

# Department of Energy FY 2013 Congressional Budget Request



## Environmental Management



# Department of Energy

## FY 2013 Congressional Budget Request



# Environmental Management



**Volume 5**

**Table of Contents**

	Page
Appropriation Account Summary .....	3
Appropriation Language .....	5
Overview .....	7
Carlsbad .....	85
Idaho .....	97
Oak Ridge .....	117
Paducah .....	145
Portsmouth .....	163
Richland .....	179
River Protection .....	205
Savannah River .....	225
Lawrence Livermore National Laboratory .....	257
Los Alamos National Laboratory .....	265
Nevada .....	277
Sandia National Laboratory .....	285
Separations Process Research Unit .....	291
West Valley Demonstration Project .....	297
Brookhaven National Laboratory .....	305
Energy Technology Engineering Center .....	315
Moab .....	319
SLAC National Accelerator Laboratory .....	323
All Other Sites .....	329
Headquarters Operations .....	333
Program Direction .....	343
Safeguards and Security .....	349
Technology Development and Deployment .....	367
Federal Contribution to UED&D Fund .....	377
General Provisions .....	381

The Department of Energy’s Congressional Budget justification is available on the Office of Chief Financial Officer, Office of Budget homepage at <http://www.cfo.doe.gov/crorg/cf30.htm>.



**DEPARTMENT OF ENERGY**  
**Appropriation Account Summary**  
(dollars in thousands - OMB Scoring)

	FY 2011 Current	FY 2012 Enacted <sup>1</sup>	FY 2013 Request	FY 2013 vs. FY 2012	
				\$	%
Energy And Water Development, And Related Agencies Appropriation Summary					
Energy Programs					
Energy Efficiency and Renewable Energy	1,771,721	1,809,638	2,337,000	+527,362	+29.1%
Electricity Delivery and Energy Reliability	138,170	139,103	143,015	+3,912	+2.8%
Nuclear Energy	717,817	765,391	770,445	+5,054	+0.7%
Fossil Energy Programs					
Clean Coal Technolgy	-16,500	0	0	0	0
Fossil Energy Research and Development	434,052	346,703	420,575	+73,872	+21.3%
Naval Petroleum and Oil Shale Reserves	20,854	14,909	14,909	0	N/A
Elk Hills School Lands Fund	0	0	15,580	+15,580	+100.0%
Strategic Petroleum Reserve	123,141	192,704	195,609	+2,905	+1.5%
Northeast Home Heating Oil Reserve	10,978	10,119	4,119	-6,000	-59.3%
<b>Subtotal, Fossil Energy Programs</b>	<b>572,525</b>	<b>564,435</b>	<b>650,792</b>	<b>+86,357</b>	<b>+15.3%</b>
Uranium Enrichment D&D Fund	497,084	472,180	442,493	-29,687	-6.3%
Energy Information Administration	95,009	105,000	116,365	+11,365	+10.8%
Non-Defense Environmental Cleanup	225,106	235,306	198,506	-36,800	-15.6%
Science	4,897,283	4,873,634	4,992,052	+118,418	+2.4%
Advanced Research Projects Agency-Energy	179,640	275,000	350,000	+75,000	+27.3%
Nuclear Waste Disposal	-2,800	0	0	0	0
Departmental Administration	48,894	126,000	122,595	-3,405	-2.7%
Inspector General	42,764	42,000	43,468	+1,468	+3.5%
Innovative Technology Loan Guarantee Program	169,660	0	0	0	0
Advanced Technology Vehicles Manufacturing Loan	9,978	6,000	9,000	+3,000	+50.0%
<b>Total, Energy Programs</b>	<b>9,362,851</b>	<b>9,413,687</b>	<b>10,175,731</b>	<b>+762,044</b>	<b>+8.1%</b>
Atomic Energy Defense Activities					
National Nuclear Security Administration:					
Weapons Activities	6,865,775	7,214,120	7,577,341	363,221	+5.0%
Defense Nuclear Nonproliferation	2,281,371	2,295,880	2,458,631	162,751	+7.1%
Naval Reactors	985,526	1,080,000	1,088,635	8,635	+0.8%
Office of the Administrator	393,293	410,000	411,279	1,279	+0.3%
<b>Total, National Nuclear Security Administration</b>	<b>10,525,965</b>	<b>11,000,000</b>	<b>11,535,886</b>	<b>+535,886</b>	<b>+4.9%</b>
Environmental and Other Defense Activities					
Defense Environmental Cleanup	4,979,165	5,002,950	5,472,001	+469,051	+9.4%
Other Defense Activities	795,670	823,364	735,702	-87,662	-10.6%
<b>Total, Environmental &amp; Other Defense Activities</b>	<b>5,774,835</b>	<b>5,826,314</b>	<b>6,207,703</b>	<b>+381,389</b>	<b>+6.5%</b>
<b>Total, Atomic Energy Defense Activities</b>	<b>16,300,800</b>	<b>16,826,314</b>	<b>17,743,589</b>	<b>+917,275</b>	<b>+5.5%</b>
Power Marketing Administration					
Southwestern Power Administration	13,050	11,892	11,892	0	0
Western Area Power Administration	109,006	95,968	96,130	+162	+0.2%
Falcon & Amistad Operating & Maintenance Fund	220	220	220	0	0
Colorado River Basins	-23,000	-23,000	-23,000	0	0
<b>Total, Power Marketing Administrations</b>	<b>99,276</b>	<b>85,080</b>	<b>85,242</b>	<b>+162</b>	<b>+0.2%</b>
<b>Subtotal, Energy And Water Development and Related Agencies</b>	<b>25,762,927</b>	<b>26,325,081</b>	<b>28,004,562</b>	<b>+1,679,481</b>	<b>+6.4%</b>
Uranium Enrichment D&D Fund Discretionary Payments	-33,633	0	-463,000	-463,000	N/A
Excess Fees and Recoveries, FERC	-36,461	-25,534	-25,823	-289	-1.1%
Rescission of Balances	0	0	-360,667	-360,667	N/A
<b>Total, Discretionary Funding by Appropriation</b>	<b>25,692,833</b>	<b>26,299,547</b>	<b>27,155,072</b>	<b>+855,525</b>	<b>+3.2%</b>

<sup>1</sup> The FY 2012 Enacted reflects a rescission of \$73,300 associated with savings from the contractor pay freeze; \$600M (\$500M Strategic Petroleum Reserve, \$100M Northeast Home Heating Oil) was rebased as mandatory after enactment.





## **Environmental Management**

### **Proposed Appropriations Language**

#### **DEFENSE ENVIRONMENTAL CLEANUP**

For Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary for atomic energy defense environmental cleanup activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, and the purchase of not to exceed one ambulance and one fire truck for replacement only, \$5,009,001,000, to remain available until expended: *Provided*, That \$323,504,000 shall be available until September 30, 2014 for program direction.

#### **DEFENSE ENVIRONMENTAL CLEANUP**

(Legislative proposal, not subject to PAYGO)

*Contingent upon the enactment of legislation reauthorizing the Uranium Enrichment Decontamination and Decommissioning Fund, \$463,000,000, which shall be transferred to "Uranium Enrichment Decontamination and Decommissioning Fund".*

#### **NON-DEFENSE ENVIRONMENTAL CLEANUP**

For 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, \$198,506,000, to remain available until expended.

#### **URANIUM ENRICHMENT DECONTAMINATION AND DECOMMISSIONING FUND**

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, and title X, subtitle A, of the Energy Policy Act of 1992, \$442,493,000, to be derived from the Uranium Enrichment Decontamination and Decommissioning Fund, to remain available until expended.

#### **Explanation of Change**

Changes are proposed to reflect the FY 2013 funding.

The Defense Environmental Cleanup account reflects the proposed reauthorization of the D&D Fund Deposit.



**Environmental Management  
Overview  
Appropriation Summary**

	FY 2011 Current	FY 2012 Enacted <sup>a</sup>	FY 2013 Request
Defense Environmental Cleanup	4,991,065	5,006,331	5,494,124
Non-Defense Environmental Cleanup	226,006	235,306	198,506
Uranium Enrichment Decontamination and Decommissioning Fund	506,984	472,180	442,493
Subtotal, Environmental Management	5,724,055	5,713,817	6,135,123
Use of Prior Year (Defense Environmental Cleanup)	0	-3,381	-12,123
Use of Unobligated Balances	0	0	-10,000
Prior Year Unobligated Rescission - Defense	-11,900	0	0
Prior Year Unobligated Rescission - Non-Defense	-900	0	0
Use of Unobligated Balances	-9,900	0	0
D&D Fund Offset	-33,633	0	-463,000
Total, Environmental Management	5,667,722	5,710,436	5,650,000

**Appropriation Summary by Program**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Closure Sites			
Closure Sites Administration	175	4,703	1,990
Hanford Site			
Central Plateau Remediation	456,839	545,334	558,820
Richland Community and Regulatory Support	0	19,540	15,156
River Corridor and Other Cleanup Operations	510,358	385,169	389,347
Total, Hanford Site	967,197	950,043	963,323
Idaho National Laboratory			
Idaho Cleanup and Waste Disposition	0	380,569	396,607
Idaho Community and Regulatory Support	0	4,100	3,000
Idaho National Laboratory	398,666	0	0
Total, Idaho National Laboratory	398,666	384,669	399,607
NNSA Sites			
Lawrence Livermore National Laboratory	822	873	1,484
Los Alamos National Laboratory	188,753	185,000	234,913
Nevada	62,510	65,545	64,641
NNSA Service Center/Separations Processing Research Unit (SPRU)	3,047	3,561	4,230
Sandia National Laboratories	3,014	3,014	5,000
SPRU	50,895	24,000	24,000

<sup>a</sup> FY 2012 Enacted reflects a rescission of \$21,215,000 associated with savings from the contractor pay freeze.

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Total, NNSA Sites	309,041	281,993	334,268
Oak Ridge			
Building 3019	0	37,000	0
Oak Ridge	152,136	0	0
OR Cleanup and Disposition	0	85,900	109,470
OR Nuclear Facility D&D	0	69,100	67,525
OR Reservation Community and Regulatory Support	0	6,409	4,500
Total, Oak Ridge	152,136	198,409	181,495
Office of River Protection			
Tank Farm Activities	395,500	441,800	482,113
Waste Treatment and Immobilization Plant	738,697	740,000	690,000
Total, Office of River Protection	1,134,197	1,181,800	1,172,113
Savannah River Site			
Cleanup and Waste Disposition	17,230	0	0
Radioactive Liquid Tank Waste Stabilization and Disposition	0	838,552	720,843
Savannah River Risk Management Operations	1,155,154	339,646	444,089
SR Community and Regulatory Support	0	9,584	16,584
Total, Savannah River Site	1,172,384	1,187,782	1,181,516
Waste Isolation Pilot Plant	215,714	213,334	198,010
Program Support	21,101	20,380	18,279
Program Direction	320,007	321,628	323,504
Safeguards and Security	247,945	250,968	237,019
Technology Development and Deployment	18,869	10,622	20,000
Federal Contribution to the Uranium Enrichment D&D Fund	33,633	0	463,000
Total, Defense Environmental Cleanup	4,991,065	5,006,331	5,494,124
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D	3,652	2,703	2,704
Gaseous Diffusion Plants			
Paducah Gaseous Diffusion Plant	50,901	52,290	40,848
Portsmouth Gaseous Diffusion Plant	48,401	48,148	49,261
Total, Gaseous Diffusion Plants	99,302	100,438	90,109
Small Sites			
Brookhaven National Laboratory	13,833	9,585	7,840
Energy Technology Engineering Center	6,466	9,279	9,460
Idaho National Laboratory	4,782	5,131	5,790
DOE-Sponsored Facilities (per P.L. 112-74)	0	10,000	0
Moab	32,594	31,000	30,941
SLAC National Accelerator Laboratory	7,711	2,435	3,800
Total, Small Sites	65,386	67,430	57,831
West Valley Demonstration Project	57,666	64,735	47,862
Total, Non-Defense Environmental Cleanup	226,006	235,306	198,506
Uranium Enrichment Decontamination and Decommissioning Fund			
Oak Ridge	0	200,856	207,798

	(dollars in thousands)		
	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Paducah	0	81,357	90,142
Portsmouth	0	189,967	127,038
D&D Activities			
Oak Ridge	231,706	0	0
Paducah Gaseous Diffusion Plant	83,506	0	0
Portsmouth Gaseous Diffusion Plant	191,772	0	0
Total, D&D Activities	506,984	0	0
Pension and Community and Regulatory Support			
Oak Ridge	0	0	13,140
Paducah Gaseous Diffusion Plant	0	0	2,580
Portsmouth Gaseous Diffusion Plant	0	0	1,795
Total, Pension and Community and Regulatory Support	0	0	17,515
Total, Uranium Enrichment Decontamination and Decommissioning Fund	506,984	472,180	442,493
Total, Environmental Management	5,724,055	5,713,817	6,135,123
Use of Prior Year (Defense Environmental Cleanup)	0	-3,381	-12,123
Use of Unobligated Balances	0	0	-10,000
Prior Year Unobligated Rescission - Defense	-11,900	0	0
Prior Year Unobligated Rescission - Non-Defense	-900	0	0
Use of Unobligated Balances	-9,900	0	0
D&D Fund Offset	-33,633	0	-463,000
Total, Environmental Management	5,667,722	5,710,436	5,650,000

### **Office Overview and Accomplishments**

The Office of Environmental Management (EM) supports the Department's Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment by completing environmental remediation of legacy and active Cold War sites. The EM program was established in 1989 and is responsible for the cleanup of millions of gallons of liquid radioactive waste, millions of cubic yards of solid radioactive wastes, thousands of tons of spent (used) nuclear fuel and special nuclear material, huge quantities of contaminated soil and water, disposition of large volumes of transuranic and mixed/low-level waste, and deactivation and decommissioning of hundreds of excess facilities. This is the largest cleanup program in the world brought about from five decades of nuclear weapons development and production and Government-sponsored nuclear energy research. It involves some of the most dangerous materials known to humankind. At the end of FY 2011, EM had completed cleanup activities for 90 sites in 30 states (in addition to the Commonwealth of Puerto Rico); EM is responsible for the

remaining cleanup at 17 sites in 11 states. It is EM's goal to complete the cleanup in approximately six decades within the currently estimated life-cycle cost of \$274,000,000,000 to \$309,000,000,000. This includes \$100,000,000,000 in actual costs from 1997 through 2011, and an additional estimate of \$174,000,000,000 to \$209,000,000,000 to complete EM's remaining mission between 2050 and 2062.

