Soil and Water Remediation-Moab (life-cycle estimate \$0K)..... 7,711 0 0

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

The life-cycle for this PBS is zero because the associated life-cycle costs have been comparably adjusted to their follow-on PBSs.

In FY 2007, the following activities are planned:

- No activity. This project transferred to PBS CBC-MOAB-0031 in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center (life-cycle estimate \$49,536K) 0 3,465 5,720

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Activities in this PBS involve the cleanup of legacy contamination resulting from physics research mission operations over the past several decades at the Stanford Linear Accelerator Center. The EM mission includes the identification of chemical contaminants in soil and groundwater, and developing and implementing remedies to address these environmental concerns using Comprehensive Environmental Response, Compensation, and Liability Act technical guidance. The principal contaminants of concern include polychlorinated biphenyls, lead, and volatile organic compounds in soils and groundwater. There are no radiological contaminated areas or contaminated buildings that require remediation at the Stanford Linear Accelerator Center.

Preliminary Site Assessments have identified 48 release sites requiring remediation. The strategy to accelerate the completion of the project includes tasks which are being worked in parallel rather than in series, whenever possible. Installing and testing treatment systems initially, as presumptive remedies, are occurring at the same time as the remedial investigation/feasibility study reports are processed through the approval cycle. Soils contaminated with polychlorinated biphenyls are being characterized to determine the extent of the contamination and the work will be carried out through a removal action before reports are submitted for approval to regulators. This will lower the overall risk at the site, and thus, reduce the number of potential issues with the proposed remedial solution.

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.

OECM reviewed the project but has not validated the near-term (current contract period) performance baseline or the endorsed reasonableness of the lifecycle baseline.

In FY 2007, the following activities are planned:

- Complete construction of a groundwater treatment system at the Plating Shop Area.
- Continue operations and maintenance at the Former Hazardous Wastes Storage Area.
- Continue operations and maintenance of Hydraulic Control System.
- Continue monitoring at the Test Lab Central Lab area.
- Remediate Drainage south of Portola Valley training center.
- Restart Lower Salvage Yard site characterization and finalize work plan.
- Complete site-wide remedial investigation and finalize the baseline risk assessment report

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
Remediation Complete (Number of Release Sites)	17	17	17	20	85%
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Complete construction and installation of groundwater treatment facilities at southern and northern portions of the Former Hazardous Waste Storage Area (September 2006) • Complete Lower Salvage Yard Removal Action (September 2006) • Complete construction of a groundwater treatment system at the Plating Shop Area (September 2007) • Complete site-wide remedial investigation and finalize the baseline risk assessment report (September 2007) 					

**VL-SLAC-0030 / Soil and Water Remediation-
Stanford Linear Accelerator Center (life-cycle
estimate \$0K)**

2,480 0 0

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

The life-cycle for this PBS is zero because the associated life-cycle costs have been comparably adjusted to their follow-on PBSs.

In FY 2007, the following activities are planned:

- Activity transferred to PBS CBC-SLAC-0030 in FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

Total, All Other Sites **76,649 88,730 86,674**

Explanation of Funding Changes

FY 2007 vs.
FY 2006
(\$000)

Non-Defense Environmental Cleanup

Small Sites

Argonne National Laboratory

CH-ANLE-0030 / Soil and Water Remediation-Argonne National Laboratory-East

▪ No significant change.	15
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CH-ANLE-0040 / Nuclear Facility D&D-Argonne National Laboratory-East

▪ Increase due to completion of Zero Power Reactor and initiation of decontamination of former Hot Cell Facility.....	329
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Brookhaven National Laboratory

BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory

▪ No significant change.	-3
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BRNL-0040 / Nuclear Facility D&D-Brookhaven Graphite Research Reactor

▪ Decrease is attributable to the acceleration and completion of Buildings 701, 703 and the pile fans and sump removal.....	-6,218
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BRNL-0041 / Nuclear Facility D&D-High Flux Beam Reactor

▪ Increase is due to initiation of decommissioning of the High Flux Beam Reactor.	407
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BRNL-0100 / Brookhaven Community and Regulatory Support

▪ Increase is attributed to the additional resources required to oversee the removal of the Brookhaven Graphite Research Reactor.....	101
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California Site Support

CBC-CA-0013B-N / Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense)

▪ No significant change.	1
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FY 2007 vs. FY 2006 (\$000)

CBC-CA-0100-N / Oakland Community and Regulatory Support (Non-Defense)

- Increase supports grants for State oversight under Resource Conservation and Recovery Act and Comprehensive Environmental Response Compensation and Liability Act. 60

Energy Technology Engineering Center

CBC-ETEC-0040 / Nuclear Facility D&D-Energy Technology Engineering Center

- Increase is attributed to the discovery of additional contamination and the requirement for additional wells to be drilled which will permit further monitoring..... 7,090

Inhalation Toxicology Laboratory

CBC-ITL-0030 / Soil and Water Remediation-Inhalation Toxicology Laboratory

- Increase will provide for the disposition of legacy waste at the laboratory in FY 2007..... 2,629

Lawrence Berkeley National Laboratory

CBC-LBNL-0030 / Soil and Water Remediation-Lawrence Berkeley National Laboratory

- Decrease is the result of all EM workscope being completed in FY 2006 and transfer of the long-term response action activities to the Office of Science. -3,861

Moab

CBC-MOAB-0031 / Soil and Water Remediation-Moab

- Decrease is consistent with status of acquisition strategy for remediation and with higher-priority, compliance driven cleanup activities. -4,861

Stanford Linear Accelerator Center

FY 2007 vs. FY 2006 (\$000)

CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center

▪ Increase due to new scope arising from the new cleanup requirements order issued by the State Regional Water Quality Control Board.	2,255
Total, All Other Sites.....	-2,056

Headquarters Operations

Funding by Site

(dollars in thousands)

	FY 2005 Current Appropriation	FY 2006 Appropriation	FY 2007 Request
Headquarters	104,252	52,075	57,881

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; 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 which 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 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup Program Support Headquarters HQ-MS-0100 / Policy, Management, and Technical Support.....	24,892	32,275	37,881	5,606	+17.4%
Uranium Enrichment Decontamination and Decommissioning Fund U/Th Reimbursements Headquarters HQ-UR-0100 / Reimbursements to Uranium/Thorium Licensees	79,360	19,800	20,000	200	+1.0%
Total, Headquarters Operations.....	104,252	52,075	57,881	5,806	+11.1%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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HQ-MS-0100 / Policy, Management, and Technical Support (life-cycle estimate \$1,910,867K).....	24,892	32,275	37,881
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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; 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 2007, 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.
- 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> Administer the EM and DOE-wide transportation and packaging responsibilities and Transportation Emergency Preparedness Program (FY 2005/September 2006/September 2007) 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 (FY 2005/September 2006/September 2007) 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 (FY 2005/September 2006/September 2007) 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 (FY 2005/September 2006/September 2007) Provide support to various advisory groups to obtain technical assistance/expertise that indirectly support the EM mission objectives (FY 2005/September 2006/September 2007) Support various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program, and Consolidated Accounting Investment System (FY 2005/September 2006/September 2007) Issue Draft Environmental Impact Statement for Disposal of Greater-than-Class C Radioactive Waste (September 2007) 					

HQ-UR-0100 / Reimbursements to Uranium/Thorium

Licensees (life-cycle estimate \$562,146K)..... 79,360 19,800 20,000

This PBS can be found within the Uranium Enrichment Decontamination and Decommissioning Fund appropriation. This PBS scope reimburses the fourteen active uranium and thorium processing site licensees for a portion (the Federal-related byproduct material portion determined to be at each site) of their costs of cleanup pursuant to Title X of the Energy Policy Act of 1992 and 10 CFR Part 765. The maximum reimbursement to the individual uranium licensees is limited to \$6.25 per dry short ton of Federal-related 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 four 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 but both are eligible for reimbursement of some additional remedial action costs under Title

Title X of the Energy Policy Act of 1992: Uranium/Thorium Reimbursement Program
Status of Payments through Fiscal Year 2005 and Estimated Future Payments
(\$ Thousands)

<u>Licensees</u>	Total Payments FY 1994- FY 2005	Approved but Unpaid Claim Balances After FY 2005 Payments	Estimated Payments: FY 2006 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	679	0
Atlantic Richfield Company ^a	32,306	0	0	0
Atlas Corporation/Moab Mill Reclamation Trust ^a	9,694	0	0	0
Cotter Corporation.....	2,622	704	574	1,509
Dawn Mining Company.....	5,278	19	6,605	839
Homestake Mining Company.....	41,257	22	17,243	0
Pathfinder Mines Corporation.....	10,531	1	335	0
Petrotomics Company.....	2,694	0	104	0
Quivira Mining Company.....	19,134	36	14,630	0
Tennessee Valley Authority.....	13,527	11,603	2,963	8,640
Umetco Minerals Corporation-CO.....	47,457	14,595	10,394	14,404
Umetco Minerals Corporation-WY.....	17,506	3,366	3,834	2,584
Western Nuclear, Incorporated.....	29,779	10	493	0
Subtotal, Uranium.....	233,838	30,356	57,855	27,977

^a Reimbursements have been completed to the Atlantic Richfield Company and the licensees of the Moab site.

Licensees
Thorium

	Total Payments FY 1994- FY 2005	Approved but Unpaid Claim Balances After FY 2005 Payments	Estimated Payments: FY 2006 through End of Program	Estimated Unpaid Uranium Claim Balances in Excess of Dry Short Ton Ceilings at End of Program
Kerr-McGee Chemical Corp.....	280,640	323	68,380	--
Subtotal, Thorium.....	280,640	323	68,380	--
Total, Uranium and Thorium.....	514,478	30,679	126,235	27,977

Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Defense Environmental Cleanup

Program Support

Headquarters

HQ-MS-0100 / Policy, Management, and Technical Support

- Increase supports audits conducted by the Defense Contracts Audit Agency; the development of the Environmental Impact Statement for disposal of Greater-Than-Class C Radioactive Waste; and the Report to Congress on Greater-Than-Class C disposal alternatives.....

5,606

Uranium Enrichment Decontamination and Decommissioning Fund

U/Th Reimbursements

HQ-UR-0100 / Reimbursements to Uranium/Thorium Licensees

- No significant change.

200

Total, Headquarters Operations	5,806
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Program Direction
Funding Profile by Category

(dollars in thousands/whole FTEs)

	FY 2005	FY 2006	FY 2007
Carlsbad			
Salaries and Benefits	5,612	6,402	6,965
Travel	337	328	338
Support Services	75	0	0
Other Related Expenses	1,594	149	2,268
Total, Carlsbad	7,618	6,879	9,571
Full Time Equivalents	42	50	50
Chicago			
Salaries and Benefits	2,489	1,587	821
Travel	100	99	49
Support Services	448	525	338
Other Related Expenses	662	551	400
Total, Chicago	3,699	2,762	1,608
Full Time Equivalents	16	11	5
Idaho			
Salaries and Benefits	9,522	8,929	9,667
Travel	206	208	214
Support Services	0	134	151
Other Related Expenses	233	155	192
Total, Idaho	9,961	9,426	10,224
Full Time Equivalents	66	67	67
Oak Ridge			
Salaries and Benefits	12,987	10,603	11,180
Travel	235	214	217
Support Services	2,451	413	1,531
Other Related Expenses	2,295	1,283	2,329
Total, Oak Ridge	17,968	12,513	15,257
Full Time Equivalents	103	85	83
Portsmouth/Paducah Project Office			
Salaries and Benefits	4,026	5,598	6,245
Travel	170	163	177
Support Services	600	1,238	1,634
Other Related Expenses	762	559	820
Total, Portsmouth/Paducah Project Office	5,558	7,558	8,876
Full Time Equivalents	29	44	45

(dollars in thousands/whole FTEs)

	FY 2005	FY 2006	FY 2007
Ohio			
Salaries and Benefits	7,811	4,835	3,237
Travel	250	149	138
Support Services	608	246	204
Other Related Expenses	667	242	199
Total, Ohio.....	9,336	5,472	3,778
Full Time Equivalents	68	36	22
Richland			
Salaries and Benefits	30,823	30,705	32,897
Travel	650	438	451
Support Services	918	170	660
Other Related Expenses	7,165	927	7,192
Total, Richland	39,556	32,240	41,200
Full Time Equivalents	271	245	245
River Protection			
Salaries and Benefits	14,124	15,269	17,188
Travel	335	339	399
Support Services	1,421	1,276	1,563
Other Related Expenses	1,905	1,479	2,034
Total, River Protection	17,785	18,363	21,184
Full Time Equivalents	104	110	115
Rocky Flats			
Salaries and Benefits	2,368	744	0
Travel	175	23	0
Other Related Expenses	644	85	0
Total, Rocky Flats	3,187	852	0
Full Time Equivalents	28	5	0
Savannah River			
Salaries and Benefits	42,162	40,784	43,257
Travel	700	735	843
Support Services	2,750	525	1,782
Other Related Expenses	4,552	1,663	3,738
Total, Savannah River	50,164	43,707	49,620
Full Time Equivalents	359	348	345
Nevada Site Office			
Salaries and Benefits	3,510	3,595	3,962
Travel	164	162	185
Support Services	565	347	413
Other Related Expenses	90	59	74
Total, Nevada Site Office	4,329	4,163	4,634
Full Time Equivalents	28	30	30

(dollars in thousands/whole FTEs)

	FY 2005	FY 2006	FY 2007
NNSA Sites			
Salaries and Benefits	8,541	5,572	6,052
Travel	325	224	242
Support Services	1,205	569	883
Other Related Expenses	1,207	728	1,077
Total, NNSA Sites	11,278	7,093	8,254
Full Time Equivalents	58	45	45
Subtotal, Field			
Salaries and Benefits	143,975	134,623	141,471
Travel	3,647	3,082	3,253
Support Services	11,041	5,443	9,159
Other Related Expenses	21,776	7,880	20,323
Total, Field	180,439	151,028	174,206
Full Time Equivalents	1,172	1,076	1,052
Headquarters Operations			
Salaries and Benefits	54,417	40,647	47,592
Travel	1,679	1,544	2,006
Support Services	10,707	13,124	13,841
Other Related Expenses	14,363	8,778	22,314
Total, Headquarters Operations	81,166	64,093	85,753
Full Time Equivalents	306	290	293
Consolidated Business Center			
Salaries and Benefits	5,493	18,064	20,501
Travel	99	505	561
Support Services	849	2,143	1,900
Other Related Expenses	1,970	5,553	8,295
Total, Consolidated Business Center	8,411	26,265	31,257
Full Time Equivalents	43	142	150
Total, Environmental Management			
Salaries and Benefits	203,885	193,334	209,564
Travel	5,425	5,131	5,820
Support Services	22,597	20,710	24,900
Other Related Expenses	38,109	22,211	50,932
Total, Environmental Management	270,016	241,386	291,216
Full Time Equivalents	1,521	1,508	1,495

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. EM's FTEs for FY 2007 are built on the same assumptions as the EM funding request. The FTE level is based only on the work scope included in this budget.

The role of the Headquarters Federal workforce is to provide leadership, establish and implement policy and plans, 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 2007 provide for 293 Federal full-time equivalents at Headquarters (employees based in Germantown, Maryland and Washington, DC), 1,052 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 procurement and cost estimating have caused EM to keep its Full-Time Equivalent level constant from FY 2006 to FY 2007 (after the National Nuclear Security Administration transfer). EM is strengthening resources and skills to provide proper performance and oversight of complex technical safety 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. EM plans an aggressive recruitment effort to seek qualified personnel by offering recruitment bonuses, tuition assistance, student loan reimbursements, and permanent change of station. Therefore, the FY 2007 Full-Time Equivalents in this request have been adjusted to provide a more realistic program outlook, commensurate with mission objectives as discussed earlier in the Overview.

Significant Program Shifts

This budget request reflects the return of 100 Full-Time Equivalents in FY 2006 associated with the proposed transfer of legacy waste and newly generated waste cleanup in the FY 2006 Congressional Budget to the National Nuclear Security Administration for the Kansas City Plant, Lawrence Livermore National Laboratory, Main Site and Site 300, Nevada Test Site, Pantex, Y-12, and Sandia National Laboratory sites. In the FY 2006 Final Appropriations, the transfer for legacy waste cleanup was not supported. The Congress did support the transfer of newly generated waste but failed to move nine Full-Time Equivalents to the National Nuclear Security Administration. In the FY 2007 Congressional Budget, 13 Full-Time Equivalents are realigned to the National Nuclear Security Administration – 9 associated with the newly generated waste management responsibility and 4 associated with the long-term response actions after cleanup completion at Lawrence Livermore National Laboratory, Main Site and Sandia National Laboratory.

This request also includes funding for an additional eight Full-Time Equivalents associated with a Central Technical Authority that will provide the central oversight function for nuclear safety as directed by the Defense Nuclear Facilities Safety Board Implementation Plan (recommendation 2004-1).

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Salaries and Benefits **203,885** **193,334** **209,564**

Provides funding for 1,495 full-time equivalent employees in FY 2007 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. Within the 1,495 full-time equivalents, eight full-time equivalents are provided to establish a Central Technical Authority that will provide the central oversight function for nuclear safety as directed by the Defense Nuclear Facilities Safety Board Implementation Plan (recommendation 2004-1). Funding is also provided to support the recruitment incentives associated with the Human Capital Strategy.

Travel..... **5,425** **5,131** **5,820**

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..... **22,597** **20,710** **24,900**

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

Other Related Expenses..... **38,109** **22,211** **50,932**

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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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	270,016	241,386	291,216
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Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Salaries and Benefits

- Reflects government-wide increase for pay and personnel related costs for 1,495 full-time equivalent employees 9,280
- Reflects increase in FTE support associated with the Human Capital Strategy implementation including salary and benefits as well as recruitment incentives 4,144
- Reflects decrease in FTE support associated with the NNSA newly generated waste and long-term response actions transfer (13 FTEs) -1,593
- Reflects increase in FTE support associated with the Central Technical Authority oversight function (8 FTEs) 1,263
- Reflects redistribution of FTEs to sites with higher average cost in order to address skill needs as identified in Human Capital Strategy 3,136

Travel

- Reflects increase associated with inflation factors for 1,495 full-time equivalent employees, offset by management initiative to limit non-labor related spending complex-wide 72
- Reflects decrease in FTE support associated with the NNSA Newly Generated Waste transfer (13 FTEs) -61
- Reflects increase in FTE support associated with the Human Capital Strategy implementation 410
- Reflects increase in FTE support associated with the Central Technical Authority oversight function (8 FTEs) 268

Support Services

- Reflects increase associated with inflation factors for 1,495 full-time equivalent employees, offset by management initiative to limit non-labor related spending complex-wide -2,922

FY 2007 vs. FY 2006 (\$000)

- Reflects increase in FTE support associated with the Human Capital Strategy implementation 410
- Reflects increase in FTE support associated with the Central Technical Authority oversight function (8 FTEs) 2,547
- Reflects utilization of available prior year carryover balances in FY 2006, which will not be available in FY 2007, to meet support service requirements 1,028
- Reflects new corporate requirements and support for E-Gov initiatives 3,127