EM continues to pursue its cleanup objectives within a framework of regulatory compliance commitments and best business practices. The rationale for cleanup prioritization is based on achieving the highest risk reduction benefit per radioactive content (wastes that contain the highest concentrations of radionuclides). EM has prioritized its cleanup activities:

- Activities to maintain a safe, secure, and compliant posture in the EM complex
- Radioactive tank waste stabilization, treatment, and disposal

### **Environmental Management/ Overview**

**FY 2013 Congressional Budget**

- Spent (used) nuclear fuel storage, receipt, and disposition
- Special nuclear material consolidation, stabilization, and disposition
- High-risk soil and groundwater remediation
- Transuranic and mixed/low-level waste disposition
- Soil and groundwater remediation
- Excess facilities deactivation and decommissioning.

In addition to these priorities, additional strategies are integrated into cleanup activities that are important to the achievement of EM cleanup progress as well as the stakeholders and states where cleanup sites are located. Most importantly, EM will continue to discharge its responsibilities by conducting cleanup within a “Safety First” culture that integrates environmental, safety, and health requirements and controls into all work activities. This ensures protection to the workers, public, and the environment.

In FY 2011, EM achieved three significant accomplishments in program management and program development. First, EM exceeded the Priority Goal of reducing the Cold War legacy waste site footprint by 40 percent. EM achieved a 66 percent reduction at the end of FY 2011. At present, approximately 318 square miles remains. Second, EM achieved targeted milestones associated with the Department’s Advanced Simulation Capability for Environmental Management (ASCEM) effort. These milestones included applying the ASCEM visualization tool to assist characterizing the Hanford Deep Vadose Zone in December 2010. Three reviews confirmed the accuracy and success of the ASCEM program. Finally, in the High Level Tank Waste area, EM tested the Fluidized Bed Steam Reformer waste treatment technology with actual radioactive tank waste. This will lead to an alternative supplemental treatment for Low Activity Waste. In addition EM completed testing the next-generation solvent at the prototype scale for improved separation efficiency at the Actinide Removal Process and Modular Caustic Side Extraction at the Savannah River Site.

**American Reinvestment and Recovery Act**

As of early January 2012, EM has expended \$5,517,963,289, or 92 percent, of the \$5,988,400,908 in ARRA funding that remains available to achieve footprint reduction and complete near-term cleanup activities. More than 11,000 direct jobs were created by Recovery activities. The remaining \$470,437,619 will be expended from FY 2012 - FY 2014 to support the disposition of the remaining Savannah River Site legacy transuranic waste, the completion of facilities at C Reactor demolition and closeout, and facility demolition at Oak Ridge National

Laboratory, Y-12, and the East Tennessee Technology Park.

**FY 2013 Budget**

The FY 2013 investment of \$5,650,000,000 in budget authority will be utilized to fund activities to maintain a safe, secure and compliant posture in the EM complex. Additionally, the FY 2013 funding level positions EM to meet all FY 2013 enforceable milestones. Specifically, the FY 2013 budget request supports the operation of one facility at Idaho and construction of two unique and complex tank waste processing plants at the Savannah River Site and Office of River Protection. These sites will treat approximately 88 million gallons of radioactive tank waste for ultimate disposal. Combined, these facilities have an estimated construction cost of \$14,200,000,000 and represent one of the primary risk and cost drivers in the program. The FY 2013 budget request continues making investments to complete construction and begin the operation of these critical projects. The request will also fund the solid waste disposal infrastructure needed to support disposal of transuranic and low-level wastes generated by high-risk activities. Finally, requested funding will be applied to footprint reduction activities, such as the soil and groundwater remediation, and facility decontamination and decommissioning activities.

Pursuant to the 2011 National Defense Authorization Act H.R. 6523 Section 4402A, a Future-Years Defense Environmental Management Plan will be provided separately.

The FY 2013 Budget funds the following activities: At Idaho, the FY 2013 request will support the completion of operations of the Sodium Bearing Waste treatment facility at Idaho - Testing and readiness verification will be completed by the end of the second quarter of FY 2012 in preparation for hot startup in the third quarter of FY 2012. This project will treat approximately 900,000 gallons of sodium bearing waste stored in tanks that are 35 to 45 years old. The treatment of this waste will enable EM to close the final four tanks, complete treatment of all liquid tank waste at Idaho, and meet the Notice of Noncompliance – Consent Order Modification to cease use of the Tank Farm Facility by December 31, 2012.

Additionally, Idaho’s request will support requirements of the Idaho Settlement Agreement. These include disposing of remote-handled low-level waste at the Radioactive Waste Management Complex and mixed low-level waste at appropriate off-site disposal facilities; and characterizing and certifying remote-handled transuranic waste at the Idaho Nuclear Technology and

Engineering Center. The request will provide for use of the Advanced Mixed Waste Treatment Facility to ship stored contact-handled transuranic waste, and for receipt, characterization, and certification of transuranic waste from other DOE sites.

At the Office of River Protection Site, the FY 2013 request will support continued construction of the Waste Treatment and Immobilization Plant. As of November 2011, the Waste Treatment and Immobilization Plant construction is approximately 62 percent complete. Additionally, the request provides increased funding critical for tank farm infrastructure upgrades and waste feed delivery projects in support of hot operations for the Waste Treatment and Immobilization Plant.

At the Savannah River Site, the largest portion of the request supports the Liquid Tank Waste Management Program. This includes the operation of the Defense Waste Processing Facility, as well as the operation of the Actinide Removal Process and Modular Caustic Side Extraction units. These units will be needed through construction of the Salt Waste Processing Facility. The request also supports the operations of the Saltstone Facility. In addition, the request supports continued construction of Saltstone Disposal Units 3 and 5 and the Salt Waste Processing Facility.

H Canyon will be transitioned to a modified operational mode. Plutonium that does not meet the criteria for disposition via the National Nuclear Security Administration (NNSA) mixed-oxide fuel program will be packaged for disposition to the Waste Isolation Pilot Plant. Feed fuel for the MOX Facility will be processed in the H Canyon. The site will also continue to support the Global Threat Reduction Initiative through continued receipt of foreign and domestic research reactor spent (used) nuclear fuel.

In FY 2013, the budget request will support the decontamination and decommissioning project at the Portsmouth Gaseous Diffusion Plant in Piketon, Ohio, by maintaining the site's base funding for a total of \$186,672,000. Approximately \$49,261,000 of that total will be used to continue the safe operation of the DUF6 Conversion facility to convert depleted uranium hexafluoride into a more stable form of depleted uranium oxide suitable for reuse or disposition. Most of the funding request will be used for decontamination and decommissioning of gaseous diffusion plant ancillary facilities and systems, disposal of waste and small equipment removal, utility optimizations, and hazardous material abatement.

The Department plans to continue to maximize the utilization of its excess material assets, including uranium, in order to conduct its cleanup mission. The uranium transfer allows for environmental remediation and decontamination and decommissioning activities at the Gaseous Diffusion Facilities. Consistent with applicable laws, including the USEC Privatization Act, DOE plans to transfer up to 1,750 metric tons of uranium in FY 2013. The actual value of the material is subject to the final amounts transferred quarterly and the market value at the time of the transfer.

To address many of the high-risk activities there is a total of \$20,000,000 for the Technology Development and Deployment program. This program develops technologies for alternative endpoint scenarios to monitor natural attenuation; integrated remediation system for radionuclides at a contaminated groundwater site; segregation and stabilization of mercury contaminated debris; development of attenuation-based remedies for groundwater; and safe extended storage of used nuclear fuel at DOE sites.

At Los Alamos National Laboratory (LANL), the FY 2013 request will aggressively pursue cleanup under the Consent Order while working with regulators to facilitate cleanup as quickly as possible. The funding supports Solid Waste and Soil and Groundwater activities which are critical to achieving the fence-to-fence cleanup required under the Consent Order. Specifically, 600 cubic meters of mixed low level waste and 1,300 cubic meters of transuranic waste from Area G will be disposed in FY 2013. In addition, the budget supports the completion of Corrective Measure Evaluation of Material Disposal Area-C. The budget also provides for conducting investigations/characterization of two Technical Areas for the Canon de Valle Capital Asset Project. The budget continues groundwater monitoring and reporting, storm water sampling, sediment monitoring, and implementing operations of new oversize modular box line and initiation of capital project planning for Trenches A-D and Pit-9.

As a result of recent wildfires at LANL, the Department and the State of New Mexico are revisiting the prioritization of activities. The objective is to ensure the highest risk item, which is stored combustible transuranic waste, can be addressed in an expedited manner starting in FY 2012. The Department and the State of New Mexico developed a Framework Agreement which documents the shared commitment to reduce risks and propose revisions to schedules of some compliance driven but lower risk activities.

At Richland, progress will continue along the River Corridor. EM will complete interim response actions for the 100 N Area, complete interim remedial actions for the 300-FF-2 waste sites, complete removal and/or remedial actions for thirteen high priority facilities in the 300 Area, complete K-West Basin debris removal and complete the T-Plant modifications for storage of the K Basin sludge. In addition, the FY 2013 request supports continuing progress towards deactivation and decommissioning of facilities in the Plutonium Finishing Plant complex, commencing construction of the sludge transfer system, continuing placement of KE Reactor in Interim Safe Storage, continuing field remediation in the K Reactor Areas, continuing groundwater characterization, and obtaining a final Record of Decision for the 100, 200, and 300 Areas. These efforts are aimed at reducing the Richland site cleanup footprint by approximately 90 percent by FY 2015.

At Oak Ridge, the FY 2013 request will support continued base operations at the East Tennessee Technology Park. This will provide infrastructure support for decontamination and decommissioning of excess facilities and remediation of contaminated sites, meeting Federal Facility Agreement milestones and safety requirements. The FY 2013 request, funds continued demolition of the East Wing of Building K-25 which is the highest priority activity at Oak Ridge. The operation of the Transuranic Waste Processing Center will continue processing contact-handled and remote-handled transuranic waste in order to meet the Site Treatment Plan milestone. The U-233 direct disposition activities will be initiated in FY 2012 and continue into FY 2013. Additionally, this request will maintain Building 3019 in a safe and operating condition.

By the end of FY 2012, legacy cleanup will be complete at the Brookhaven National Laboratory and the Stanford Linear Accelerator Center. These completions were accelerated through a combination of Recovery Act and annual appropriations. EM will maintain surveillance and maintenance activities on these facilities in FY 2012 and FY 2013, and will initiate transfer to the Office of Science for long-term surveillance and maintenance in FY 2014.

#### **Science Technology, Engineering, and Mathematics (STEM)**

EM is committed to participating in the Department's pilot laboratory research internship project for the Science Technology, Engineering, and Mathematics (STEM) education program authorized by section 101 of the America COMPETES Reauthorization Act of 2010.

#### **Environmental Management/ Overview**

#### **Explanation of Changes**

The Department's request of \$5,650,000,000 in FY 2013 for EM is a 1.1 percent decrease from the FY 2012 Enacted level.

The FY 2013 request increases the funding levels for solid waste disposition and soil and water remediation at the Los Alamos National Laboratory (+\$49,913,000), tank farm operations at the Office of River Protection (+\$40,313,000), and Plutonium Finishing Plant and spent nuclear fuel activities at Hanford (+\$25,632,000). This funding request decreases decontamination and decommissioning and solid waste activities at Portsmouth (-\$61,135,000), treatment of radioactive tank waste and community and regulatory support at Idaho (-\$45,919,000), decontamination and decommissioning activities at West Valley (-\$18,500,000), transportation activities at the Waste Isolation Pilot Plant (-\$18,154,000), and soil and groundwater activities and community and regulatory support at Hanford (-\$8,789,000).

Additionally, the request reflects the use of \$12,123,000 in prior year uncosted balances and \$10,000,000 in prior year unobligated balances to offset ongoing mission work in the EM program.

#### **Alignment to Strategic Plan**

The Department's May 2011 Strategic Plan describes EM's primary objective: Complete Environmental Remediation of Our Legacy and Active Sites. The Strategic Plan identifies three targeted outcomes to achieving these objectives, and EM is responsible for supporting Strategic Plan outcomes through its budget request. The targeted outcomes are:

- Reduce Cold War legacy waste site footprint by 90 percent (to approximately 90 square miles) by 2015;
- Develop and apply advanced modeling and simulation tools in 2011 to accelerate progress on EM technical challenges; and,
- Develop novel methods for addressing high-level waste that can accelerate progress and reduce costs of this multi-decade long program, with a 2012 target date for the first demonstration.

EM will continue to pursue Legacy Footprint Reduction opportunities and small site legacy completions. EM has used American Recovery and Reinvestment Act funding to accelerate disposition of legacy transuranic and low-level waste, accomplish soil and groundwater remediation and to perform decontamination, decommissioning, and demolition of areas and facilities years sooner than those activities were scheduled to



occur. Management and removal of legacy transuranic waste from generator sites directly supports risk reduction and the goal of reducing the EM site footprint. Removing contamination, dispositioning of waste, and reducing the site footprint will save funding by reducing security, surveillance, maintenance, infrastructure, and overhead costs that otherwise would continue for years to come.

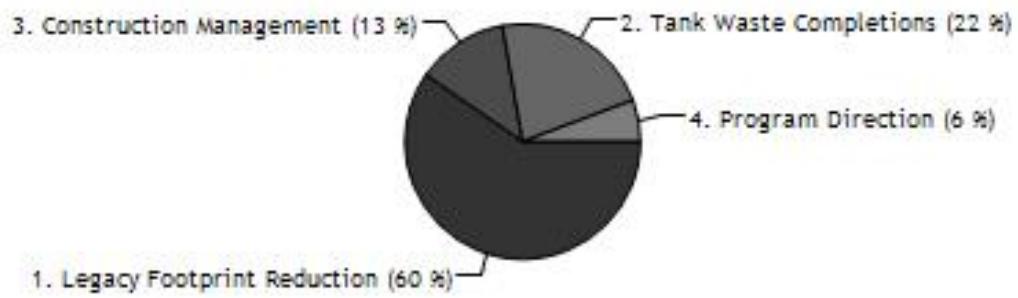
EM will focus its technology selection, development, and deployment investments to mature the science and technology associated with tank waste processing, treatment, and waste loading. In addition, EM will continue to optimize tank waste processing capacities to enhance the current tank waste cleanup approaches. Seven major transformational strategies to reduce life-cycle cost and length of program execution have been identified. Several of these strategies have been incorporated into Savannah River's tank waste program, and others are being considered for incorporation into the Office of River Protection tank waste program. EM has developed 16 corporate performance measures to enable the program to monitor annual and life-cycle progress towards meeting the Department's Strategic Plan priorities. 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 (used) nuclear fuel packaged for final disposition (metric tons of heavy metal)
9. Transuranic waste dispositioned (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 release sites remediated
16. Number of geographic sites closed

Each of these 16 corporate performance measures is quantitative and focuses on the accomplishment of risk-reducing actions and life-cycle cost and schedule reduction. Each measure is tracked in the context of the total measure (life-cycle) necessary to complete each site, as well as, the EM program as a whole. The corporate measures are under configuration control, thereby establishing performance expectations and accountability for those expectations within a given funding level. Through configuration control, EM is able to make corporate decisions that will keep the program on track, monitor and control costs and schedules, and manage site closure expectations. In addition to the corporate measures, performance is also tracked through the implementation of earned value management principles, which are used to demonstrate whether a project and site are on track to maximize its success for its construction and operations outcomes.