Other Related Expenses

- Reflects increase associated with inflation factors for 1,495 full-time equivalent employees, offset by management initiative to limit non-labor related spending complex-wide 266
- Reflects increase in FTE support associated with the Human Capital Strategy implementation 6,300
- Reflects decrease in FTE support associated with the NNSA Newly Generated Waste transfer (13 FTEs) -256
- Reflects utilization of available prior year carryover balances in FY 2006, which will not be available in FY 2007, to meet other related expenses requirements 13,795
- Reflects increasing corporate requirements to support Corporate Asset Management and continued support for Capital Planning and Investment Control (CPIC) Information Technology Project Management training 8,367
- Reflects increase in FTE support associated with the Central Technical Authority oversight function (8 FTEs) 249

Total Funding Change, Program Direction 49,830

Support Services by Category

(dollars in thousands/whole FTEs)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Technical Support					
Economic and Environmental Analyses.....	485	3,896	3,060	-836	-21.5%
Test and Evaluation.....	8,130	5,949	5,277	-672	-11.3%
Total, Technical Support.....	8,615	9,845	8,337	-1,508	-15.3%
Management Support					
Directives Management Studies.....	0	0	0	0	0.0%
Training and Education.....	1,338	1,701	861	-840	-49.4%
Reports and Analyses Management and General Administrative Services.....	12,644	9,164	15,702	6,538	71.3%
Total, Management Support.....	13,982	10,865	16,563	5,698	52.4%
Total, Support Services.....	22,597	20,710	24,900	4,190	20.2%

Other Related Expenses by Category

(dollars in thousands/whole FTEs)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Other Related Expenses					
Training.....	3,245	1,206	3,469	2,263	187.6%
Working Capital Fund.....	7,113	7,201	9,118	1,917	26.6%
Printing and Reproduction.....	358	157	463	306	194.9%
Rent to GSA.....	9,058	3,717	10,802	7,085	190.6%
Communication, Utilities, Misc.....	3,090	1,529	4,413	2,884	188.6%
Other Services.....	15,245	8,401	22,667	14,266	169.8%
Total, Other Related Expenses.....	38,109	22,211	50,932	28,721	129.3%

Safeguards and Security

Funding Schedule by Activity

	(dollars in thousands)				
	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup					
Safeguards and Security					
CB-0020 / Safeguards and Security	4,072	4,181	4,324	143	+3.4%
OH-FN-0020 / Safeguards and Security- Fernald	1,157	1,377	1,216	-161	-11.7%
OH-MB-0020 / Safeguards and Security- Miamisburg	524	0	0	0	0%
OH-WV-0020 / Safeguards and Security- West Valley	495	1,782	1,600	-182	-10.2%
OR-0020 / Safeguards and Security	21,850	28,567	22,889	-5,678	-19.9%
PA-0020 / Safeguards and Security	7,760	10,904	8,707	-2,197	-20.1%
PO-0020 / Safeguards and Security	16,009	17,664	15,642	-2,022	-11.4%
RF-0020 / Safeguards and Security	16,455	3,168	0	-3,168	-100.0%
RL-0020 / Safeguards and Security	58,429	81,335	77,836	-3,499	-4.3%
SR-0020 / Safeguards and Security	136,191	135,379	163,626	28,247	+20.9%
Subtotal, Safeguards and Security	262,942	284,357	295,840	11,483	+4.0%
Total, Safeguards and Security	262,942	284,357	295,840	11,483	+4.0%

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.

Benefit

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, Carlsbad/Waste Isolation Pilot Plant, Miamisburg, West Valley Demonstration Project, East Tennessee Technology Park, Paducah Gaseous Diffusion Plant, and the Portsmouth Gaseous Diffusion Plant.

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

Since the events of September 11, 2001, the Department has revised the Design Basis Threat several times to bolster the response capabilities of security programs throughout the complex. The Design Basis Threat was increased 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 Rocky Flats Environmental Technology Site is now closed. The Hanford Site and the Savannah River Site each have only one facility with Category I special nuclear material. Despite these significant consolidations and the closure of Rocky Flats, 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 Special Police Officers and other specialized personnel that directly provide security at EM sites. Funding is requested to provide an appropriately sized force with adequate materials, supplies, equipment, facilities, training, vehicles and other required equipment to meet site security objectives.

Transportation

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

Physical Security Systems

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

Information Security

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

Personnel Security

Personnel Security encompasses the processes for administrative determination that an individual is eligible for access to classified matter, or is eligible for access to, or control over, special nuclear material. Also includes maintaining security education and awareness programs for DOE and DOE contractor employees. Security investigation activities performed by the Federal Bureau of Investigation and the Office of Personnel Management associated with access authorizations 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 2005	FY 2006	FY 2007
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CB-0020 / Safeguards and Security (life-cycle estimate

\$195,544K) 4,072 4,181 4,324

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 2007, the following activities are planned:

- Maintain information and record systems to support receipt of classified transuranic waste from the generator sites across the complex.
- Maintain protective force.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)

- Ensured that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (FY 2005)
- Maintained information and record systems to support receipt of classified transuranic waste from across the complex, including secure communications and classified records storage (FY 2005)
- Ensure that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (September 2006)
- Maintain Security Posture (September 2007)

OH-FN-0020 / Safeguards and Security-Fernald (life-cycle estimate \$16,455K)..... 1,157 1,377 1,216

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, and performance testing of security systems. Provide site communication capability for the 24/7 coverage for monitoring 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 configuration of hardware and software. With decontamination and decommissioning and excavation activities, personnel are being moved to an offsite location, where facilities use a passive security system, 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 Material Control and Accountability function has been eliminated due to the removal of nuclear material from the site and declaration of the remaining inventory as waste. The cyber security function is being curtailed as the number of personal computers is reduced consistent with the decline in workforce. The Fernald Site will transfer 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 2007, the following activities are planned:

- Maintain a protective force.
- Provide site communication capability for monitoring site-wide alarms.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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the site, as well as ensured general site security for personnel and information technology systems.

In FY 2007, 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 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued to support the accelerated site closure by conducting general workload activities, such as cyber security, visitor control, personnel security, and program management (FY 2005) • Continue to support the accelerated site closure by conducting general workload activities, such as cyber security, visitor control, personnel security, and program management (September 2006) • Continue to support Project activities by providing physical security and protection, cyber security, visitor control, personnel security, and program management. (September 2007) 					

OR-0020 / Safeguards and Security (life-cycle estimate \$100,186K) 21,850 28,567 22,889

The Safeguards and Security Program at East Tennessee Technology Park, in Oak Ridge, Tennessee, supported by Bechtel Jacobs Company LLC and Wackenhut Services Incorporated, maintains a safe environment for operations, incorporates changes when made necessary by global conditions and/or DOE Order requirements, and focuses management attention on the primary safeguards and security issues.

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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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of media, and security of media and documents. Oversight and Management of Nuclear Material Control and Accountability activities are provided.

Personnel Security provides badging support for all employees, contractors, and visitors, and visitor control. Safeguards and security activities will continue until the East Tennessee Technology Park is closed in FY 2009.

In FY 2007, the following activities are planned:

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

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Ensured that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (FY 2005) • Implement Safeguards and Security Program to protect against loss or theft of classified matter or Special Nuclear Material. (September 2006/September 2007) 					

PA-0020 / Safeguards and Security (life-cycle estimate \$110,203K) 7,760 10,904 8,707

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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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EM will fully implement the 2005 Design Basis Threat guidance by the end of FY 2008 at the Paducah Site.

In FY 2007, 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.
- Maintain Security Conditions appropriate to the threat consistent with the DOE 2005 Design Basis Threat.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Ensured that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (FY 2005) • Ensure that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded. (September 2006) 					

PO-0020 / Safeguards and Security (life-cycle estimate \$689,367K) 16,009 17,664 15,642

This PBS provides an integrated Safeguards and Security Program which includes the following program elements: Protective Forces; Physical Security Systems to include sub-elements barrier/secure storage/locks and entry control/access controls; Information Security to include sub-elements information protection, classification/declassification, technical surveillance countermeasures, and operations security; Personnel security including subtopics clearance program, security awareness, and visit control; Material Control and Accountability; Program Management which includes planning, professional training and development, and policy oversight and administration; Cyber Security which includes classified computer security and communications security.

Protective Force personnel are employed on various fixed and mobile posts to perform normal and emergency security tasks. Information security includes protection of classified and unclassified sensitive information and classification, declassification and review of documents for release to the public including Freedom of Information Act and Privacy Act requests, litigation responses (limited number). Cyber Security includes the maintenance of one stand-alone desktop computer approved for classified processing. Oversight and management of Nuclear Material Control and Accountability activities is provided. Personnel Security provides processing access authorizations, security education and awareness and badging support. This project is expected to continue as long as DOE has a site presence.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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EM will fully implement the 2005 Design Basis Threat guidance by the end of FY 2008 at the Portsmouth Site.

In FY 2007, 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.
- Maintain Security Conditions appropriate to the threat consistent with the DOE 2005 Design Basis Threat.
- Provide protective forces, Nuclear Material Control and Accountability and communications security services.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Continued large scale classification (FY 2005) • Ensured that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (FY 2005) • Maintained security conditions (SECON) appropriate to the threat (FY 2005) • Provided protective force services through a work authorization with the United States Enrichment Corporation (FY 2005) • Provide protective force services through a work authorization with the United States Enrichment Corporation (September 2006) • Maintain security conditions (SECON) appropriate to the threat (September 2006) • Implement the FY 2004 Design Basis Threat Requirements (September 2006) • Ensure that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (September 2006) • Continue large scale classification (September 2006) 					

RF-0020 / Safeguards and Security (life-cycle estimate \$318,123K) 16,455 3,168 0

The goal of this PBS was to keep plutonium and classified matter safe, secure, and out of the hands of unauthorized groups or individuals and to protect government property at Rocky Flats. This PBS funds activities for the purpose of protecting DOE security interests. Activities fall into the following areas: Protection Program Operations, Nuclear Material Control and Accountability, Information Security, Personnel Security, and Cyber Security.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Completion of key milestones reduced safeguards and security costs as the number of Material Access Areas were eliminated, enabling the site to transition to an industrial security posture consistent with a Property Protection Area.

All identified Category I and II special nuclear material was shipped, all Material Access Areas are closed, the Protected Area is closed, classified material and transuranic waste shipments continue at an accelerated pace, and Building 371 is closed. This activity ended in 2005.

In FY 2007, the following activities are planned:

- No safeguards and security activity planned after FY 2006.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Provided physical and cyber security, and implemented heightened security efforts on required and directed bases (FY 2005) • Provide physical and cyber security, and implemented heightened security efforts on required and directed bases (September 2006) 					

RL-0020 / Safeguards and Security (life-cycle estimate
\$2,222,832K) 58,429 81,335 77,836

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; 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 2005, 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 FY 2007, 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.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- 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 facilities.
- Continue relocation of the Central Alarm Station.
- Continue to refine protective force strategy for the Design Basis Threat implementation through the use of technology, protective force tabletops, and modeling.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Implement the Design Basis Threat requirements, in accordance with the Deputy Secretary guidance (September 2007) 					

SR-0020 / Safeguards and Security (life-cycle estimate \$3,062,071K) 136,191 135,379 163,626

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 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 guidance by the end of FY 2008 at the Savannah River Site.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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In FY 2007, the following activities are planned:

- Maintain appropriate uniformed protective force personnel, physical security protection systems including a canine team and an explosive detection capability, Information Security and Operational Security for the protection of classified and sensitive information, Cyber Security for the protection of classified and unclassified computer security, Personnel Security for initial and re-investigations, and security education, and Program Management for overall assessment and performance testing and indirect functions such as accounting, contracts, compensation, and benefits, etc.
- To meet the 2004 Design Basis Threat requirements security upgrades will be accomplished to include, but not limited to, retrofit of existing physical security attributes by providing land clearing, vehicle barriers, additional fencing with intruder delay features, building perimeter barricades and additional intrusion detection systems.
- As a result of the 2005 Design Basis Threat requirements and the need to cost-effectively implement those requirements the decision has been made to consolidate all Category I material into one building. The necessary safeguards and security modifications will be made to the K-Area complex to support this effort.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Developed vulnerability assessment and implementation of FY 2005 Design Basis Threat Requirements (FY 2005) • Will ensure timely and accurate material control and accountability for nuclear materials at the Savannah River Site (September 2006/September 2007) • Will ensure that no unauthorized person or persons will gain access to limited areas within the Site perimeter (September 2006/September 2007) • Will ensure no theft of nuclear material takes place at the Savannah River Site (September 2006/September 2007) • Mobile Command Post will be fully integrated and operational. (September 2006) • Meet all FY 2007 site integrated schedule commitments associated with the Design Basis Threat Implementation (September 2007) 					

Total, Safeguards and Security	262,942	284,357	295,840
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Funding Schedule by Site and Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Carlsbad					
Protective Forces	3,536	3,634	3,764	130	+3.6%
Physical Security Systems	143	150	153	3	+2.0%
Information Security	186	186	190	4	+2.2%
Personnel Security	22	22	23	1	+4.5%
Program Management	145	149	153	4	+2.7%
Subtotal, Carlsbad	4,032	4,141	4,283	142	+3.4%
Cyber Security	40	40	41	1	+2.5%
Total, Carlsbad	4,072	4,181	4,324	143	+3.4%
Oak Ridge					
Protective Forces	14,717	16,771	16,301	-470	-2.8%
Physical Security Systems	1,676	5,915	779	-5,136	-86.8%
Information Security	1,269	1,397	990	-407	-29.1%
Personnel Security	557	686	576	-110	-16.0%
Material Control and Accountability	1,238	1,032	731	-301	-29.2%
Program Management	1,454	1,960	3,036	1,076	+54.9%
Subtotal, Oak Ridge.....	20,911	27,761	22,413	-5,348	-19.3%
Cyber Security	939	806	476	-330	-40.9%
Total, Oak Ridge	21,850	28,567	22,889	-5,678	-19.9%
Portsmouth/Paducah Project Office					
Protective Forces	17,661	17,611	13,130	-4,481	-50.1%
Physical Security Systems	733	750	743	-7	-2.2%
Information Security	1,868	1,836	1,665	-171	+2.5%
Personnel Security	455	466	449	-17	-7.0%
Material Control and Accountability	1,053	1,079	1,105	26	+2.3%
Program Management	1,974	6,801	7,231	430	+4.5%
Subtotal, Portsmouth/Paducah Project Office	23,744	28,543	24,323	-4,220	-20.1%
Cyber Security	25	25	26	1	0%
Total, Portsmouth/Paducah Project Office	23,769	28,568	24,349	-4,219	-20.1%
Ohio					
Protective Forces	1,682	2,657	2,476	-181	-11.7%
Physical Security Systems	78	0	0	0	0%
Material Control and Accountability	35	0	0	0	0%
Program Management	181	322	340	18	0%
Subtotal, Ohio.....	1,976	2,979	2,816	-163	-11.7%
Cyber Security	200	180	0	-180	0%
Total, Ohio.....	2,176	3,159	2,816	-343	-11.7%

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Richland					
Protective Forces	31,801	48,680	50,471	1,791	+3.7%
Physical Security Systems	5,852	11,012	6,935	-4,077	-37.0%
Information Security	669	728	750	22	+3.0%
Personnel Security	2,048	2,088	2,148	60	+2.9%
Material Control and Accountability	2,335	2,069	2,131	62	+3.0%
Program Management	14,086	15,031	12,751	-2,280	-15.2%
Subtotal, Richland	56,791	79,608	75,186	-4,422	-5.6%
Cyber Security	1,638	1,727	2,650	923	+53.4%
Total, Richland	58,429	81,335	77,836	-3,499	-4.3%
Rocky Flats					
Protective Forces	10,589	2,258	0	-2,258	-100.0%
Physical Security Systems	421	16	0	-16	-100.0%
Information Security	1,291	312	0	-312	-100.0%
Personnel Security	1,146	0	0	0	0%
Material Control and Accountability	1,167	384	0	-384	-100.0%
Program Management	1,283	124	0	-124	-100.0%
Subtotal, Rocky Flats	15,897	3,094	0	-3,094	-100.0%
Cyber Security	558	74	0	-74	-100.0%
Total, Rocky Flats	16,455	3,168	0	-3,168	-100.0%
Savannah River					
Protective Forces	66,722	62,735	70,096	7,361	+11.7%
Physical Security Systems	27,581	29,363	49,853	20,490	+69.8%
Information Security	1,795	2,773	2,192	-581	-21.0%
Personnel Security	4,704	5,393	5,604	211	+3.9%
Material Control and Accountability	6,631	6,154	5,749	-405	-6.6%
Program Management	26,367	25,337	26,299	962	+3.8%
Transportation	497	453	586	133	+29.4%
Subtotal, Savannah River	134,297	132,208	160,379	28,171	+21.3%
Cyber Security	1,894	3,171	3,247	76	+2.4%
Total, Savannah River	136,191	135,379	163,626	28,247	+20.9%
Total, Safeguards and Security	262,942	284,357	295,840	11,483	+4.0%

Funding Schedule by Activity

(dollars in thousands)

	FY 2005	FY 2006	FY 2007	\$ Change	% Change
Protective Forces	146,708	154,346	156,238	1,892	+1.2%
Physical Security Systems	36,484	47,206	58,463	11,257	+23.8%
Information Security.....	7,078	7,232	5,787	-1,445	-20.0%
Personnel Security	8,932	8,655	8,800	145	+1.7%
Material Control and Accountability	12,459	10,718	9,716	-1,002	-9.3%
Program Management	45,490	49,724	49,810	86	+0.2%
Transportation	497	453	586	133	+29.4%
Subtotal, Safeguards and Security	257,648	278,334	289,400	11,066	+4.0%
Cyber Security	5,294	6,023	6,440	417	+6.9%
Total, Safeguards and Security.....	262,942	284,357	295,840	11,483	+4.0%

Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Defense Environmental Cleanup

Safeguards and Security

CB-0020 / Safeguards and Security

- No significant change. 143

OH-FN-0020 / Safeguards and Security-Fernald

- Decrease is due to curtailment of cyber security function as the number of personal computers is reduced, consistent with the declining workforce. -161

OH-WV-0020 / Safeguards and Security-West Valley

- Decrease reflects reduced cyber-security activities consistent with the changing requirements of the project. -182

OR-0020 / Safeguards and Security

- Decrease is primarily associated with the completion of Design Basis Threat security enhancements. -5,678

PA-0020 / Safeguards and Security

- Decrease is attributed to the implementation of the Design Basis Threat Plan in FY 2006. -2,197

PO-0020 / Safeguards and Security

- Decrease is attributed to reduced staffing needs due to the completion of the Gas Enrichment Centrifuge Plant cleanup and the low enriched uranium program. -2,022

FY 2007 vs. FY 2006 (\$000)

RF-0020 / Safeguards and Security

- Decrease reflects the site's closure in 2006. -3,168

RL-0020 / Safeguards and Security

- Decrease is a result of efforts to refine the Design Basis Threat implementation through the use of technology, protective force tabletops, and modeling. -3,499

SR-0020 / Safeguards and Security

- Increase will support implementation of the 2005 Design Basis Threat requirements. All Category I material will be consolidated into one building. In order to accomplish this, modifications are being made to the K-Area complex. Also provides for additional required protective force. 28,247

Total, Safeguards and Security 11,483

Capital Operating Expenses

(dollars in thousands)

	FY 2005	FY 2006	FY 2007
General Plant Projects	27,479	37,983	6,935
Capital Equipment.....	8,270	1,442	735
Total, Capital Operating Expenses	35,749	39,425	7,670

Technology Development and Deployment

Funding Schedule by Activity

	(dollars in thousands)		
	FY 2005	FY 2006	FY 2007
Technology Development and Deployment			
Eliminating Technical Barriers to Accelerated Closure/Alternative Projects.....	56,736 ^a	28,014 ^b	19,338
Technical Assistance Program ^c	1,471	1,500	1,500
Small Business Innovative Research Program.....	0 ^c	551	551
Total, Technology Development and Deployment.....	58,207	30,065 ^d	21,389 ^e

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. This approach addresses the immediate, near- and long-term technology needs identified by the EM sites, enabling them to treat orphaned wastes, improve worker safety and provide technical foundations for the sites' end states visions. It focuses primarily on the highest cost centers for the EM complex: Tank Waste, Groundwater and Soils areas.