### FY 2013 Request Aligned with Goals



**FY 2013 Request Aligned with Goals**

	1. Legacy Footprint Reduction	2. Tank Waste Completions	3. Construction Management	4. Program Direction
Other Sites	1,990	0	0	0
Headquarters Operations	18,279	0	0	0
Richland	1,037,773	0	0	0
D&D Fund Deposit	463,000	0	0	0
Idaho	340,797	64,600	0	0
Separations Process Research Unit	24,000	0	0	0
Sandia Site Office	5,000	0	0	0
River Protection	0	482,113	690,000	0
Savannah River	582,650	698,294	22,549	0
Carlsbad	202,987	0	0	0
SLAC National Accelerator Laboratory	3,800	0	0	0
Technology Development & Deployment	20,000	0	0	0
Oak Ridge	421,250	0	0	0
Program Direction	0	0	0	323,504
West Valley Demonstration Project	49,877	0	0	0
Paducah	142,479	0	0	0
Portsmouth	186,672	0	0	0
Brookhaven National Laboratory	7,840	0	0	0
Lawrence Livermore National Laboratory	1,484	0	0	0
Nevada	64,641	0	0	0
Los Alamos National Laboratory	239,143	0	0	0
Energy Technology Engineering Center	9,460	0	0	0
Moab	30,941	0	0	0
EM	3,854,063	1,245,007	712,549	323,504
Offset	-485,123	0	0	0
Total, EM	3,368,940	1,245,007	712,549	323,504

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

- Work with regulators and stakeholders to ensure compliance and timely implementation of required cleanup actions.
- Eliminate significant environmental, health and safety risks as soon as possible.
- Strengthen the integration of acquisition, contract and project management processes so that contract statements of work and deliverables are based on clear project requirements. To achieve this goal, robust front-end planning, risk analysis, and nuclear safety requirements must be addressed early. Changes to contract and project baseline must be managed through strict and timely change control processes to deliver results on time and within cost.
- Hold cleanup contractors accountable to high safety standards, and empower them to pursue the most direct path to success.
- Partner with national laboratories, industry, academia, and the Corps of Engineers to ensure the best scientific and engineering resources are used. Technologies will be selected for development and deployment and the design and construction approaches used will help reduce risk, lower cost, and accelerate project completion.
- With the exception of capital projects, project contingency funding will not be requested.

**Environmental Management/  
Overview**

- Streamline EM program activities to focus on risk reduction and cleanup.
- Maximize human capital potential through vigorous professional team work training.

The following external factors could affect EM’s ability to achieve its strategic goals:

- 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 EM’s knowledge of the types of contaminants, their extent, and concentrations.
- Commercially Available Options for Waste Disposition: Accomplishment of risk reduction and site closure is dependent upon the continued availability of commercial options for mixed low-level waste and low-level waste treatment and disposal.
- Constrained Flexibility: New regulations, statutes, orders, or litigation may constrain the program’s flexibility in accomplishing the goal of cleanup completion and risk reduction in a fiscally responsible manner.
- New Mission or Responsibilities: EM will not initiate additional work scope, associated with cleanup of other DOE programs excess facilities until there is room within EM’s budget.

In carrying out the program’s risk reduction and cleanup mission, EM performs a variety of collaborative activities. These activities include:

- 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 continues to be a major cost driver for the EM program.
- Defense Nuclear Facilities Safety Board: EM works with the Board to implement recommendations relating to activities at the Department’s nuclear facilities affecting nuclear health and safety.
- Environmental Management Advisory Board: EM solicits advice and guidance from the EM Advisory Board on a wide variety of topics, with special

emphasis on difficult corporate issues relative to cleanup.

- EM Site Specific Advisory Boards: EM solicits advice and guidance on site operations from nine Site Specific Advisory Boards across the EM complex.
- National Academy of Public Administration (NAPA): EM works with NAPA on its recommendations regarding organization, managerial and human capital issues.
- National Academy of Science (NAS): EM works with the NAS on its recommendations regarding various technical and scientific issues confronting the EM program.

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

#### **Validation and Verification**

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

EM maintains a variety of sources for validation and verification of specific results for its performance metrics. For example, shipping manifests and disposal records are used to verify the results for the Transuranic Waste Dispositioned and Low Level Waste/Mixed Low Level Waste disposed metrics. Quality Assurance Inspection Records for waste packaging are used to verify the High Level Waste Packaged for disposition. As a final example, state and federal regulator acceptance of the site’s Remedial Action Report serves as verification for

the completion of nuclear, radioactive and industrial facilities as well as completion of release sites.

**Life-cycle Costs**

The EM program has developed life-cycle estimates with cost and schedule ranges beginning in 1997 and projecting through 2075. To account for the uncertainty associated with long-term project execution, EM develops cost ranges from a nominal 50 percent confidence level to 80 percent confidence level. Cost estimates for the various life-cycle cost data elements (operations activities, capital procurements, near-term baseline, longer-term estimates) are formulated in

accordance with relevant DOE and federal requirements. EM ensures compliance with these requirements through a variety of verification mechanisms, and provides a diverse set of tools and resources to help cost estimators meet the relevant requirements. For example, costs associated with capital asset projects and capital construction line items have been reviewed independently for reasonableness by the DOE Office of Engineering and Construction Management. In instances where a project has not been reviewed or is already completed, a single point estimate or actual cost is provided.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Develop novel methods for addressing high-level waste that can accelerate progress and reduce costs of this multidecadal program.</b>		
<b>EM Corporate Performance Measure 1: Liquid Waste in Inventory eliminated (Thousands of Gallons)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	6,993	N/A
Current Year(Cumulative to date)	5,684	N/A
Prior Year(Cumulative to date)	4,413	4,475/Met
Analysis	<p>Through the elimination of the liquid tank wastes, the EM program is demonstrating tangible evidence of the program's success at reducing the highest risk in the complex. The Department and its predecessor agencies generated radioactive liquid waste as a by-product of the production of nuclear weapons. The EM Program has an estimated 88 million gallons of highly radioactive waste from the legacy of the Cold War stored in 239 tanks at Idaho, the Savannah River Site and the Office of River Protection (discussed below).</p> <p>By eliminating high-risk material, corresponding life-cycle cost reductions are achieved for an activity that is a major cost driver to the EM program. Through the development of new technologies, these metrics should be accelerated and completed at a lower cost without any increased environmental risk or worker safety. Through the use of the EM Engineering and Technology Roadmap, we will leverage our national laboratories' capabilities to provide technical solutions where none exist, improved solutions that enhance safety and operating efficiency, and provide technical alternatives that reduce cost, schedule, or performance risks.</p> <p>For FY 2011, the EM program targeted a cumulative total of 4,413,000 gallons of liquid waste to be eliminated. As of the end of FY 2011, the EM program eliminated a cumulative total of 4,475,000 gallons of liquid waste, exceeding its target for FY 2011 by 62,000 gallons.</p>	

<b>EM Corporate Performance Measure 2: Liquid Waste Tanks closed (Number of Tanks)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	17	N/A
Current Year(Cumulative to date)	15	N/A
Prior Year(Cumulative to date)	9	9/Met
Analysis	<p>There are 239 underground tanks at Idaho, the Savannah River Site and the Office of River Protection. As the liquid tank waste is eliminated, the targeted tanks can be closed. The closure of the remaining tanks in the tank farm is a key measure of the EM program's goal to reduce some of the highest risks in the complex. The Savannah River and Idaho sites have closed 9 tanks in prior years.</p>	

<b>EM Corporate Performance Measure 3: High-Level Waste packaged for final disposition (Number of Containers)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	4,113	N/A
Current Year(Cumulative to date)	3,801	N/A
Prior Year(Cumulative to date)	3,571	3,526/Not Met
Analysis	<p>Sludge and high curie/high actinide high-level wastes stored in tanks at the Savannah River Site, Idaho and the Office of River Protection are processed and transformed into a glass form and store in canisters. This helps to ensure that risks to the environment and human health and safety from tank waste operations are eliminated or reduced to acceptable levels.</p> <p>The EM program has completed all work for this metric at the West Valley Demonstration Project. The Department has also completed a facility at Idaho and is constructing a facility at the Office of River Protection to process and package these wastes. Currently, the Savannah River Site is making progress on this metric at the Defense Waste Processing Facility.</p> <p>For FY 2011, the EM program targeted a cumulative total of 3,571 canisters of High Level Waste. As of the end of FY 2011 the EM program has packaged for disposition a cumulative total of 3,526 canisters of High Level Waste, falling short of its target by 45 canisters.</p>	

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>EM Corporate Performance Measure 4: Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	5,089	N/A
Current Year(Cumulative to date)	5,089	N/A
Prior Year(Cumulative to date)	5,089	5,089/Completed
Analysis	Reducing the inventory of high-risk plutonium by preparing it for long-term	

	<p>storage or disposition quantitatively measures EM's progress towards environmental, safety, and security risk reduction.</p> <p>For FY 2011 the EM program has set no targets since this metric has been completed: all work for this metric for the EM program had been completed through activities at the Savannah River, Hanford and Idaho sites.</p>
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<b>EM Corporate Performance Measure 5: Enriched Uranium packaged for disposition (Number of Containers)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	8,016	N/A
Current Year(Cumulative to date)	8,016	N/A
Prior Year(Cumulative to date)	7,953	8,007/Met
Analysis	<p>Reducing the inventory of high-risk enriched uranium by preparing it for long-term storage or disposition quantitatively measures EM's progress towards environmental, safety, and security risk reduction. Stabilization and packaging activities at the Hanford and Idaho sites have been completed for this metric in prior years while the Savannah River Site continues to make progress on the remaining targets for this metric.</p> <p>For FY 2011, the EM program targeted a cumulative total of 7,953 canisters of enriched uranium to be packaged. At the end of FY 2011, the EM Program has packaged 8,007 canisters of enriched uranium, exceeded its target by 54 canisters.</p>	

<b>EM Corporate Performance Measure 6: Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	107,828	N/A
Current Year(Cumulative to date)	107,828	N/A
Prior Year(Cumulative to date)	107,828	107,828/Completed
Analysis	<p>Reducing the inventory of plutonium and uranium residues for long-term storage or disposition quantitatively measures EM's progress towards environmental, safety, and security risk reduction.</p> <p>For FY 2011 the EM program has set no targets. All targeted work for this metric for the EM program had been completed in prior years through activities at the Savannah River Site, the Hanford Site and the Rocky Flats Environmental Technology Center.</p>	

<b>EM Corporate Performance Measure 7: Depleted and Other Uranium packaged for disposition (Metric Tons)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	56,901	N/A
Current Year(Cumulative to date)	32,186	N/A
Prior Year(Cumulative to date)	32,186	14,636/Not Met

Analysis	<p>Depleted uranium is distributed across the EM complex at Hanford, Savannah River Site, Paducah, and Portsmouth. Hanford has completed its activity on this metric. Since the 1950s, over 690,000 metric tons of depleted uranium hexafluoride has been stored in large steel cylinders at the Portsmouth and Paducah Gaseous Diffusion Plants. To address this problem the Department has constructed conversion facilities at Portsmouth and Paducah to convert the depleted uranium hexafluoride to a more stable form for reuse or disposal.</p> <p>For FY 2011, the EM program targeted a cumulative total of 32,186 metric tons of depleted and other uranium to be packaged for disposition. At the end of FY 2011, the EM Program has packaged a cumulative total of 14,636 metric tons, falling short of its target by 17,550 metric tons.</p>
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<b>EM Corporate Performance Measure 8: Material Access Areas eliminated (Number of Material Access Areas)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	31	N/A
Current Year(Cumulative to date)	31	N/A
Prior Year(Cumulative to date)	30	30/Met
Analysis	<p>The elimination of a material access area indicates the completion of a segment of work that removes the need for safeguards and security in the area. The EM program has completed all activities for this metric at the Idaho site and the Rocky Flats Environmental Technology Center. Work continues at the Savannah River and Hanford Sites.</p> <p>For FY 2011 the EM program had set no targets for this metric. All targeted work for this metric for the EM program had been completed in prior years through activities at the Savannah River Site, the Idaho site, the Hanford Site and the Rocky Flats Environmental Technology Center.</p>	

<b>EM Corporate Performance Measure 9: Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	2,133	N/A
Current Year(Cumulative to date)	2,128	N/A
Prior Year(Cumulative to date)	2,128	2,128/Met
Analysis	<p>The legacy spent (used) nuclear fuel originating from Atomic Energy Commission and DOE activities, and non-legacy used nuclear fuel, stored at the Richland, Idaho and Savannah River Site. The current activities on this metrics involve spent nuclear fuel originating in both Foreign and Domestic Research Reactors (including Gap Material) which is being transferred to the Savannah River Site for safe, secure storage pending disposition.</p>	



<b>EM Corporate Performance Measure 10: Transuranic Waste Dispositioned (Cubic meters) – Total</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	89,726	N/A
Current Year(Cumulative to date)	80,373	N/A
Prior Year(Cumulative to date)	76,728	76,494/Not Met
Analysis	<p>Management and removal of transuranic waste across the EM complex directly supports risk reduction and the goal of reducing the EM site footprint. This metric also provides information on the disposition of both remote-handled transuranic and contact-handled transuranic waste.</p> <p>For FY 2011, the EM Program targeted a cumulative total of 76,728 cubic meters of transuranic waste to be removed from inventory. At the end of FY 2011 the EM complex had dispositioned a cumulative total of 76,494 cubic meters of transuranic waste, falling short of its target by 234 cubic meters.</p>	