The Technology Development and Deployment Program is focused on a limited number of critical, high-risk and high-payback activities where significant step improvements can be gained. By realigning the Technology Development and Deployment work in this manner, the Department is ensuring that the activities funded under this account are focused on supporting EM's primary goal of environmental cleanup and reducing risks. In addition, work activities will be supported in the Technical Assistance Project, focusing on providing immediate technical expertise and scientific problem-solving to support the technical bases for the proposed site end state alternatives and help sites accelerate cleanup safely and effectively.

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 Provides funding of \$40,771,200 for Congressionally-directed activities in addition to the Alternative Projects described.

^b Provides funding of \$18,250,000 for Congressionally-directed activities in addition to the Alternative Projects described. This amount does not reflect the FY 2006 rescission.

^c Excludes \$1,519,000 (\$1,356,000 for Small Business Innovation Research and \$163,000 for Small Business Technical Transfer Programs) transferred to Office of Science for award and administration of grants to small businesses.

^d Distribution of funds by program area may change depending upon final receipt, review, selection, and award of technical proposals. This amount does not reflect the FY 2006 rescission.

Benefits

These projects provide funding to support innovative technical solutions and alternative technologies to assist with the safe, cost-effective cleanup of the DOE complex.

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Eliminating Technical Barriers to Accelerated Closure / Alternative Projects..... 56,736 28,014 19,338

The Technology Development and Deployment Program will focus on three major challenges: 1) identifying technology 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 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 out 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 m³ 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 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

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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risks.

Projects planned in FY 2007 include:

- In-tank sludge washing at Hanford;
- Enhanced waste processing at Idaho, Hanford, and Savannah River;
- Disposition of salt waste at 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.

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 it from the subsurface. Critical contaminants include chlorinated solvents, metals, and radionuclides.

Technology Development and Deployment activities include 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 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.

Projects planned in FY 2007 include:

- Carbon tetrachloride bioremediation by enhanced monitored natural attenuation at Idaho; and
- Monitored natural attenuation/enhanced attenuation of metals and radionuclides in groundwater at Hanford and Savannah River.

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.

One project planned in FY 2007 is:

- Treatment and disposal path for irradiated beryllium at Idaho.

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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Transuranic Waste

Technology Development and Deployment must address retrieval, treatment, and assay of transuranic waste. There are several key technologies that need to be developed to achieve 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.

Projects planned in FY 2007 include:

- Treatment of mixed transuranic waste and low-level waste without a current disposal path at Idaho;
- Size reduction, repackaging, transportation, and storage of remote-handle transuranic waste at Hanford; and
- Transuranic waste box assay improvements at Idaho.

Technical Assistance Program.....	1,471	1,500	1,500
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The Technical Assistance Program provides assistance to sites, stakeholders, and the public to reduce health, safety, and environmental risks of site cleanup. As such, it is directly linked with alternatives identified in the sites' end state vision documents and provides technical expertise, scientific problem-solving and technical solutions to support more precise quantification and confirmation of the technical bases for proposed end-state alternatives at sites. The program fosters community and regulatory acceptance of site end states, and achieves more precision in desired cleanup levels by filling-in existing gaps of critical knowledge, such as the physical and chemical understanding of the fate and transport of contaminants, or the clarification of health effects of certain exposures. To a lesser extent, assistance will also be provided for risk-reducing activities not included in the site end state vision, such as better personal protective equipment and decontamination and decommissioning techniques.

Small Business Innovative Research Program.....	0^a	551	551
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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 is 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 Excludes \$1,519,000 (\$1,356,000 for Small Business Innovation Research and \$163,000 for Small Business Technical Transfer Programs) transferred to the Office of Science for award and administration of grants to small businesses.

Key Accomplishments (FY 2005) / Planned Milestones (FY 2006/FY 2007)

Key Accomplishments (FY 2005)

Eliminating Technical Barriers:

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- For the Monitored Natural Attenuation-Enhanced Attenuation for Chlorinated Organics Alternative Project, 14 applied research studies are ongoing; regulators from 11 different states participate on a regulatory team that collaborates with the DOE technologists to jointly develop updated regulatory technical guidance;
- Alternative Remediation Groundwater and Soils: initiated work on developing a state-of-the-art systems strategy for performance monitoring of contaminated groundwater plumes to achieve more cost-effective and less labor intensive plume characterization and process monitoring.

In FY 2005, the following Alternative Projects were awarded:

- Alternatives for Deposit Removal at Gaseous Diffusion Plants at Portsmouth, Ohio;
- Awards made for Alternatives for Enhanced Waste Processing at Idaho, Hanford, and Savannah River; and Alternatives for Low and Medium Curie Waste Pretreatment at Hanford.

In FY 2005, down-selects were or will be made from Phase I planning/concepts to the most promising Phase II demonstration/development activities for the following Alternative Project:

- Alternatives for Steam Reforming of Low Activity Waste Pretreatment at Idaho, Hanford, and Savannah River.

Technical Assistance Program:

- Conducted a workshop with end-state stakeholders and regulators to improve two-way communications on end states and transitions;
- Provided technical experts' assistance to Oak Ridge at the East Tennessee Technology Park on constructed wetlands for treatment of volatile organic compounds contamination in groundwater as an alternative to current planned end state as shown in the End State Vision document for the site;
- Developed a beryllium air monitor to reduce risk to workers by real time air monitoring of beryllium;
- Assisted the Oak Ridge at the East Tennessee Technology Park in providing technical experts' recommendations on the disposition of technicium-99 cylinders found during cleanup;
- Provided experts' advice on the reliability and validity of non-destructive assay characterization of major facilities scheduled for demolition at the East Tennessee Technology Park at Oak Ridge Reservation;
- Developed and pilot tested treatment processes and performed pretreatment design to remove radium and lead from wastewater derived from cleaning the Fernald Silos prior to discharge to the Converted Advanced Wastewater Treatment Plant.

Planned Accomplishments (FY 2006)

Eliminating Technical Barriers:

- Perform Field demonstration of studies for monitored natural attenuation of metals and radionuclides with the Environmental Protection Agency, Office of Indoor Air Radiation. Field demonstrations will lead to regulatory developed guidance documents. Using the results of the completed applied research studies, collaborate with the regulatory team to develop technical guidance for the next generation of monitored natural attenuation combined

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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with enhanced attenuation for remediation of chlorinated organics in groundwater plumes;

- Alternative Remediation Groundwater and Soils will use the results of the completed applied research studies, collaborate with the regulatory team to develop technical guidance for the next generation of monitored natural attenuation combined with enhanced attenuation for remediation of chlorinated organics in groundwater plumes.

In FY 2006, Alternatives Projects will be 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;
- Alternatives for Burial Ground Transuranic Waste removal and Delineation, Hanford, Washington.

Technical Assistance 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)

Tank Waste

- Increased titanium loading in high-level waste glass at Savannah River;
- Develop methods to improve the removal of residual sludge heels from waste tanks at Savannah River;
- Develop methods for the selective removal of radioactive components from waste tank residuals at Savannah River;
- Develop methods to improve the removal of residual salt waste heels from waste tanks at the Office of River Protection;
- Increase waste loading of bulk vitrification low-activities waste glass at the Office of River Protection;
- Design, and build a demonstration facility to test supplement pretreatment methods for accelerated treatment of tank waste 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;
- Develop an at-tank process for removing non-radioactive components from waste sludge thereby enabling accelerated processing of tank waste at the Office of River Protection;
- Develop a low-cost high-capacity ion exchange material for the pretreatment of tank waste at the Office of River Protection;

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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- 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 Savannah River;
- Develop improved filters and filtration methods for high-level waste processing at the Office of River Protection;
- 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

- Develop low-cost equipment and methods for characterization and monitoring of soils contaminated by heavy metals at Hanford.

Deactivation and Decommissioning

- Develop a treatment and disposal path for irradiated beryllium at Idaho.

Transuranic Waste

- Develop a treatment for mixed transuranic waste and low-level waste without a current disposal path at Idaho;
- 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 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.

Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$000)

Eliminating Technical Barriers to Accelerated Closure / Alternative Projects

<ul style="list-style-type: none">▪ Decrease is a result of not requesting funding for Congressionally-directed activities that were funded in FY 2006.	<u>-8,676</u>
Total Funding Change, Technology Development and Deployment.....	-8,676

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.

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 2005	FY 2006	FY 2007	\$ Change	% Change
Defense Environmental Cleanup Federal Contribution to the Uranium Enrichment D&D Fund HQ-DD-0100 / Federal Contribution to the Uranium Enrichment D&D Fund.....	459,296	446,490	452,000	5,510	+1.2%
Total, D&D Fund Deposit	459,296	446,490	452,000	5,510	+1.2%

Detailed Justification

(dollars in thousands)

FY 2005	FY 2006	FY 2007
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HQ-DD-0100 / Federal Contribution to the Uranium Enrichment D&D Fund (life-cycle estimate

\$4,677,902K) 459,296 446,490 452,000

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. FY 2007 is the last year of the Contribution, unless reauthorized by Congress to extend the 15 year timeframe.

- Provide the FY 2007 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992.