<b>EM Corporate Performance Measure 10a: Transuranic Waste Dispositioned (Cubic meters) – Remote Handled</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	186	N/A
Current Year(Cumulative to date)	129	N/A
Prior Year(Cumulative to date)	116	120/Met
Analysis	<p>Management and removal of remote handled transuranic waste across the EM complex directly supports risk reduction and the goal of reducing the EM site footprint.</p> <p>For FY 2011, the EM Program targeted a cumulative total of 116 cubic meters of remote handled transuranic waste to be removed from inventory. At the end of FY 2011 the EM complex had dispositioned a cumulative total of 120 cubic meters of remote handled transuranic waste, exceeding its target by 4 cubic meters.</p>	

<b>EM Corporate Performance Measure 10b: Transuranic Waste Dispositioned (Cubic meters) – Contact Handled</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	89,540	N/A
Current Year(Cumulative to date)	80,244	N/A
Prior Year(Cumulative to date)	76,612	76,374/Not Met
Analysis	<p>Management and removal of contact handled transuranic waste across the EM complex directly supports risk reduction and the goal of reducing the EM site footprint.</p> <p>For FY 2011, the EM Program targeted a cumulative total of 76,612 cubic meters of contact handled transuranic waste to be removed from inventory. As of the end of FY 2011 the EM complex had dispositioned a cumulative total of 76,374 cubic meters of contact handled transuranic waste, 238 cubic meters short of its target.</p>	

<b>EM Corporate Performance Measure 11: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	1,137,447	N/A
Current Year(Cumulative to date)	1,126,584	N/A
Prior Year(Cumulative to date)	1,095,674	1,102,806/Met
Analysis	<p>Management and removal of legacy and newly generated low-level waste and mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint across the EM complex.</p> <p>For FY 2011, the EM program targeted a cumulative total of 1,095,674 cubic meters of legacy and newly generated low-level waste and mixed low-level waste to be disposed. At the end of FY 2011, the EM Program site disposed a cumulative total of 1,102,806 cubic meters of legacy and newly generated low-level waste and mixed low-level waste, exceeding its target by 7,132 cubic meters.</p>	

<b>EM Corporate Performance Measure 12: Nuclear Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	104	N/A
Current Year(Cumulative to date)	101	N/A
Prior Year(Cumulative to date)	94	94/Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the EM Program targeted for completion a cumulative total of 94 nuclear facilities across the DOE complex. At the end of FY 2011 the EM program had completed a cumulative total of 94 nuclear facilities, meeting its target.</p>	

<b>EM Corporate Performance Measure 13: Radioactive Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	447	N/A
Current Year(Cumulative to date)	407	N/A
Prior Year(Cumulative to date)	400	393/Not Met

Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the EM Program targeted for completion a cumulative total of 400 radioactive facilities across the DOE complex. At the end of FY 2011, the EM program had completed a cumulative total of 393 radioactive facilities, 7 facilities short of its target.</p>
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<b>EM Corporate Performance Measure 14: Industrial Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	1,791	N/A
Current Year(Cumulative to date)	1,757	N/A
Prior Year(Cumulative to date)	1,741	1,715/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the EM Program targeted for completion a cumulative total of 1,741 industrial facilities across the DOE complex. At the end of FY 2011, the EM program had completed a cumulative total of 1,715 facilities 26 short of its target.</p>	

<b>EM Corporate Performance Measure 15: Remediation Complete (Number of Release Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	7,455	N/A
Current Year(Cumulative to date)	7,361	N/A
Prior Year(Cumulative to date)	7,158	7,111/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contamination also reduces monitoring and maintenance life-cycle</p>	

	<p>costs and liabilities.</p> <p>For FY 2011, the EM Program targeted a cumulative total of 7,158 release sites, across the DOE complex. By the end of FY 2011 the EM program had completed a cumulative total of 7,111 release sites, 47 release sites below target for FY 2011.</p>
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<b>EM Corporate Performance Measure 16: Geographic Sites Completed (Number of Geographic Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	91	N/A
Current Year(Cumulative to date)	91	N/A
Prior Year(Cumulative to date)	90	90/ Met
Analysis	<p>Completion of a geographic site best reflects EM’s goal of footprint reduction. A geographic site is considered complete in its entirety 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. The EM program tracks cleanup responsibilities for 107 contaminated sites.</p> <p>For FY 2011, the EM Program targeted a cumulative total of 90 geographic site completions across the DOE complex meeting its target for that year. For FY 2012 the EM program plans to complete the Stanford Linear Accelerator Center.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

### **Facilities Maintenance and Repair**

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

**Direct-Funded Maintenance and Repair<sup>a</sup>**

(\$ in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Carlsbad	10,055	10,434	10,434
Oak Ridge	17,901	10,441	10,049
Idaho National Laboratory	20,890	22,990	23,473
Moab	238	243	200
Paducah	12,437	10,021	10,314
Portsmouth	3,962	10,112	36,567
Richland Operations Office	42,796	40,158	40,292
Office of River Protection	65,812	49,810	69,290
Savannah River	171,227	164,167	148,068
	<u>345,318</u>	<u>318,376</u>	<u>348,687</u>

**Indirect-Funded Maintenance and Repair<sup>a</sup>**

(\$ in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Carlsbad	0	0	0
Oak Ridge	0	0	0
Idaho National Laboratory	0	0	0
Moab	0	0	0
Paducah	0	0	0
Portsmouth	0	0	0
Richland Operations Office	0	0	0
Office of River Protection	0	0	0
Savannah River	18,577	16,438	15,181
	<u>18,577</u>	<u>16,438</u>	<u>15,181</u>

**Deferred Maintenance**

At the end of FY 2011, the total deferred maintenance backlog for owned, active real property assets is estimated to be \$557,262,413 at the Office of Environmental Management Sites.

<sup>a</sup> Data is as of fourth quarter FY 2011.

**Construction Projects**

	Prior Years	FY 2011 Current	FY 2012 Enacted	FY 2013 Request	Outyears	Total	Completion
01-D-416, Waste Treatment and Immobilization Plant, Hanford, WA							
TEC	6,394,980	738,699	740,000	690,000	3,699,321	12,263,000	12,263,000
OPC	0	0	0	0	0	0	0
TPC	6,394,980	738,699	740,000	690,000	3,699,321	12,263,000	12,263,000
05-D-405, Salt Waste Processing Facility, Aiken, SC							
TEC	711,833	234,403	170,071	22,549	0	1,138,856	1,138,856
OPC	79,545	25,202	32,579	57,963	5,403	200,692	200,692
TPC	791,378	259,605	202,650	80,512	5,403	1,339,548	1,339,548
Total, Construction							
TEC		973,102	910,071	712,549			
OPC		25,202	32,579	57,963			
TPC		998,304	942,650	770,512			

**Funding by Budget Chapters**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Carlsbad	215,714	213,334	198,010
Idaho	403,448	389,800	405,397
Oak Ridge			
Oak Ridge	383,842	399,265	402,433
Paducah	134,407	133,647	133,570
Portsmouth	240,173	238,115	178,094
Richland	970,849	952,746	966,027
River Protection	1,134,197	1,181,800	1,172,113
Savannah River	1,172,384	1,187,782	1,181,516
Lawrence Livermore National Laboratory	822	873	1,484
Nevada	62,510	65,545	64,641
Los Alamos National Laboratory			
NNSA Service Center/Separations Processing Research Unit (SPRU)	3,047	3,561	4,230
Los Alamos National Laboratory	188,753	185,000	234,913
Subtotal, Los Alamos National Laboratory	191,800	188,561	239,143
Sandia Site Office	3,014	3,014	5,000
Headquarters Operations	21,101	20,380	18,279

**Environmental Management/  
Overview**

**FY 2013 Congressional Budget**

Separations Process Research Unit			
SPRU	50,895	24,000	24,000
West Valley Demonstration Project	57,666	64,735	47,862
Brookhaven National Laboratory	13,833	9,585	7,840
Energy Technology Engineering Center	6,466	9,279	9,460
Moab	32,594	31,000	30,941
SLAC National Accelerator Laboratory	7,711	2,435	3,800
Other Sites			
Closure Sites Administration	175	4,703	1,990
DOE-Sponsored Facilities (per P.L. 112-74)	0	10,000	0
Subtotal, Other Sites	175	14,703	1,990
Program Direction	320,007	321,628	323,504
Safeguards and Security	247,945	250,968	237,019
Technology Development & Deployment	18,869	10,622	20,000
D&D Fund Deposit	33,633	0	463,000
Subtotal, Environmental Management	5,724,055	5,713,817	6,135,123
Use of Prior Year (Defense Environmental Cleanup)	0	-3,381	-12,123
Use of Unobligated Balances	0	0	-10,000
Prior Year Unobligated Rescission - Defense	-11,900	0	0
Prior Year Unobligated Rescission - Non-Defense	-900	0	0
Use of Unobligated Balances	-9,900	0	0
D&D Fund Offset	-33,633	0	-463,000
Total, Environmental Management	5,667,722	5,710,436	5,650,000

#### ANCILLARY TABLES

#### Funding Summary by Office

Site	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Carlsbad	215,714	213,334	198,010
Idaho	403,448	389,800	405,397
Oak Ridge	383,842	399,265	402,433
Paducah	134,407	133,647	133,570
Portsmouth	240,173	238,115	178,094
Richland	970,849	952,746	966,027
River Protection	1,134,197	1,181,800	1,172,113
Savannah River	1,172,384	1,187,782	1,181,516
Lawrence Livermore National Laboratory	822	873	1,484
Nevada	62,510	65,545	64,641
Los Alamos National Laboratory	191,800	188,561	239,143
Sandia Site Office	3,014	3,014	5,000
Headquarters Operations	21,101	20,380	18,279
Separations Process Research Unit	50,895	24,000	24,000
West Valley Demonstration Project	57,666	64,735	47,862

**Environmental Management/  
Overview**

**FY 2013 Congressional Budget**

Site	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Brookhaven National Laboratory	13,833	9,585	7,840
Energy Technology Engineering Center	6,466	9,279	9,460
Moab	32,594	31,000	30,941
SLAC National Accelerator Laboratory	7,711	2,435	3,800
Other Sites	175	14,703	1,990
Program Direction	320,007	321,628	323,504
Safeguards and Security	247,945	250,968	237,019
Technology Development & Deployment	18,869	10,622	20,000
D&D Fund Deposit	33,633		463,000
Subtotal, Environmental Management	5,724,055	5,713,817	6,135,123
Offsets	-56,333	-3,381	-485,123
Total, Environmental Management	5,667,722	5,710,436	5,650,000



**Funding Summary by Appropriation/Office  
(Safeguards & Security Funding Allocated Across All Sites)**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
<b>Defense Environmental Cleanup</b>			
Carlsbad	220,006	218,179	202,987
D&D Fund Deposit	33,633	0	463,000
Headquarters Operations	21,101	20,380	18,279
Idaho	398,666	384,669	399,607
Lawrence Livermore National Laboratory	822	873	1,484
Los Alamos National Laboratory	191,800	188,561	239,143
Nevada	62,510	65,545	64,641
Oak Ridge	169,436	218,902	200,312
Other Sites	175	4,703	1,990
Paducah	9,963	9,435	8,909
Portsmouth	17,431	16,412	8,578
Program Direction	320,007	321,628	323,504
Richland	1,036,596	1,019,121	1,035,069
River Protection	1,134,197	1,181,800	1,172,113
Sandia Site Office	3,014	3,014	5,000
Savannah River	1,300,022	1,316,922	1,303,493
Separations Process Research Unit	50,895	24,000	24,000
Technology Development & Deployment	18,869	10,622	20,000
West Valley Demonstration Project	1,922	1,565	2,015
<b>Total, Defense Environmental Cleanup</b>	<b>4,991,065</b>	<b>5,006,331</b>	<b>5,494,124</b>
<b>Non-Defense Environmental Cleanup</b>			
Brookhaven National Laboratory	13,833	9,585	7,840
Energy Technology Engineering Center	6,466	9,279	9,460
Idaho	4,782	5,131	5,790
Moab	32,594	31,000	30,941
Other Sites	0	10,000	0
Paducah	50,901	52,290	40,848
Portsmouth	48,401	48,148	49,261
Richland	3,652	2,703	2,704
SLAC National Accelerator Laboratory	7,711	2,435	3,800
West Valley Demonstration Project	57,666	64,735	47,862
<b>Total, Non-Defense Environmental Cleanup</b>	<b>226,006</b>	<b>235,306</b>	<b>198,506</b>
<b>Uranium Enrichment Decontamination and Decommissioning Fund</b>			
Oak Ridge	231,706	200,856	220,938
Paducah	83,506	81,357	92,722
Portsmouth	191,772	189,967	128,833
<b>Total, Uranium Enrichment Decontamination and Decommissioning Fund</b>	<b>506,984</b>	<b>472,180</b>	<b>442,493</b>
<b>Total, EM</b>	<b>5,724,055</b>	<b>5,713,817</b>	<b>6,135,123</b>
Use of Prior Year (Defense Environmental Cleanup)	0	-3,381	-12,123

**Environmental Management/  
Overview**

**FY 2013 Congressional Budget**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Use of Unobligated Balances	-9,900	0	-10,000
Prior Year Unobligated Rescission - Defense	-11,900	0	0
Prior Year Unobligated Rescission - Non-Defense	-900	0	0
D&D Fund Offset	-33,633	0	-463,000
Total, EM	5,667,722	5,710,436	5,650,000

<sup>a</sup>Corporate Performance Measures – EM Totals

	Cumulative FY 2011 Actual	Cumulative FY 2012 Target	Cumulative FY 2013 Target	Life-cycle Estimate
Geographic Sites Eliminated (number of sites)	90	91	91	94
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	5,089	5,089	5,089	5,089
Enriched Uranium packaged for disposition (Number of Containers)	7,953	8,016	8,016	8,016
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	107,828	107,828	107,828	107,828
Depleted and Other Uranium packaged for disposition (Metric Tons)	32,186	32,186	56,901	88,401
Liquid Waste in Inventory eliminated (Thousands of Gallons)	4,413	5,684	6,993	8,560
Liquid Waste Tanks closed (Number of Tanks)	9	15	17	17
High-Level Waste packaged for final disposition (Number of Containers)	3,571	3,801	4,113	4,342
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2,128	2,128	2,133	2,133
Transuranic Waste Dispositioned (Cubic meters) - CH	76,612	80,244	89,540	98,740
Transuranic Waste Dispositioned (Cubic meters) - RH	116	128	186	366
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,095,674	1,126,413	1,137,447	1,143,128
Material Access Areas eliminated (Number of Material Access Areas)	30	31	31	31
Nuclear Facility Completions (Number of Facilities)	94	101	104	110
Radioactive Facility Completions (Number of Facilities)	400	406	446	495
Industrial Facility Completions (Number of Facilities)	1,741	1,756	1,790	1,814
Remediation Complete (Number of Release Sites)	7,158	7,340	7,444	7,576

<sup>a</sup> Performance measures are currently being updated.