Metrics	Complete Through FY 2005	Complete Through FY 2006	Complete Through FY 2007	Life-cycle Quantity	FY 2007 % Complete
No metrics associated with this PBS					
Key Accomplishments (FY 2005)/Planned Milestones (FY 2006/FY 2007)					
<ul style="list-style-type: none"> • Make annual Federal contributions into the Fund as required by the Act (FY 2005/September 2006/September 2007) 					

Total, D&D Fund Deposit..... 459,296 446,490 452,000

Explanation of Funding Changes

FY 2007 vs. FY 2006 (\$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 based on the Office of Management and Budget estimates.....	5,510
<hr style="width: 100%;"/>	
Total, D&D Fund Deposit.....	5,510

PBS Subprojects Summary

(dollars in thousands)

	Total Estimated Cost (TEC)	Prior Year Appropriations	FY 2005	FY 2006	FY 2007	Unappropriated Balance
Defense Environmental Cleanup						
Hanford Site						
04-EXP-1 A-8 Electrical Substation Upgrade, RL	14,766	1,404	7,730	4,432	1,315	0
Idaho National Laboratory						
98-PVT-2 Spent Nuclear Fuel Dry Storage, ID	0	96,214	9,718	0	0	0
Oak Ridge						
98-EXP EM Waste Management Facility, OR (98-PVT-5)	128,858	307	45	310	16,365	111,831
Office of River Protection						
97-D-402 Tank Farm Restoration & Safe Operations, RL	188,645	0	6,000	0	0	182,645
94-D-407 Initial Tank Retrieval Systems, RL	230,561	12,577	15,960	17,492	0	184,532
Total, Office of River Protection			21,960	17,492	0	
Savannah River Site						
07-EXP-02 Interim Salt Processing System Modifications, Subproject Detail, Savannah River PBS SR-0014C	0	0	37,023	70,535	30,995	0
03-EXP Saltstone Vault #2, Savannah River Site, SC	0	2,893	2,598	0	0	0
Total, Savannah River Site			39,621	70,535	30,995	

**Interim Salt Processing System Modifications
Subproject Detail, Savannah River PBS SR-0014C**

Significant Changes

This expense funded data sheet is being submitted for the first time to give the reader a complete picture of the interim steps being taken to improve Savannah River tank storage capacity and maximize the Defense Waste Processing Facility operations despite setbacks to the Salt Waste Processing Facility schedule.

1. 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
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2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations ^a	Obligations	Costs
2004	12,105	12,105	12,105
2005	37,023	37,023	37,023
2006	70,535	70,535	70,535
2007	30,995	30,995	30,995
2008	10,237	10,237	10,237
Total	160,895	160,895	160,895

^a Requirements are based on the most recent estimates available and reflect the combined total of the three primary projects – Actinide Removal Process, Modular Caustic Side Solvent Extraction Unit and Waste Transfer Lines. Estimates for the Waste Transfer Lines portion of this subproject are being updated. The updated estimates for Phase I and Phase II should be completed by the end of the 3rd Quarter of FY 2006 and 1st Quarter of FY2007, respectively.

3. 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 designed to use various technologies to remove actinides, strontium and radioactive cesium from the waste. The Salt Waste Processing Facility 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 36,400,000 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 ongoing 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 the Defense Waste Processing Facility, removal of waste from aging tanks which lack full secondary containment, and tank closure.

DOE is Modifying the existing waste processing system to enable the limited removal, treatment and disposition of salt waste. This expense funded data sheet describes 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 not included in this project data sheet that deal primarily with individual tank infrastructure modifications necessary to facilitate movement of salt material through the above processing system.

1. 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 titanate strike tanks. Monosodium titanate is added and the material is agitated. The solution is then transferred to where it is

**Defense Environmental Cleanup / Interim Salt Processing/
System Modifications
Savannah River**

FY 2007 Congressional Budget

filtered to remove the monosodium titanate/actinide solids. The filtration turns the monosodium titanate 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 Modular Caustic Side Solvent Extraction Unit for cesium removal prior to transfer to the Saltstone Processing Facility. This process may also be used to bypass the Modular Caustic Side Solvent Extraction Unit step, sending the decontaminated salt solution directly to the Saltstone Processing Facility, as appropriate.

The construction will be complete in the 4Q of FY 2006. It is anticipated to have minor activities occurring in FY 2007 prior to CD-4.

2. 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 the 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 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 product streams to the Defense Waste Processing Facility and to the Saltstone Processing Facility through the H-Tank Farm.

After processing salt waste 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 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 the Saltstone Processing Facility through the H-Tank Farm and the cesium strip is transferred 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. In FY 2007 Savannah River will complete all construction turnover activities, field work, testing, and operational readiness review for the Modular Caustic Side Solvent Extraction Unit. Operations are scheduled to start in the 4Q of FY 2007.

Modular Caustic Side Solvent Extraction Unit – The 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 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. The unit will allow very limited hands on maintenance; otherwise, certain sections of the 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. Modular Caustic Side Solvent Extraction Unit will connect to the existing domestic water system for operation of a safety shower in the area. The unit will also utilize the existing instrument air system.

Waste Transfer System tie-ins – 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. Any modifications to receive the modular caustic side solvent extraction transfer of cesium strip will be performed by the Waste Transfer Lines project.

3. 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 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 scope, 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 will be finalized in the third quarter of FY 2006. Phase II scope, in general, consists of jumpers and associated appurtenances to be installed in the Low Point Pump Pit, and 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.

The three projects included in this project data sheet are at different stages of project execution. A CD-0 package for Modular Caustic Side Solvent Extraction Unit will be submitted in the second quarter of FY2006.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimates	Previous Estimate
Design Phase.....	25,993	0
Execution Phase.....	90,656	0
Contingenices	27,496	0
Total Execution Phase	144,145	0
Other Project Costs.....	16,750	0
Total Project Cost.....	160,895	0

Initial Tank Retrieval Systems

Subproject Detail, Hanford Site PBS ORP-0014

1. Construction Schedule

A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete	Total Estimated Cost (\$000)	Total Project Cost (\$000)
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FY 2006 Budget Request.....	4Q 1994	4Q 2007	3Q 2000	1Q 2013	230,561	230,561
FY 2007 Budget Request.....	4Q 1994	4Q 2007	3Q 2000	1Q 2013	230,561	230,561

2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriation	Obligations	Costs
Prior Year	79,437	79,437	65,673
2004	12,577	12,577	12,577
2005	15,960	15,960	15,960
2006	17,492	17,492	17,492
2007	25,620	25,620	25,620
2008	18,387	18,387	18,387
2009	11,843	11,843	11,843
2010	13,079	13,079	13,079
2011	12,703	12,703	12,703
2012	11,012	11,012	13,622
2013	7,071	7,071	12,000
2014	5,380	5,380	11,605

3. Subproject Description, Justification and Scope

The Total Project Cost change from the FY 2005 Request is a result of the deletion of a mixer pump for the AN-101 Retrieval System from the baseline. The project will provide mixing and pumping systems for the retrieval of radioactive wastes from ten double-shell tanks at Hanford and the waste transfer system between the existing tank farms and the Waste Treatment and Immobilization Plant. The typical retrieval system for the selected tanks consists of 300 horsepower mixer pumps to mobilize solids in the tank and a transfer system for removal of the tank contents. Tank internal components, such as thermocouple trees, will be replaced with higher strength equipment to withstand the forces induced by the mixer pumps. Monitoring and control systems will be installed to measure performance of the mixer pumps and tank operations. Remote decontamination equipment and disposable containment equipment will be utilized for removal and disposal of tank components. Waste transfer components include upgrades to valve pits (including new jumpers) and waste transfer lines.

The selected feed and staging tanks contain both supernatant liquids and settled solids, most of which must be mixed before transfer for processing or storage. Initial tank design did not anticipate transfers of settled solids, but consolidation and concentration of wastes stored in these tanks as well as feed specifications supporting vitrification have made mixing and settled solids transfer systems necessary. The consolidation of wastes stored in these double-shell tanks resulted from waste removal from older design and leaking single shell tanks, thereby relieving threats to the environment. Concentration of wastes has avoided the need for construction of additional tanks.

The FY 2007 budget request will be used for detailed design on two retrieval systems; longlead procurement for three retrieval systems, on-going construction on one retrieval system; completion of construction on one retrieval system; completion of startup on one retrieval system; and, performing associated project management.

The tank farm contractor will manage the project for the Office of River Protection. A local architect-engineer will perform design as well as title III engineering services during construction. Long-lead procurements and construction contracts will be competitively bid. Fixed-price contracts will be utilized to the maximum extent possible.

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

Compliance with Project Management Order

- Critical Decision – 0: Approved Mission Need – FY 1993 *
- Critical Decision – 1: Approved Preliminary Baseline Range – FY 1993 *
- Critical Decision – 2: Approved Performance Baseline:
 - Single-Shell Tanks retrieval systems received critical decision (CD) – 2/3 approval on June 3, 2004. The single-shell tank system installations are being managed as one sub-project using a graded approach under DOE O 413. Individual critical decisions for each single-shell tank retrieval systems are not beginning performed.
 - Double-Shell Tank retrieval systems received critical decision (CD) – 2/3 approval on June 3, 2004. The Office of River Protection is managing this work as one sub-project using a graded approach under DOE O 413. In this case the Office of River Protection is locally approving critical decision-3 for each sub-system.
- Critical Decision -3: Approved Start of Construction
 - Already Approved through Critical Decision-3: Tank AZ-102; AY-101; AY-102 (January 2004); AN Caustic Supply and Control System (June 2000); AZ-101 and Transfer System AP farm to WTP (April 2002); AN-101; and An 101 infrastructure (September 2002).Remaining Critical Decision-3: AN-102 (2009); AN-104 (2008); AN-107 (2010); AP-102; and AP-104 (2007).
- Critical Decision – 4: Approved Start of Operations or Completion of Construction – 1Q, FY 2013

*At the time this project was originated, all projects followed DOE Order 430, so no comparable dates for Critical Decision 0/1 are available.

4. Details of Cost Estimate

(dollars in thousands)		
	Current Estimates	Previous Estimate
Design Phase		
Preliminary and Final Design Costs.....	26,000	26,000
Design Management Costs (2.8 percent of Total Estimated Cost).....	5,560	5,560
Project Management Costs (3.0 percent of Total Estimated Cost).....	5,870	5,870
Subtotal, Design Phase.....	37,430	37,430
Execution Phase		
Buildings and improvements to land.....	2,050	2,050
Specialized Equipment.....	80,280	80,280
Other (major utilities/comp items, specialized facilities, etc.).....	8,087	8,087
Removal costs less salvage.....	13,350	13,350
Inspection, Design, and Project Liaison, Testing, Checkout and Acceptance.....	26,658	26,658
Project Management.....	11,000	11,000
Construction Management.....	17,420	17,420
Subtotal, Execution Phase.....	158,845	158,845
Contingencies		
Design Phase (0.1 percent of Total Estimated Cost).....	238	238
Execution Phase (1.5 percent of Total Estimated Cost).....	2,884	2,884
Subtotal, Contingencies (1.6 percent of Total Estimated Cost).....	3,122	3,122
Other Project Costs		
Conceptual Design.....	1,595	1,595
NEPA.....	10	10
Other Project Costs.....	29,559	29,559
Subtotal, Other Project Costs.....	31,164	31,164
Total, Project Cost.....	230,561	230,561

A-8 Electrical Substation Upgrade

Subproject Detail, Richland PBS RL-0040

1. Construction Schedule

Fiscal Quarter				Total Estimate d Cost (\$000)	Total Project Cost (\$000)
A-E Work Initiated	A-E Work Complete d	Physical Construction Start	Physical Constructio n Complete		

FY 2007 Budget Request.....	1Q 2005	4Q 2005	1Q 2005	4Q 2007	14,881	14,881
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2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
2003	400	400	231
2004	1,004	1,004	1,029
2005	7,730	7,730	2,821
2006	4,432	4,432	9,341
2007	1,315	1,315	1,459

3. Subproject Description, Justification and Scope

As part of the Hanford Site Clean-up mission, the U.S. Department of Energy (DOE) has embarked upon a course of actions to update and maintain Hanford Site core infrastructure. The infrastructure includes utilities such as water, sewer, electrical, roads, telecommunication and facilities. Such infrastructure systems must be maintained to provide long-term safe and reliable support for the sites cleanup mission.

The Hanford site mission has evolved from one of defense production to environmental restoration. Present site cleanup activities are scheduled through FY 2035. Hanford site core infrastructure systems were originally installed with an expected life of 20 years. Most of these systems have been in service for over 55 years, well beyond their expected useful life. Deterioration and system failures are becoming more frequent and more significant.

The project scope has four major components allowing the project to be phase funded including:

- (1) Definitive Design for all phases to be funded in FY 2004
- (2) Renovations to Substation 251-W (A-8) to be funded in FY 2005
- (3) Installation of a 13.8 kV electrical line from 251-W (A-8) to 151-KW (A-7) to be funded in FY 2006

(4) Relocation of the dispatch center from 251-W (A-8) to 2101-M to be funded in FY 2007.

Substation 251-W (A-8), located in the 600 Area, was built in 1944 and consists of two 50 MVA (230-13.8 kV) transformers, three 230 kV Oil Circuit Breakers, two 13.8 kV grounding transformers, and supporting switchyard equipment. This substation serves as the Hanford Site electrical dispatch center and houses the Supervisory Control and Data Acquisition (SCADA) System. The SCADA system monitors status and alarms, and provides remote control to allow the dispatcher to change electrical routings through four primary substations (three in the 100/200 Areas and one in the 300 Area) and two switching stations in the 300 Area. The renovation to the A-8 Substation will modernize 60 year old equipment and allow for the downsizing of the 50 MVA transformers, which are significantly underutilized.

Substation 151-KW (A-7) is located north of 100-KW Area. This substation supplies electrical power to vital cleanup facilities, such as the water facilities supporting Hanford central plateau, Spent Nuclear Fuel Project, and N-Reactor support facilities. The major scope of this project will be to install 5.5 miles of 13.8 kV electrical distribution line from A-8 to A-7 substation.

The Electrical Utilities SCADA and dispatch center will be relocated from 251-W to 2101M. This project will provide the necessary space for the relocation and support equipment from 251-W to 2101M. The existing electrical distribution system in 2101M will be utilized to supply normal power requirements of the relocated SCADA and dispatch center equipment. Evaluation of new and existing loads will be required to determine appropriate power sources.

The equipment and systems that are planned for replacement have deteriorated to a point where they could contribute to unscheduled power outages to key facilities. This project will improve overall electrical system reliability and help meet the long-term environmental cleanup goals set by the U.S. Department of Energy. This modification will also allow for downsizing from the existing 50 MVA transformers, which are significantly underutilized. This project will avoid increased maintenance costs, loss of productivity during downtime, schedule impact, and safety concerns.

The schedule of critical decisions is shown below:

Compliance with Project Management Orders

- Critical Decision - 1: Mission Need (Critical Decision 0 and 1) - 3Q 2003
- Critical Decision - 2: Approve of Baseline - 4Q 2004
- Critical Decision - 3: Start of Construction - 1Q 2005
- Critical Decision - 4: Start of Operations - 4Q 2007

A cost plus contract will be used for Architect-Engineering services in Title II design and Title III engineering, and for construction management services. A firm-fixed price contract will be used to acquire construction activities.

5. Details of Cost Estimate

(dollars in thousands)

	Current Estimates	Previous Estimate
Design Phase		
Preliminary and Final Design Costs	929	835
Design Management Costs	0	0
Subtotal, Design Phase.....	929	835
Execution Phase		
Buildings and improvements to land.....	5,228	5,167
Specialized Equipment.....	3,548	3,646
Inspection, Design, and Project Liaison, Testing, Checkout and Acceptance.....	564	558
Project Management.....	554	549
Construction Management.....	808	800
Subtotal, Execution Phase.....	10,702	10,720
Contingencies		
Design Phase (1.1 percent of Total Estimated Cost).....	89	89
Execution Phase (16.1 percent of Total Estimated Cost).....	2,358	2,319
Subtotal, Contingencies (17.5 percent of Total Estimated Cost).....	2,447	2,408
Other Project Costs		
Conceptual Design.....	400	400
NEPA.....	0	0
Other Project Costs.....	403	403
Subtotal, Other Project Costs.....	803	803
Total, Project Cost.....	14,881	14,766

Environmental Management Waste Management Disposal, Oak Ridge, Tennessee (OR-0041)

1. Significant Changes

- The Physical Construction Start and Complete dates for the final expansion are delayed to second quarter FY2007 and second quarter FY 2008, respectively, due to a change in disposal requirements for the project. Construction cost increases are due to escalation only.

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 1998 Budget Request (A-E and technical design only)	N/A	N/A	1Q FY1999	4Q FY2001	N/A	N/A
FY 1999 Budget Request (Preliminary Estimate)	N/A	N/A	1Q FY1999	4Q FY2001	N/A	N/A
FY 2000 Budget Request (Pre-Award Estimate)	N/A	N/A	1Q FY2000	4Q FY2001	N/A	N/A
Congressional Notification (May 2000)						
▪ Base facility (400,000 cy)	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2001	N/A	N/A
▪ Upgrades for Classified Facility	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2001	N/A	N/A
Congressional Notification (December 2000)						
▪ Base facility (400,000 cy)	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2001	N/A	N/A
▪ Provision for Contract Changes	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2001	N/A	N/A
FY 2002 Budget Request						
▪ Base facility (400,000 cy)	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2001	N/A	N/A
▪ Expanded facility (400,000 cy to 2,000,000 cy)	3Q FY 2000	2Q FY2001	2Q FY 2001	3Q FY2001	N/A	N/A
Congressional Notification (July 2001)						
▪ Base facility (400,000 cy)	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2002	N/A	N/A
▪ Provision or Contract Changes	1Q FY2000	2Q FY2001	2Q FY2004	3Q FY2005	N/A	N/A
▪ Expanded facility (400,000 to 2,000,000 cy)	1Q FY 2000	2Q FY2001	2Q FY 2004	3Q FY2005	N/A	N/A

**Defense Environmental Cleanup/
Environmental Management
Waste Management Facility/
Oak Ridge**

FY 2007 Congressional Budget

	Preliminary Design Start	Final Design Complete	Physical Construction Start	Physical Construction Complete	D&D Offsetting Facilities Start	D&D Offsetting Facilities Complete
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**Congressional Notification
(FY 2003)**

▪ Base facility (400,000 cy).....	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2002	N/A	N/A
▪ Expanded facility (400,000 cy to 1,200,000 cy).....	4Q FY2003	3Q FY2004	3Q FY2004	3Q FY2005	N/A	N/A
▪ Expanded facility (1,200,000 cy to 2,500,000 cy).....	N/A	N/A	N/A	N/A	N/A	N/A

FY 2005 Budget Request

▪ Base facility (400,000 cy).....	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2002	N/A	N/A
▪ Expanded facility (400,000 cy to 1,200,000 cy).....	4Q FY2003	3Q FY2004	3Q FY2004	3Q FY2005	N/A	N/A
▪ Expanded facility (1,200,000 cy to 2,500,000 cy).....	3Q FY 2005	1Q FY2005	1Q FY2005	2Q FY2008	N/A	N/A
▪ Final Cap of Facility	1Q FY2014	1Q FY 2014	1Q FY2014	4Q FY2015	N/A	N/A