**Corporate Measures Totals by Site <sup>d</sup>**

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
<u>Other Sites</u>				
California Site Support				
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	272	272	272	272
Remediation Complete (Number of Release Sites)	3	3	3	3
Nevada Test Site				
Remediation Complete (Number of Release Sites)	1	1	1	1
Ames Laboratory				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Argonne National Laboratory-East				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Radioactive Facility Completions (Number of Facilities)	78	78	78	80
Remediation Complete (Number of Release Sites)	443	443	443	443
Transuranic Waste Dispositioned (Cubic meters) - CH	0	0	0	21
Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	22
Ashtabula				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Industrial Facility Completions (Number of Facilities)	7	7	7	7
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,707	3,707	3,707	3,707
Radioactive Facility Completions (Number of Facilities)	28	28	28	28
Remediation Complete (Number of Release Sites)	3	3	3	3
Chicago Operations Office				
Geographic Sites Eliminated (number of sites)	3	3	3	3
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	537	537	537	537
Remediation Complete (Number of Release Sites)	30	30	30	30
Columbus				
Geographic Sites Eliminated (number of sites)	2	2	2	2
Nuclear Facility Completions (Number of Facilities)	1	1	1	1
Radioactive Facility Completions (Number of Facilities)	14	14	14	14
Remediation Complete (Number of Release Sites)	2	2	2	2

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

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
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<b>Fermi National Accelerator Laboratory</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
<b>Fernald</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Industrial Facility Completions (Number of Facilities)	1	1	1	1
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	7,085	7,085	7,085	7,085
Radioactive Facility Completions (Number of Facilities)	29	29	29	29
Remediation Complete (Number of Release Sites)	6	6	6	6
<b>General Atomics</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,716	1,716	1,716	1,716
Remediation Complete (Number of Release Sites)	2	2	2	2
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	1	1	1	1
<b>General Electric</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
<b>Geothermal Test Facility</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
<b>Grand Junction</b>				
Geographic Sites Eliminated (number of sites)	2	2	2	2
<b>Inhalation Toxicology Laboratory</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	359	359	359	359
Remediation Complete (Number of Release Sites)	9	9	9	9
<b>Kansas City Plant</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Remediation Complete (Number of Release Sites)	43	43	43	43
<b>Laboratory for Energy-Related Health Research</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Industrial Facility Completions (Number of Facilities)	1	1	1	1
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	944	944	944	944
Remediation Complete (Number of Release Sites)	16	16	16	16
<b>Miamisburg</b>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Depleted and Other Uranium packaged for	0	0	0	0

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
disposition (Metric Tons)				
Industrial Facility Completions (Number of Facilities)	116	116	116	116
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,947	3,947	3,947	3,947
Nuclear Facility Completions (Number of Facilities)	8	8	8	8
Radioactive Facility Completions (Number of Facilities)	11	11	11	11
Remediation Complete (Number of Release Sites)	178	178	178	178
New Mexico Site Support				
Geographic Sites Eliminated (number of sites)	5	5	5	5
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,319	1,319	1,319	1,319
Remediation Complete (Number of Release Sites)	155	155	155	155
NNSA Service Center (Separations Process Research Unit)				
Geographic Sites Eliminated (number of sites)	0	0	0	1
Nuclear Facility Completions (Number of Facilities)	0	3	3	3
Remediation Complete (Number of Release Sites)	4	5	5	5
Pantex Plant				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Industrial Facility Completions (Number of Facilities)	4	4	4	4
Remediation Complete (Number of Release Sites)	237	237	237	237
Princeton Plasma Physics Laboratory				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Sandia National Laboratory				
Geographic Sites Eliminated (number of sites)	1	1	1	2
Radioactive Facility Completions (Number of Facilities)	1	1	1	1
Remediation Complete (Number of Release Sites)	265	265	265	265
South Valley				
Geographic Sites Eliminated (number of sites)	1	1	1	1
UMTRA				
Geographic Sites Eliminated (number of sites)	24	24	24	24
West Valley Demonstration Project				
Geographic Sites Eliminated (number of sites)	0	0	0	1
<u>Oak Ridge</u>				
Y-12 Plant				
Industrial Facility Completions (Number of Facilities)	1	1	1	19
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	16,252	16,252	16,252	74,523
Radioactive Facility Completions (Number of)	0	0	0	19

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
Facilities)				
Remediation Complete (Number of Release Sites)	28	28	28	138
East Tennessee Technology Park				
Industrial Facility Completions (Number of Facilities)	363	364	364	595
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	38,250	38,250	38,250	38,250
Nuclear Facility Completions (Number of Facilities)	6	6	6	8
Radioactive Facility Completions (Number of Facilities)	10	10	10	29
Remediation Complete (Number of Release Sites)	125	125	125	165
Oak Ridge National Laboratory				
Industrial Facility Completions (Number of Facilities)	7	7	7	24
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,641	3,978	4,293	5,251
Nuclear Facility Completions (Number of Facilities)	0	0	0	15
Radioactive Facility Completions (Number of Facilities)	3	3	3	38
Remediation Complete (Number of Release Sites)	81	81	81	177
FUSRAP				
Geographic Sites Eliminated (number of sites)	25	25	25	25
Oak Ridge Operations Office				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Industrial Facility Completions (Number of Facilities)	3	3	3	3
Remediation Complete (Number of Release Sites)	97	97	97	97
Oak Ridge Reservation				
Geographic Sites Eliminated (number of sites)	1	1	1	2
Industrial Facility Completions (Number of Facilities)	2	2	2	2
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	66,381	66,623	66,623	67,201
Nuclear Facility Completions (Number of Facilities)	2	2	2	2
Radioactive Facility Completions (Number of Facilities)	15	15	15	15
Remediation Complete (Number of Release Sites)	113	113	113	113
Transuranic Waste Dispositioned (Cubic meters) - CH	82	147	236	1,388
Transuranic Waste Dispositioned (Cubic meters) - RH	4	13	70	578
Weldon Spring Site				
Geographic Sites Eliminated (number of sites)	1	1	1	1
<u>Nevada</u>				
Nevada Test Site				
Geographic Sites Eliminated (number of sites)	0	0	0	1
Radioactive Facility Completions (Number of	7	7	7	10

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
Facilities)				
Remediation Complete (Number of Release Sites)	1,115	1,120	1,122	2,052
Transuranic Waste Dispositioned (Cubic meters) - CH	1,246	1,246	1,246	1,246
Offsites				
Geographic Sites Eliminated (number of sites)	3	3	3	3
Remediation Complete (Number of Release Sites)	53	53	53	53
<u>Idaho</u>				
Argonne National Laboratory - West				
Remediation Complete (Number of Release Sites)	37	37	37	37
Idaho Operations Office				
Remediation Complete (Number of Release Sites)	233	233	233	233
Argonne National Laboratory-West				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Idaho National Laboratory				
Geographic Sites Eliminated (number of sites)	0	0	0	1
Enriched Uranium packaged for disposition (Number of Containers)	1,586	1,586	1,586	1,586
High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	6,660
Industrial Facility Completions (Number of Facilities)	143	143	143	253
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	71,392	73,177	78,120	110,438
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	600	900	900
Liquid Waste Tanks closed (Number of Tanks)	7	11	11	11
Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	1
Nuclear Facility Completions (Number of Facilities)	28	28	28	89
Radioactive Facility Completions (Number of Facilities)	35	35	35	73
Remediation Complete (Number of Release Sites)	276	284	284	307
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	0	0	0	285
Transuranic Waste Dispositioned (Cubic meters) - CH	47,584	50,389	57,993	80,315
Transuranic Waste Dispositioned (Cubic meters) - RH	100	100	100	100
Maxey Flats				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Monticello Remedial Action Project				
Geographic Sites Eliminated (number of sites)	1	1	1	1



	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
<u>Pinellas Plant</u>				
Geographic Sites Eliminated (number of sites)	1	1	1	1
<u>Lawrence Livermore National Laboratory</u>				
Lawrence Livermore National Laboratory				
Geographic Sites Eliminated (number of sites)	1	1	1	2
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,312	5,312	5,312	5,312
Remediation Complete (Number of Release Sites)	194	194	194	198
Transuranic Waste Dispositioned (Cubic meters) - CH	125	125	125	125
<u>Rocky Flats</u>				
Rocky Flats Environmental Technology Site				
Geographic Sites Eliminated (number of sites)	1	1	1	1
Industrial Facility Completions (Number of Facilities)	317	317	317	317
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	602,188	602,188	602,188	602,188
Material Access Areas eliminated (Number of Material Access Areas)	7	7	7	7
Nuclear Facility Completions (Number of Facilities)	6	6	6	6
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	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
Radioactive Facility Completions (Number of Facilities)	54	54	54	54
Remediation Complete (Number of Release Sites)	360	360	360	360
Transuranic Waste Dispositioned (Cubic meters) - CH	15,036	15,036	15,036	15,036
<u>Lawrence Berkley National Laboratory</u>				
Lawrence Berkeley National Laboratory				
Geographic Sites Eliminated (number of sites)	1	1	1	1
<u>SLAC National Accelerator Laboratory</u>				
SLAC National Accelerator Laboratory				
Remediation Complete (Number of Release Sites)	40	40	40	40
Stanford Linear Accelerator Center				
Geographic Sites Eliminated (number of sites)	0	1	1	1
<u>Energy Technology Engineering Center</u>				
Energy Technology Engineering Center				
Geographic Sites Eliminated (number of sites)	0	0	0	1
Industrial Facility Completions (Number of Facilities)	24	24	24	26
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,055	1,055	1,055	1,080
Radioactive Facility Completions (Number of Facilities)	4	4	4	6

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
Remediation Complete (Number of Release Sites)	4	4	4	14
<u>Brookhaven National Laboratory</u>				
Brookhaven National Laboratory				
Geographic Sites Eliminated (number of sites)	0	0	0	1
Nuclear Facility Completions (Number of Facilities)	0	1	1	2
Radioactive Facility Completions (Number of Facilities)	10	10	10	10
Remediation Complete (Number of Release Sites)	77	77	77	77
<u>Los Alamos National Laboratory</u>				
Los Alamos National Laboratory				
Geographic Sites Eliminated (number of sites)	0	0	0	1
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	8,843	10,120	10,272	10,280
Radioactive Facility Completions (Number of Facilities)	2	5	39	105
Remediation Complete (Number of Release Sites)	1,534	1,671	1,742	2,087
Transuranic Waste Dispositioned (Cubic meters) - CH	3,387	4,387	5,990	9,986
Transuranic Waste Dispositioned (Cubic meters) - RH	16	16	16	94
<u>Portsmouth</u>				
Portsmouth Gaseous Diffusion Plant				
Geographic Sites Eliminated (number of sites)	0	0	0	1
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	9,800	18,589	252,800
Industrial Facility Completions (Number of Facilities)	19	22	22	121
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	36,540	36,690	36,690	38,175
Nuclear Facility Completions (Number of Facilities)	0	0	0	13
Radioactive Facility Completions (Number of Facilities)	7	7	7	27
Remediation Complete (Number of Release Sites)	150	151	151	151
<u>Moab</u>				
Moab				
Geographic Sites Eliminated (number of sites)	0	0	0	1
<u>Paducah</u>				
Paducah Gaseous Diffusion Plant				
Geographic Sites Eliminated (number of sites)	0	0	0	1
Depleted and Other Uranium packaged for disposition (Metric Tons)	0	7,750	23,676	457,750
Enriched Uranium packaged for disposition (Number of Containers)	0	0	0	182
Industrial Facility Completions (Number of Facilities)	18	19	19	171
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	21,877	22,623	23,369	28,699

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
Nuclear Facility Completions (Number of Facilities)	0	0	0	18
Radioactive Facility Completions (Number of Facilities)	4	5	5	23
Remediation Complete (Number of Release Sites)	109	125	125	203

Savannah River

Savannah River Site

Geographic Sites Eliminated (number of sites)	0	0	0	1
Depleted and Other Uranium packaged for disposition (Metric Tons)	11,536	11,536	11,536	23,181
Enriched Uranium packaged for disposition (Number of Containers)	3,409	3,472	3,472	3,472
High-Level Waste packaged for final disposition (Number of Containers)	3,296	3,526	3,838	7,557
Industrial Facility Completions (Number of Facilities)	232	232	232	763
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	103,171	114,810	117,768	149,809
Liquid Waste in Inventory eliminated (Thousands of Gallons)	3,499	4,270	5,279	33,100
Liquid Waste Tanks closed (Number of Tanks)	2	4	6	51
Material Access Areas eliminated (Number of Material Access Areas)	2	3	3	3
Nuclear Facility Completions (Number of Facilities)	11	11	11	191
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	919	919	919	919
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	490	490	490	490
Radioactive Facility Completions (Number of Facilities)	8	8	8	40
Remediation Complete (Number of Release Sites)	367	368	372	515
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	3	3	8	40
Transuranic Waste Dispositioned (Cubic meters) - CH	5,884	5,884	5,884	15,590
Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	68

Carlsbad

Waste Isolation Pilot Plant

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

Hanford Site

Geographic Sites Eliminated (number of sites)	0	0	0	1
Depleted and Other Uranium packaged for disposition (Metric Tons)	3,100	3,100	3,100	3,100
Enriched Uranium packaged for disposition (Number of Containers)	2,958	2,958	2,958	2,958
Industrial Facility Completions (Number of Facilities)	450	481	515	1,023
Legacy and Newly Generated Low-Level and Mixed	48,896	49,440	49,974	51,474

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
Low-Level Waste disposed (Cubic meters)				
Material Access Areas eliminated (Number of Material Access Areas)	20	20	20	24
Nuclear Facility Completions (Number of Facilities)	29	32	35	81
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	2,275	2,275	2,275	2,275
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	3,437	3,437	3,437	3,437
Radioactive Facility Completions (Number of Facilities)	70	79	85	341
Remediation Complete (Number of Release Sites)	611	669	687	1,668
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2,124	2,124	2,124	2,124
Transuranic Waste Dispositioned (Cubic meters) - CH	3,030	3,030	3,030	24,112
Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	858
<u>Lawrence Berkeley National Laboratory</u>				
Lawrence Berkeley National Laboratory				
Remediation Complete (Number of Release Sites)	181	181	181	181
<u>West Valley Demonstration Project</u>				
West Valley Demonstration Project				
High-Level Waste packaged for final disposition (Number of Containers)	275	275	275	275
Industrial Facility Completions (Number of Facilities)	13	13	13	29
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	29,158	29,338	29,578	31,127
Liquid Waste in Inventory eliminated (Thousands of Gallons)	814	814	814	814
Nuclear Facility Completions (Number of Facilities)	3	3	3	14
Radioactive Facility Completions (Number of Facilities)	4	4	4	13
Transuranic Waste Dispositioned (Cubic meters) - CH	0	0	0	596
Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	1,125
<u>River Protection</u>				
River Protection				
High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	9,667
Industrial Facility Completions (Number of Facilities)	0	0	0	128
Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	29,778	35,186	36,332	197,832
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	54,000
Liquid Waste Tanks closed (Number of Tanks)	0	0	0	177
Nuclear Facility Completions (Number of Facilities)	0	0	0	18

	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Life-cycle Estimates
Radioactive Facility Completions (Number of Facilities)	0	0	0	114
Remediation Complete (Number of Release Sites)	5	5	5	278
Transuranic Waste Dispositioned (Cubic meters) - CH	0	0	0	1,555
Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	4,410

**Corporate Performance Measure Totals (Funded by ARRA Only)**

	Complete Through FY 2011	Cumulative Through FY 2012	Cumulative Through FY 2013
Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	0	0	0
Enriched Uranium packaged for disposition (Number of Containers)	0	0	0
Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	0	0	0
Depleted and Other Uranium packaged for disposition (Metric Tons)	11,645	11,645	11,645
Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0
Liquid Waste Tanks closed (Number of Tanks)	0	0	0
High-Level Waste packaged for final disposition (Number of Containers)	0	0	0
Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	0	0	0
Transuranic Waste shipped for disposal (Cubic Meters) - CH	5,070	7,646	8,063
Transuranic Waste shipped for disposal (Cubic Meters) - RH	88	103	103
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	97,295	97,295	97,295
Material Access Areas eliminated (Number of Material Access Areas)	0	0	0
Nuclear Facility Completions (Number of Facilities)	28	29	29
Radioactive Facility Completions (Number of Facilities)	87	115	115
Industrial Facility Completions (Number of Facilities)	129	139	139
Remediation Complete (Number of Release Sites)	110	115	115

**Corporate Performance Measure Totals by Site (Funded by ARRA Only)**

	Complete Through FY 2011	Cumulative Through FY 2012	Cumulative Through FY 2013
<u>Other Sites</u>			
Argonne National Laboratory - East			
Radioactive Facility Completions (Number of Facilities)	2	2	2
Transuranic Waste shipped for disposal (Cubic Meters) - CH	22	22	22
Transuranic Waste shipped for disposal (Cubic Meters) - RH	21.1	21.1	21.1
NNSA Service Center			
Remediation Complete (Number of Release Sites)	1	1	1
<u>Oak Ridge</u>			
Oak Ridge National Laboratory			
Industrial Facility Completions (Number of Facilities)	9	19	19
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	66,239	66,239	66,239
Radioactive Facility Completions (Number of Facilities)	5	31	31
Remediation Complete (Number of Release Sites)	5	5	5
Transuranic Waste shipped for disposal (Cubic Meters) - CH	570	570	570
Transuranic Waste shipped for disposal (Cubic Meters) - RH	39	39	39
<u>Nevada</u>			
Nevada National Security Site			
Radioactive Facility Completions (Number of Facilities)	2	2	2
Remediation Complete (Number of Release Sites)	15	20	20
<u>Idaho</u>			
Idaho National Laboratory			
Industrial Facility Completions (Number of Facilities)	33	33	33
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,537	3,537	3,537
Nuclear Facility Completions (Number of Facilities)	27	28	28
Radioactive Facility Completions (Number of Facilities)	26	28	28
Transuranic Waste shipped for disposal (Cubic Meters) - RH	3.2	3.37	3.37
<u>Energy Technology Engineering Center</u>			
Energy Technology Engineering Center			
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	20	20	20
<u>Los Alamos National Laboratory</u>			
Los Alamos National Laboratory			
Radioactive Facility Completions (Number of Facilities)	21	21	21
Remediation Complete (Number of Release Sites)	1	1	1

Portsmouth

Portsmouth Gaseous Diffusion Plant

Industrial Facility Completions (Number of Facilities)	11	11	11
Radioactive Facility Completions (Number of Facilities)	1	1	1

Paducah

Paducah Gaseous Diffusion Plant

Radioactive Facility Completions (Number of Facilities)	1	1	1
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Savannah River

Savannah River Site

Depleted and Other Uranium packaged for disposition (Metric Tons)	11,645	11,645	11,645
Industrial Facility Completions (Number of Facilities)	14	14	14
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	25,179	25,179	25,179
Radioactive Facility Completions (Number of Facilities)	16	16	16
Remediation Complete (Number of Release Sites)	15	15	15
Transuranic Waste shipped for disposal (Cubic Meters) - CH	1,968	4,544	4,961
Transuranic Waste shipped for disposal (Cubic Meters) - RH	25	39	39

Richland

Hanford Site

Industrial Facility Completions (Number of Facilities)	62	62	62
Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,815	1,815	1,815
Nuclear Facility Completions (Number of Facilities)	1	1	1
Radioactive Facility Completions (Number of Facilities)	13	13	13
Remediation Complete (Number of Release Sites)	73	73	73
Transuranic Waste shipped for disposal (Cubic Meters) - CH	2,510	2,510	2,510

West Valley Demonstration Project

West Valley Demonstration Project

Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	505	505	505
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**Corporate Performance Measure Quantities by Project Baseline Summary<sup>abc</sup>**

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
<b><u>Brookhaven National Laboratory</u></b>							
Brookhaven National Laboratory	BRNL-0030	Radioactive Facility Completions (Number of Facilities)	3	3	3	0	3
		Remediation Complete (Number of Release Sites)	75	75	75	0	75
Brookhaven National Laboratory	BRNL-0040	Nuclear Facility Completions (Number of Facilities)	0	1	1	1	2
		Radioactive Facility Completions (Number of Facilities)	7	7	7	0	7
		Remediation Complete (Number of Release Sites)	1	1	1	0	1
Brookhaven National Laboratory	BRNL-0041	Remediation Complete (Number of	1	1	1	0	1

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

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

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

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Release Sites)					
<b>Other Sites</b>							
California Site Support	CBC-CA-0013B-N	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	83	83	83	0	83
California Site Support	VL-FOO-0900-N	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	189	189	189	0	189
		Remediation Complete (Number of Release Sites)	3	3	3	0	3
Inhalation Toxicology Laboratory	CBC-ITL-0030	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	359	359	359	0	359
		Remediation Complete (Number of Release Sites)	9	9	9	0	9
Argonne National Laboratory-East	CH-ANLE-0030	Remediation Complete (Number of Release Sites)	443	443	443	0	443
Argonne National Laboratory-East	CH-ANLE-0040	Radioactive Facility Completions (Number of Facilities)	78	78	78	0	78
Argonne National Laboratory-East	CH-ANLE-0040.NEW	Radioactive Facility Completions (Number of Facilities)	0	0	0	2	2
		Transuranic Waste Dispositioned (Cubic meters) - CH	0	0	0	21	21

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
Chicago Operations Office	CH-OPS-0900	Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	22	22
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	537	537	537	0	537
Laboratory for Energy-Related Health Research	LEHR-0040	Remediation Complete (Number of Release Sites)	30	30	30	0	30
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	944	944	944	0	944
Ashtabula	OH-AB-0030	Industrial Facility Completions (Number of Facilities)	1	1	1	0	1
		Remediation Complete (Number of Release Sites)	16	16	16	0	16
Columbus	OH-CL-0040	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,707	3,707	3,707	0	3,707
		Radioactive Facility Completions (Number of Facilities)	28	28	28	0	28
		Industrial Facility Completions (Number of Facilities)	7	7	7	0	7
		Remediation Complete (Number of Release Sites)	3	3	3	0	3
		Nuclear Facility Completions (Number of Facilities)	1	1	1	0	1
		Radioactive Facility Completions (Number of Facilities)	14	14	14	0	14

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
Fernald	OH-FN-0013	Remediation Complete (Number of Release Sites)	2	2	2	0	2
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	7,085	7,085	7,085	0	7,085
Fernald	OH-FN-0030	Remediation Complete (Number of Release Sites)	4	4	4	0	4
Fernald	OH-FN-0050	Remediation Complete (Number of Release Sites)	2	2	2	0	2
		Radioactive Facility Completions (Number of Facilities)	29	29	29	0	29
Miamisburg	OH-MB-0013	Industrial Facility Completions (Number of Facilities)	1	1	1	0	1
		Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	0	0
Miamisburg	OH-MB-0030	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,947	3,947	3,947	0	3,947
		Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	0	0
Miamisburg	OH-MB-0040	Remediation Complete (Number of Release Sites)	178	178	178	0	178
		Nuclear Facility Completions (Number of Facilities)	8	8	8	0	8
		Radioactive Facility Completions (Number of Facilities)	11	11	11	0	11
		Industrial Facility Completions (Number of Facilities)	116	116	116	0	116

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		of Facilities)					
New Mexico Site Support	VL-FAO-0900	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,319	1,319	1,319	0	1,319
		Remediation Complete (Number of Release Sites)	155	155	155	0	155
General Atomics	VL-GA-0012	Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	1	1	1	0	1
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,716	1,716	1,716	0	1,716
		Remediation Complete (Number of Release Sites)	2	2	2	0	2
Kansas City Plant	VL-KCP-0030	Remediation Complete (Number of Release Sites)	43	43	43	0	43
Pantex Plant	VL-PX-0030	Remediation Complete (Number of Release Sites)	237	237	237	0	237
Pantex Plant	VL-PX-0040	Industrial Facility Completions (Number of Facilities)	4	4	4	0	4
Sandia National Laboratory	VL-SN-0030	Radioactive Facility Completions (Number of Facilities)	1	1	1	0	1
		Remediation Complete (Number of Release Sites)	265	265	265	0	265
NNSA Service Center	VL-SPRU-0040	Nuclear Facility Completions (Number of	1	3	3	0	3

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Facilities)					
Nevada Test Site	VL-SV-0100	Remediation Complete (Number of Release Sites)	5	4	4	1	5
		Remediation Complete (Number of Release Sites)	1	1	1	0	1
<b><u>Energy Technology Engineering Center</u></b>							
Energy Technology Engineering Center	CBC-ETEC-0040	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	1,055	1,055	1,055	25	1,080
		Radioactive Facility Completions (Number of Facilities)	4	4	4	2	6
		Industrial Facility Completions (Number of Facilities)	24	24	24	2	26
		Remediation Complete (Number of Release Sites)	4	4	4	10	14
<b><u>Lawrence Berkeley National Laboratory</u></b>							
Lawrence Berkeley National Laboratory	CBC-LBNL-0030	Remediation Complete (Number of Release Sites)	181	181	181	0	181
<b><u>SLAC National Accelerator Laboratory</u></b>							
SLAC National Accelerator Laboratory	CBC-SLAC-0030	Remediation Complete (Number of Release Sites)	21	40	40	0	40
<b><u>Idaho</u></b>							
Argonne National	CH-ANLW-0030						

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
Laboratory - West							
		Remediation Complete (Number of Release Sites)	37	37	37	0	37
Idaho National Laboratory	ID-0011	Enriched Uranium packaged for disposition (Number of Containers)	1,586	1,586	1,586	0	1,586
		Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	0	1
Idaho National Laboratory	ID-0012C	Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	0	0	0	285	285
Idaho National Laboratory	ID-0013	Transuranic Waste Dispositioned (Cubic meters) - CH	42,272	45,227	50,927	14,505	65,432
		Transuranic Waste Dispositioned (Cubic meters) - RH	100	100	100	0	100
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	71,392	73,177	74,677	4,600	79,277
Idaho National Laboratory	ID-0014B	Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	600	900	0	900
		Liquid Waste Tanks closed (Number of Tanks)	7	11	11	0	11
Idaho National Laboratory	ID-0014C	High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	6,660	6,660
Idaho National	ID-0030B						

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
Laboratory							
		Transuranic Waste Dispositioned (Cubic meters) - CH	4,857	5,162	5,586	1,899	7,485
		Remediation Complete (Number of Release Sites)	276	284	284	0	284
Idaho National Laboratory	ID-0030C	Transuranic Waste Dispositioned (Cubic meters) - CH	0	0	1,480	5,918	7,398
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	0	3,443	27,718	31,161
		Remediation Complete (Number of Release Sites)	0	0	0	23	23
Idaho National Laboratory	ID-0040B	Nuclear Facility Completions (Number of Facilities)	28	28	28	16	44
		Radioactive Facility Completions (Number of Facilities)	0	0	0	23	23
		Industrial Facility Completions (Number of Facilities)	0	0	0	32	32
Idaho National Laboratory	ID-0040B.NEW	Nuclear Facility Completions (Number of Facilities)	0	0	0	12	12
		Industrial Facility Completions (Number of Facilities)	0	0	0	1	1
		Radioactive Facility Completions (Number of Facilities)	0	0	0	5	5
Idaho National Laboratory	ID-0040C	Nuclear Facility Completions (Number of	0	0	0	33	33



Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Facilities)					
		Radioactive Facility Completions (Number of Facilities)	0	0	0	10	10
		Industrial Facility Completions (Number of Facilities)	0	0	0	77	77
Idaho National Laboratory	ID-0050B						
		Radioactive Facility Completions (Number of Facilities)	35	35	35	0	35
		Industrial Facility Completions (Number of Facilities)	143	143	143	0	143
Idaho Operations Office	ID-0900						
		Remediation Complete (Number of Release Sites)	233	233	233	0	233
<b><u>Lawrence Livermore National Laboratory</u></b>							
Lawrence Livermore National Laboratory	HQ-SW-0013Y.LLNL						
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	2,546	2,546	2,546	0	2,546
Lawrence Livermore National Laboratory	VL-LLNL-0013						
		Transuranic Waste Dispositioned (Cubic meters) - CH	125	125	125	0	125
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	2,766	2,766	2,766	0	2,766
Lawrence Livermore National Laboratory	VL-LLNL-0030						
		Remediation Complete (Number of Release Sites)	120	120	120	0	120
Lawrence Livermore	VL-LLNL-0031						