FY 2006 Budget Request

▪ Base facility (400,000 cy).....	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2002	N/A	N/A
▪ Expanded facility (400,000 cy to 1,200,000 cy).....	4Q FY2003	3Q FY2004	3Q FY2004	3Q FY2005	N/A	N/A
▪ Expanded facility (1,200,000 cy to 1,700,000 cy).....	3Q FY 2005	1Q FY2005	1Q FY2005	2Q FY2007	N/A	N/A
▪ Final Cap of Facility	1Q FY2014	1Q FY 2014	1Q FY2014	4Q FY2015	N/A	N/A

FY 2007 Budget Request

▪ Base facility (400,000 cy).....	1Q FY2000	2Q FY2001	2Q FY2001	3Q FY2002	N/A	N/A
▪ Expanded facility (400,000 cy to 1,200,000 cy).....	4Q FY2003	3Q FY2004	3Q FY2004	3Q FY2005	N/A	N/A
▪ Expanded facility (1,200,000 cy to 1,700,000 cy).....	3Q FY 2005	2Q FY2006	2Q FY2007	2Q FY2008	N/A	N/A
▪ Final Cap of Facility	1Q FY2014	1Q FY 2014	1Q FY2014	4Q FY2015	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 1998	85,000	85,000	N/A	170,000	N/A	N/A
FY 1999	85,000	100,000	N/A	185,000	N/A	N/A
FY 2000 Request	58,500	167,380	N/A	225,880	N/A	N/A
FY 2000 Cong. Notification	24,130	50,009	N/A	74,139	N/A	N/A
FY 2002 Request	107,227	127,711	N/A	234,938	N/A	N/A
FY 2002 Cong. Notification	108,918	127,711	N/A	236,629	N/A	N/A
FY 2003	159,195	149,087	N/A	308,282	N/A	N/A
FY 2005	144,293	167,658	N/A	311,951	N/A	N/A
FY 2006	132,136	163,288	N/A	295,424	N/A	N/A
FY 2007	133,428	164,733	N/A	298,161	N/A	N/A

4. Project Description, Justification and Scope

The Environmental Management Waste Management Facility (EMWMF) consists of multiple disposal cells with ancillary facilities to support operations and an area for the potential development for future treatment, storage, and disposal facilities. The disposal facility originally had a capacity of 400,000 cubic yards (cy). A build-out of an additional 800,000 cy came on in line June 2005. It is an above-grade earthen structure that is compliant with the Resource Conservation and Recovery Act (RCRA). The project is being implemented under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and is currently authorized to receive up to 1,700,000 cy of waste only from CERCLA remediation projects. Maximum capacity needed to accommodate the Environmental Management (EM) program needs at Oak Ridge has been determined to be 1,700,000 cy, consistent with the facility volume authorized in the Record of Decision (ROD).

The EMWMF offers several benefits to the Oak Ridge Reservation (ORR) Accelerated Cleanup. On-site disposal capacity streamlines and expedites cleanup activities. Large volumes of waste from the cleanup of the ORR make off-site transportation and disposal costs significantly higher than on-site disposal costs. Removal of additional waste sources will reduce the total risk at the ORR. Consolidating waste management and disposal activities, as opposed to capping multiple, discrete waste units in place with continued maintenance and institutional controls, reduce the future mortgage for the ORR.

The capacity of the facility is forecasted to be 1,700,000 cy, which is consistent with the facility capacity that was approved in the November 1999 Record of Decision. Privatization appropriations funded the initial 400,000 cy facility and the first 800,000 cy expansion. Any remaining funding from these Privatization appropriations will be used on the 500,000 cy build out. The remaining funding

requirements for the 500,000 cy build-out and final cap will be requested within the Defense Environmental Cleanup appropriation. A final cap will be placed over the entire closed facility at the conclusion of facility operations rather than separate caps as each increment of the disposal cell reaches capacity. The operations scope for the facility includes installation of an interim cap as each increment is filled up. Since the permanent cap for the closed facility will be constructed at the end of the expansion it will be funded and executed under a separate contract.

A total of \$164,733,000 from the Defense Environmental Cleanup appropriation will provide for the operation of the EMWMF, including the actual disposal of the waste into the EMWMF, and for support of the project by the closure contractor.

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

Compliance with Project Management Order*

- Critical Decision – 0: Approved Mission Need – October 1996
- Critical Decision – 1: Approved Preliminary Baseline Range – July 1997
- Critical Decision – 2: Approved Performance Baseline – December 1999
- Critical Decision – 3: Approved Start of Construction – January 2001
- Critical Decision – 4: Approved Start of Operations – May 2002

* Since this was a privatization project started before the DOE Order 413.3 was in place, all dates are equivalent to Critical Decision Dates (with the exception of CD-4).

5. Financial Schedule

(dollars in thousands)

	Appropriations	Obligations	Costs
Defense Privatization^a			
1997	0	0	0
1998	5,000	0	0
1999	14,500	0	0
2000	0	14,239	0
2001	0	5,261	0
2002	26,050	7,000	20,645
2003	0	19,050	3,399
2004	0	0	11,144
2005	0	0	10,362
Total	45,550	45,550	45,550
Defense Environmental Cleanup Account			
2004	331	331	331
2005	45	45	45
2006	310	310	310
2007	16,365	16,365	16,365
2008	8,048	8,048	8,048
2009	0	0	0
Outyears	62,779	62,779	62,779
Total	87,878	87,878	87,878

^a Design is \$1,800,000 of the total \$133,428,000 TEC

6. Details of Project Cost Estimate

Total Estimated Costs

Cost Element	(dollars in thousands)	
	Current Estimate (\$000)	Previous Estimate (\$000)
Preliminary and Final Design.....	1,800	1,800
Construction Phase		
Initial 400,000 cy	22,244	22,244
Phase 2 – Expansion from 400,000 to 1,200,000 cy	21,506	20,706
Phase 3 – Build-out from 1,200,000 to 1,700,000 cy	25,099	24,607
Final Cap of Facility	62,779	62,779
Total, Construction.....	131,628	130,336
Total, TEC.....	133,428	132,136

Other Project Costs

Cost Element	(dollars in thousands)	
	Current Estimate (\$000)	Previous Estimate (\$000)
Payments to Vendors (400K facility operations).....	26,603	26,603
Payments to Vendors (800K facility operations).....	22,051	22,051
Payments to Vendors (500K facility operations).....	42,818	42,818
Support/Other.....	59,261	57,816
Perpetual Care.....	14,000	14,000
Offsetting D&D.....	0	0
Contingency for OPC other than D&D.....	0	0
Total, OPC.....	164,733	163,288

7. Schedule of Project Costs

(dollars in thousands)

	Prior Years	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Outyears	Total
TEC (Design)	1,800	0	0	0	0	0	0	1,800
TEC (Construction)	44,436	16,365	8,048	0	0	0	62,779	131,628
OPC Other than D&D	73,150	10,675	10,851	9,476	8,719	9,151	42,711	164,733
Offsetting D&D Cost.....	0	0	0	0	0	0	0	0
Total, Project Costs	119,386	27,040	18,899	9,476	8,719	9,151	105,490	298,161

8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter).....3Q 2002
 Expected Useful Life (number of years)..... 11 Years
 Expected Future Start of D&D for New Construction (fiscal quarter)..... N/A

Given the nature of the privatization contract, these operating costs are shown as part of the Total Estimated Cost.

9. Required D&D Information

N/A

10. Acquisition Approach (formerly Method of Performance)

The Department of Energy (DOE) developed the approach to construct the EMWMF without impacting the remediation it is intended to support. The Department chose privatization of the facility (for the first 1,200,000 cy of disposal capacity) by purchasing design and construction services from the private sector. For the first 400,000 cy, the private sector vendor who did the design and construction is also providing the disposal services.

The first increment of facility expansion (Phase 2) of 800,000 cy was completed in April 2005 with waste disposal operations in the additional cells started in June 2005. The final 500,000 cy build-out and the cap for the entire facility will be funded within the Defense Environmental Cleanup appropriation and any remaining prior year Privatization appropriations. Facility construction utilizes several separate and distinct contracts: Phase 1 – base facility 400,000 cy and Phase 2 first 800,000 cy expansion increment were/are separate privatization contracts. Phase 3 – final build-out from 1,200,000 cy up to 1,700,000 cy; and Phase 4 - cap for entire facility will be non-privatization contracts).

Several external independent reviews of the EMWMF project have been completed. Detailed regulatory reviews were completed by the State of Tennessee and U.S. Environmental Protection Agency Region 4 in the areas of protection of human health and the environment, cost effectiveness, and compliance. These reviews were conducted under the CERCLA and culminated in the issuance of the EMWMF ROD in November 1999, which formally documented the decision to build an on-site disposal facility at Oak Ridge. Further, regulatory reviews of the facility design were conducted for each phase in the form of a Remedial Design Report/Remedial Action Work Plan (RDR/RAWP). The Phase 1 RDR/RAWP was approved in April 2001; the revision to the RDR/RAWP for Phase 2 was approved in July 2004. Each of the remaining two phases will undergo similar review and approval.

In addition, the EMWMF was also the subject of a detailed external independent review conducted by the Office of Field Integration, (formerly the Office of Field Management). The Office of Field Integration conducted a detailed review of this project with a team of technical, regulatory, and cost estimating subject matter experts. Results of the review were presented in a report submitted to Congress in May 1999 and indicated that the project is well defined, technically sound, and the planning, cost estimating, and management procedures being used are consistent with “industry best standard practices.” The primary outstanding item identified and tracked in the Corrective Action Plan, securing regulatory approval of the final design, occurred in March 2001. Finally, the Corps of Engineers validated the lifecycle baseline for the project in February 2003.

The requirements of DOE Order 413.3, “Program and Project Management for the Acquisition of Capital Assets,” will be applied using the graded approach described in the Order. Critical Decision 4 “start of operations” was obtained in May 2002 prior to commencing facility operations.