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
National Laboratory							
		Remediation Complete (Number of Release Sites)	74	74	74	4	78
<b>Oak Ridge</b>							
Y-12 Plant	HQ-SW-0013Y.Y12						
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	16,252	16,252	16,252	0	16,252
Y-12 Plant	OR-0041						
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	0	0	19,727	19,727
		Industrial Facility Completions (Number of Facilities)	1	1	1	2	3
		Remediation Complete (Number of Release Sites)	28	28	28	110	138
Y-12 Plant	OR-0041.NEW						
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	0	0	38,181	38,181
		Industrial Facility Completions (Number of Facilities)	0	0	0	4	4
Y-12 Plant	OR-0042.NEW						
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	0	0	363	363
		Radioactive Facility Completions (Number of Facilities)	0	0	0	19	19
		Industrial Facility Completions (Number of Facilities)	0	0	0	12	12
East Tennessee Technology Park	OR-0011Y						

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
East Tennessee Technology Park	OR-0040	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	93	93	93	0	93
		Nuclear Facility Completions (Number of Facilities)	4	4	4	0	4
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,178	5,178	5,178	0	5,178
		Nuclear Facility Completions (Number of Facilities)	2	2	2	2	4
		Radioactive Facility Completions (Number of Facilities)	10	9	9	20	29
		Industrial Facility Completions (Number of Facilities)	356	360	360	198	558
East Tennessee Technology Park	OR-0043	Remediation Complete (Number of Release Sites)	125	122	123	42	165
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	32,979	32,979	32,979	0	32,979
		Industrial Facility Completions (Number of Facilities)	7	7	7	30	37
Oak Ridge National Laboratory	OR-0011Z	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	96	96	96	0	96
Oak Ridge National Laboratory	OR-0042	Legacy and Newly Generated Low-Level	3,545	3,882	4,197	957	5,155

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		and Mixed Low-Level Waste disposed (Cubic meters)					
		Nuclear Facility Completions (Number of Facilities)	0	0	0	15	15
		Radioactive Facility Completions (Number of Facilities)	3	3	3	35	38
		Industrial Facility Completions (Number of Facilities)	7	7	7	17	24
		Remediation Complete (Number of Release Sites)	80	81	81	96	177
Oak Ridge Reservation	OR-0013A						
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	48,584	48,584	48,584	0	48,584
Oak Ridge Reservation	OR-0013B						
		Transuranic Waste Dispositioned (Cubic meters) - CH	82	147	236	1,152	1,388
		Transuranic Waste Dispositioned (Cubic meters) - RH	4	13	70	508	578
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	17,983	18,039	18,039	578	18,617
Oak Ridge Reservation	OR-0030						
		Nuclear Facility Completions (Number of Facilities)	2	2	2	0	2
		Radioactive Facility Completions (Number of Facilities)	15	15	15	0	15
		Industrial Facility Completions (Number of Facilities)	2	2	2	0	2
		Remediation Complete (Number of Release Sites)	106	106	106	0	106
Oak Ridge Reservation	OR-0031						
		Remediation Complete (Number of	7	7	7	0	7

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Release Sites)					
Oak Ridge Operations Office	OR-0900-D	Remediation Complete (Number of Release Sites)	74	74	74	0	74
Oak Ridge Operations Office	OR-0900-N	Industrial Facility Completions (Number of Facilities)	3	3	3	0	3
		Remediation Complete (Number of Release Sites)	23	23	23	0	23
<b><u>Nevada</u></b>							
Offsites	NV-0030	Remediation Complete (Number of Release Sites)	53	53	53	0	53
Nevada Test Site	VL-NV-0013	Transuranic Waste Dispositioned (Cubic meters) - CH	1,246	1,246	1,246	0	1,246
Nevada Test Site	VL-NV-0030	Radioactive Facility Completions (Number of Facilities)	7	7	7	3	10
		Remediation Complete (Number of Release Sites)	1,066	1,069	1,069	983	2,052
<b><u>West Valley</u></b>							
<b><u>Demonstration Project</u></b>							
West Valley Demonstration Project	OH-WV-0013	Liquid Waste in Inventory eliminated (Thousands of Gallons)	814	814	814	0	814
		High-Level Waste packaged for final disposition (Number of Containers)	275	275	275	0	275
		Transuranic Waste Dispositioned (Cubic meters) - CH	0	0	0	596	596

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	1,125	1,125
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	29,158	29,338	29,578	1,549	31,127
West Valley Demonstration Project	OH-WV-0040						
		Nuclear Facility Completions (Number of Facilities)	3	3	3	11	14
		Radioactive Facility Completions (Number of Facilities)	4	4	4	9	13
		Industrial Facility Completions (Number of Facilities)	13	13	13	16	29
<b><u>River Protection</u></b>							
River Protection	ORP-0014						
		Liquid Waste in Inventory eliminated (Thousands of Gallons)	0	0	0	54,000	54,000
		Liquid Waste Tanks closed (Number of Tanks)	0	0	0	177	177
		High-Level Waste packaged for final disposition (Number of Containers)	0	0	0	9,667	9,667
		Transuranic Waste Dispositioned (Cubic meters) - CH	0	0	0	1,555	1,555
		Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	3,864	3,864
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	29,778	35,186	36,332	161,500	197,832
		Nuclear Facility Completions (Number of Facilities)	0	0	0	18	18
		Radioactive Facility Completions (Number of Facilities)	0	0	0	114	114
		Industrial Facility Completions (Number	0	0	0	128	128

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		of Facilities)					
River Protection	ORP-0060	Remediation Complete (Number of Release Sites)	5	5	5	273	278
		Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	546	546
<b>Paducah</b>							
Paducah Gaseous Diffusion Plant	PA-0011	Enriched Uranium packaged for disposition (Number of Containers)	0	0	0	182	182
Paducah Gaseous Diffusion Plant	PA-0011X	Depleted and Other Uranium packaged for disposition (Metric Tons)	0	7,750	23,676	434,074	457,750
Paducah Gaseous Diffusion Plant	PA-0013	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	21,887	22,623	23,369	5,330	28,699
Paducah Gaseous Diffusion Plant	PA-0040	Nuclear Facility Completions (Number of Facilities)	0	0	0	18	18
		Radioactive Facility Completions (Number of Facilities)	4	5	5	18	23
		Industrial Facility Completions (Number of Facilities)	19	19	19	153	171
Paducah Gaseous Diffusion Plant	PA-0900	Remediation Complete (Number of Release Sites)	124	124	124	87	202
		Remediation Complete (Number of	1	1	1	0	1

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Release Sites)					
<b><u>Portsmouth</u></b>							
Portsmouth Gaseous Diffusion Plant	PO-0011X	Depleted and Other Uranium packaged for disposition (Metric Tons)	0	9,800	18,589	234,211	252,800
Portsmouth Gaseous Diffusion Plant	PO-0013	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	35,754	36,690	36,690	0	36,690
Portsmouth Gaseous Diffusion Plant	PO-0040	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	0	1,485	1,485	0	1,485
		Nuclear Facility Completions (Number of Facilities)	0	0	0	13	13
		Radioactive Facility Completions (Number of Facilities)	7	7	7	20	27
		Industrial Facility Completions (Number of Facilities)	19	22	22	99	121
		Remediation Complete (Number of Release Sites)	20	21	21	0	21
Portsmouth Gaseous Diffusion Plant	PO-0900	Remediation Complete (Number of Release Sites)	130	130	130	0	130
<b><u>Rocky Flats</u></b>							
Rocky Flats Environmental Technology Site	RF-0011	Plutonium Metal or Oxide packaged for	1,895	1,895	1,895	0	1,895



Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		long-term storage (Number of Containers) Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	103,901	103,901	103,901	0	103,901
Rocky Flats Environmental Technology Site	RF-0013						
		Transuranic Waste Dispositioned (Cubic meters) - CH	15,036	15,036	15,036	0	15,036
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	602,188	602,188	602,188	0	602,188
Rocky Flats Environmental Technology Site	RF-0030						
		Remediation Complete (Number of Release Sites)	360	360	360	0	360
Rocky Flats Environmental Technology Site	RF-0040						
		Material Access Areas eliminated (Number of Material Access Areas)	6	6	6	0	6
		Nuclear Facility Completions (Number of Facilities)	6	6	6	0	6
		Radioactive Facility Completions (Number of Facilities)	22	22	22	0	22
		Industrial Facility Completions (Number of Facilities)	141	141	141	0	141
Rocky Flats Environmental Technology Site	RF-0041						
		Material Access Areas eliminated (Number of Material Access Areas)	1	1	1	0	1

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Radioactive Facility Completions (Number of Facilities)	32	32	32	0	32
		Industrial Facility Completions (Number of Facilities)	176	176	176	0	176
<b>Richland</b>							
Hanford Site	RL-0011	Plutonium Metal or Oxide packaged for long-term storage (Number of Containers)	2,275	2,275	2,275	0	2,275
		Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	3,437	3,437	3,437	0	3,437
		Material Access Areas eliminated (Number of Material Access Areas)	20	20	20	0	20
		Nuclear Facility Completions (Number of Facilities)	21	23	23	3	26
		Radioactive Facility Completions (Number of Facilities)	1	4	4	16	20
		Industrial Facility Completions (Number of Facilities)	8	9	11	22	33
Hanford Site	RL-0012	Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	2,117	2,117	2,117	0	2,117
Hanford Site	RL-0013C	Transuranic Waste Dispositioned (Cubic meters) - CH	3,030	3,030	3,030	21,082	24,112
		Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	858	858
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	48,896	49,440	49,974	1,500	51,474
		Material Access Areas eliminated (Number of Material Access Areas)	0	0	0	4	4
Hanford Site	RL-0040						

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Nuclear Facility Completions (Number of Facilities)	4	4	4	35	39
		Radioactive Facility Completions (Number of Facilities)	13	13	13	166	179
		Industrial Facility Completions (Number of Facilities)	235	235	235	414	649
		Remediation Complete (Number of Release Sites)	40	40	40	817	857
Hanford Site	RL-0041	Enriched Uranium packaged for disposition (Number of Containers)	2,958	2,958	2,958	0	2,958
		Depleted and Other Uranium packaged for disposition (Metric Tons)	3,100	3,100	3,100	0	3,100
		Nuclear Facility Completions (Number of Facilities)	4	5	8	4	12
		Radioactive Facility Completions (Number of Facilities)	56	62	68	65	133
		Industrial Facility Completions (Number of Facilities)	207	237	269	41	310
		Remediation Complete (Number of Release Sites)	571	629	647	164	811
Hanford Site	RL-0042	Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	7	7	7	0	7
		Nuclear Facility Completions (Number of Facilities)	0	0	0	4	4
		Radioactive Facility Completions (Number of Facilities)	0	0	0	9	9
		Industrial Facility Completions (Number of Facilities)	0	0	0	31	31
<u>Savannah River</u> Savannah River Site	SR-0011B	Plutonium Metal or Oxide packaged for	919	919	919	0	919

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		long-term storage (Number of Containers)					
Savannah River Site	SR-0011C	Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk)	490	490	490	0	490
		Enriched Uranium packaged for disposition (Number of Containers)	3,463	3,472	3,472	0	3,472
Savannah River Site	SR-0012	Depleted and Other Uranium packaged for disposition (Metric Tons)	11,536	11,536	11,536	0	11,536
Savannah River Site	SR-0013	Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)	3	3	8	32	40
		Depleted and Other Uranium packaged for disposition (Metric Tons)	0	0	0	11,645	11,645
		Transuranic Waste Dispositioned (Cubic meters) - CH	5,884	5,884	5,884	9,706	15,590
		Transuranic Waste Dispositioned (Cubic meters) - RH	0	0	0	68	68
Savannah River Site	SR-0014C	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	103,171	114,810	117,768	32,041	149,809
		Liquid Waste in Inventory eliminated (Thousands of Gallons)	3,661	4,270	5,279	27,821	33,100
		Liquid Waste Tanks closed (Number of Tanks)	2	4	6	45	51
Savannah River Site	SR-0020	High-Level Waste packaged for final disposition (Number of Containers)	3,251	3,526	3,838	3,719	7,557
Savannah River Site	SR-0030	Material Access Areas eliminated (Number of Material Access Areas)	2	3	3	0	3

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
		Radioactive Facility Completions (Number of Facilities)	0	0	0	16	16
		Industrial Facility Completions (Number of Facilities)	0	0	0	14	14
Savannah River Site	SR-0040	Remediation Complete (Number of Release Sites)	367	368	372	143	515
		Nuclear Facility Completions (Number of Facilities)	11	11	11	180	191
		Radioactive Facility Completions (Number of Facilities)	8	8	8	16	24
		Industrial Facility Completions (Number of Facilities)	232	232	232	517	749
<b><u>Los Alamos National Laboratory</u></b>							
Los Alamos National Laboratory	VL-LANL-0013	Transuranic Waste Dispositioned (Cubic meters) - CH	3,387	4,387	5,990	3,996	9,986
		Transuranic Waste Dispositioned (Cubic meters) - RH	16	16	16	78	94
Los Alamos National Laboratory	VL-LANL-0030	Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	3,417	4,694	4,846	8	4,854
		Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)	5,426	5,426	5,426	0	5,426
Los Alamos National Laboratory	VL-LANL-0040-D	Remediation Complete (Number of Release Sites)	1,534	1,671	1,742	345	2,087

Office / Installation	Project Number	Project Name / Measure	Actuals Completed Through 2011	Targeted Completion Through 2012	Targeted Completion Through 2013	Balance Remaining	Life-Cycle Estimates
Los Alamos National Laboratory	VL-LANL-0040-N	Radioactive Facility Completions (Number of Facilities)	2	5	39	61	100
		Radioactive Facility Completions (Number of Facilities)	0	0	0	5	5

ENVIRONMENTAL MANAGEMENT PROGRAM LIFE-CYCLE COST RANGE			
(Millions of Dollars)			
Site	LCC Total Range		
Argonne National Laboratory-East	160	-	
Ashtabula	137	-	
Brookhaven National Laboratory	466	-	
Columbus	172	-	
Energy Technology Engineering Center	342	-	388
Fernald	3,449	-	
Hanford Site	55,572	-	59,957
Headquarters	2,268	-	
Idaho National Laboratory	21,995	-	23,590
Inhalation Toxicology Laboratory	12	-	
Kansas City Plant	30	-	
Laboratory for Energy-Related Health Research	40	-	
Lawrence Berkeley National Laboratory	36	-	
Lawrence Livermore National Laboratory	389	-	399
Los Alamos National Laboratory	2,756	-	3,300
Miamisburg	1,450	-	
Moab	898	-	928
Nevada Test Site	2,590	-	
Oak Ridge Reservation	10,422	-	10,677
Office of River Protection	66,808	-	74,481
Other	1,397	-	
Paducah Gaseous Diffusion Plant	11,387	-	18,137
Pantex Plant	196	-	
Portsmouth Gaseous Diffusion Plant	9,537	-	16,344
Program Direction	12,078	-	
Rocky Flats Environmental Technology Site	9,077	-	
Sandia National Laboratory	272	-	276
Savannah River Site	48,981	-	54,370
Stanford Linear Accelerator Center	62	-	
Technology Development and Deployment	3,056	-	
Waste Isolation Pilot Plant	6,716	-	7,243
West Valley Demonstration Project	1,664	-	1,783

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
Argonne National Laboratory-East	CH-ANLE-0030	Soil and Water Remediation-Argonne National Laboratory-East	30,242	0	0	30,242	30,242
Argonne National Laboratory-East	CH-ANLE-0040	Nuclear Facility D&D-Argonne National Laboratory-East	47,809	0	0	47,809	47,809
Argonne National Laboratory-East	CH-ANLE-0040.NEW	Argonne Recovery Act Project	68,977	12,914	12,914	81,891	81,891
<b>Argonne National Laboratory-East Total</b>			147,028	12,914	12,914	159,942	159,942
Ashtabula	OH-AB-0030	Soil and Water Remediation-Ashtabula	137,343	0	0	137,343	137,343
<b>Ashtabula Total</b>			137,343	0	0	137,343	137,343
Brookhaven National Laboratory	BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory	248,503	0	0	248,503	248,503
Brookhaven National Laboratory	BRNL-0040	Nuclear Facility D&D-Brookhaven Graphite Research Reactor	129,155	0	0	129,155	129,155
Brookhaven National Laboratory	BRNL-0041	Nuclear Facility D&D-High Flux Beam Reactor	65,534	16,847	16,847	82,381	82,381
Brookhaven National Laboratory	BRNL-0041.NEW	A/B Waste Lines Removal and FHWMF Perimeter Area Soils Remediation	3,462	0	0	3,462	3,462
Brookhaven National Laboratory	BRNL-0100	Brookhaven Community and Regulatory Support	2,636	0	0	2,636	2,636
<b>Brookhaven National Laboratory Total</b>			449,290	16,847	16,847	466,137	466,137
Columbus	OH-CL-0040	Nuclear Facility D&D-West Jefferson	172,063	0	0	172,063	172,063
<b>Columbus Total</b>			172,063	0	0	172,063	172,063
Energy Technology Engineering Center	CBC-ETEC-0040	Nuclear Facility D&D-Energy Technology Engineering Center	260,667	80,869	127,257	341,536	387,924
<b>Energy Technology Engineering Center Total</b>			260,667	80,869	127,257	341,536	387,924
Fernald	OH-FN-0013	Solid Waste Stabilization and	1,626,711	0	0	1,626,711	1,626,711



**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
		Disposition-Fernald					
Fernald	OH-FN-0020	Safeguards and Security-Fernald	15,509	0	0	15,509	15,509
Fernald	OH-FN-0030	Soil and Water Remediation-Fernald	1,320,548	0	0	1,320,548	1,320,548
Fernald	OH-FN-0050	Non-Nuclear Facility D&D-Fernald	226,037	0	0	226,037	226,037
Fernald	OH-FN-0100	Fernald Post-Closure Administration	13,801	232,934	232,934	246,735	246,735
Fernald	OH-FN-0101	Fernald Community and Regulatory Support	13,747	0	0	13,747	13,747
<b>Fernald Total</b>			<b>3,216,353</b>	<b>232,934</b>	<b>232,934</b>	<b>3,449,287</b>	<b>3,449,287</b>
Hanford Site	HQ-SNF-0012X-RL	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	2,784	0	0	2,784	2,784
Hanford Site	RL-0011	NM Stabilization and Disposition-PFP	2,246,095	960,467	1,002,801	3,206,562	3,248,896
Hanford Site	RL-0012	SNF Stabilization and Disposition	2,439,073	450,906	476,971	2,889,979	2,916,044
Hanford Site	RL-0013C	Solid Waste Stabilization & Disposition	2,431,515	8,814,381	9,026,784	11,245,896	11,458,299
Hanford Site	RL-0020	Safeguards and Security	671,335	3,210,744	3,210,744	3,882,079	3,882,079
Hanford Site	RL-0030	Soil and Water Remediation-Groundwater/Vadose Zone	1,373,963	7,772,421	8,087,067	9,146,384	9,461,030
Hanford Site	RL-0040	Nuclear Facility D&D-Remainder of Hanford	1,715,841	15,794,478	19,514,319	17,510,319	21,230,160
Hanford Site	RL-0041	Nuclear Facility D&D-River Corridor Closure Project	3,219,603	1,664,170	1,664,170	4,883,773	4,883,773
Hanford Site	RL-0042	Nuclear Facility D&D-Fast Flux Test Facility Project	304,511	1,050,480	1,119,950	1,354,991	1,424,461
Hanford Site	RL-0043	HAMMER Facility	7,426	0	0	7,426	7,426
Hanford Site	RL-0044	B-Reactor Museum	1,940	0	0	1,940	1,940
Hanford Site	RL-0080	Operate Waste Disposal Facility	70,479	0	0	70,479	70,479
Hanford Site	RL-0100	Richland Community and Regulatory Support	223,865	1,016,062	1,016,062	1,239,927	1,239,927

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
Hanford Site	RL-0900	Pre-2004 Completions	129,736	0	0	129,736	129,736
<b>Hanford Site Total</b>			14,838,166	40,734,109	45,118,868	55,572,275	59,957,034
Headquarters	HQ-MS-0100	Policy, Management, and Technical Support	762,726	822,398	822,398	1,585,124	1,585,124
Headquarters	HQ-UR-0100	Reimbursements to Uranium/Thorium Licensees	431,849	251,398	251,398	683,247	683,247
<b>Headquarters Total</b>			1,194,575	1,073,796	1,073,796	2,268,371	2,268,371
Idaho National Laboratory	CH-ANLW-0030	Soil and Water Remediation-Argonne National Laboratory-West	8,245	0	0	8,245	8,245
Idaho National Laboratory	HQ-SNF-0012X	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	60,089	0	0	60,089	60,089
Idaho National Laboratory	HQ-SNF-0012X-ID	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	18,995	0	0	18,995	18,995
Idaho National Laboratory	HQ-SNF-0012Y	SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository	66,844	0	0	66,844	66,844
Idaho National Laboratory	ID-0011	NM Stabilization and Disposition	19,204	0	8,000	19,204	27,204
Idaho National Laboratory	ID-0012B-D	SNF Stabilization and Disposition-2012 (Defense)	500,124	21,500	146,230	521,624	646,354
Idaho National Laboratory	ID-0012B-N	SNF Stabilization and Disposition-2012 (Non-Defense)	31,049	0	0	31,049	31,049
Idaho National Laboratory	ID-0012C	SNF Stabilization and Disposition-2035	45,651	4,016,344	5,071,415	4,061,995	5,117,066
Idaho National Laboratory	ID-0013B	Solid Waste Stabilization and Disposition	2,519,786	831,288	936,722	3,351,074	3,456,508
Idaho National Laboratory	ID-0013B.NEW	INL Recovery Act Project--TRU Waste	112,333	0	0	112,333	112,333
Idaho National Laboratory	ID-0014B	Radioactive Liquid Tank Waste	1,801,034	39,619	41,200	1,840,653	1,842,234

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
		Stabilization and Disposition-2012					
Idaho National Laboratory	ID-0014B-T	Radioactive Liquid Tank Waste Stabilization and Disposition-2012 (T)	71,140	0	0	71,140	71,140
Idaho National Laboratory	ID-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035	35,498	4,555,093	4,722,242	4,590,591	4,757,740
Idaho National Laboratory	ID-0030B	Soil and Water Remediation-2012	1,558,829	59,871	65,057	1,618,700	1,623,886
Idaho National Laboratory	ID-0030C	Soil and Water Remediation-2035	7,198	2,714,247	2,796,518	2,721,445	2,803,716
Idaho National Laboratory	ID-0040B	Nuclear Facility D&D-2012	749,157	0	0	749,157	749,157
Idaho National Laboratory	ID-0040B.NEW	D&D NE Facilities (New)	79,000	0	0	79,000	79,000
Idaho National Laboratory	ID-0040C	Nuclear Facility D&D-2035	0	1,408,781	1,454,324	1,408,781	1,454,324
Idaho National Laboratory	ID-0050B	Non-Nuclear Facility D&D-2012	103,210	0	0	103,210	103,210
Idaho National Laboratory	ID-0050C	Non-Nuclear Facility D&D-2035	0	0	0	0	0
Idaho National Laboratory	ID-0100	Idaho Community and Regulatory Support	70,179	180,702	180,702	250,881	250,881
Idaho National Laboratory	ID-0900	Pre-2004 Completions	310,264	0	0	310,264	310,264
<b>Idaho National Laboratory Total</b>			<b>8,167,829</b>	<b>13,827,445</b>	<b>15,422,410</b>	<b>21,995,274</b>	<b>23,590,239</b>
Inhalation Toxicology Laboratory	CBC-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory	11,548	0	0	11,548	11,548
Inhalation Toxicology Laboratory	VL-ITL-0030	Soil and Water Remediation-Inhalation Toxicology Laboratory	13	0	0	13	13
<b>Inhalation Toxicology Laboratory Total</b>			<b>11,561</b>	<b>0</b>	<b>0</b>	<b>11,561</b>	<b>11,561</b>
Kansas City Plant	VL-KCP-0030	Soil and Water Remediation-Kansas City Plant	30,277	0	0	30,277	30,277
<b>Kansas City Plant Total</b>			<b>30,277</b>	<b>0</b>	<b>0</b>	<b>30,277</b>	<b>30,277</b>
Laboratory for Energy-Related Health Research	LEHR-0040	Nuclear Facility D&D-Laboratory for Energy-Related Health Research	39,549	0	0	39,549	39,549
Laboratory for Energy-Related Health Research	VL-LEHR-0040	Nuclear Facility D&D-Laboratory for Energy-Related Health Research	514	0	0	514	514

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
<b>Laboratory for Energy-Related Health Research Total</b>			40,063	0	0	40,063	40,063
Lawrence Berkeley National Laboratory	CBC-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory	34,261	0	0	34,261	34,261
Lawrence Berkeley National Laboratory	VL-LBNL-0030	Soil and Water Remediation-Lawrence Berkeley National Laboratory	1,539	0	0	1,539	1,539
<b>Lawrence Berkeley National Laboratory Total</b>			35,800	0	0	35,800	35,800
Lawrence Livermore National Laboratory	VL-LLNL-0013	Solid Waste Stabilization and Disposition-Lawrence Livermore National Laboratory	71,966	0	0	71,966	71,966
Lawrence Livermore National Laboratory	VL-LLNL-0030	Soil and Water Remediation-Lawrence Livermore National Laboratory - Main Site	136,158	0	0	136,158	136,158
Lawrence Livermore National Laboratory	VL-LLNL-0031	Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300	123,117	57,400	67,946	180,517	191,063
<b>Lawrence Livermore National Laboratory Total</b>			331,241	57,400	67,946	388,641	399,187
Los Alamos National Laboratory	VL-LANL-0013	Solid Waste Stabilization and Disposition-LANL Legacy	750,634	50,028	71,428	800,662	822,062
Los Alamos National Laboratory	VL-LANL-0030	Soil and Water Remediation-LANL	1,369,095	357,549	856,533	1,726,644	2,225,628
Los Alamos National Laboratory	VL-LANL-0040-D	Nuclear Facility D&D-LANL (Defense)	185,700	21,168	44,919	206,868	230,619
Los Alamos National Laboratory	VL-LANL-0040-N	Nuclear Facility D&D-LANL (Non-Defense)	21,554	0	0	21,554	21,554
<b>Los Alamos National Laboratory Total</b>			2,326,983	428,745	972,880	2,755,728	3,299,863
Miamisburg	OH-MB-0013	Solid Waste Stabilization and Disposition-Miamisburg	264,692	0	0	264,692	264,692

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
Miamisburg	OH-MB-0020	Safeguards and Security-Miamisburg	28,284	0	0	28,284	28,284
Miamisburg	OH-MB-0030	Soil and Water Remediation-Miamisburg	262,730	0	0	262,730	262,730
Miamisburg	OH-MB-0031	Soil and Water Remediation - OU-1	43,000	0	0	43,000	43,000
Miamisburg	OH-MB-0031.NEW	Mound Operable Unit 1 Recovery Act Project	17,900	0	0	17,900	17,900
Miamisburg	OH-MB-0100	Miamisburg Post-Closure Administration	98,894	724,198	724,198	823,092	823,092
Miamisburg	OH-MB-0101	Miamisburg Community and Regulatory Support	9,831	0	0	9,831	9,831
<b>Miamisburg Total</b>			725,331	724,198	724,198	1,449,529	1,449,529
Moab	CBC-MOAB-0031	Soil and Water Remediation-Moab	287,953	609,970	640,378	897,923	928,331
<b>Moab Total</b>			287,953	609,970	640,378	897,923	928,331
Nevada Test Site	VL-NV-0013	Solid Waste Stabilization and Disposition-Nevada Test Site	101,022	0	0	101,022	101,022
Nevada Test Site	VL-NV-0030	Soil and Water Remediation - Nevada	912,846	751,407	751,407	1,664,253	1,664,253
Nevada Test Site	VL-NV-0080	Operate Waste Disposal Facility-Nevada	166,308	555,794	555,794	722,102	722,102
Nevada Test Site	VL-NV-0100	Nevada Community and Regulatory Support	53,421	49,682	49,682	103,103	103,103
<b>Nevada Test Site Total</b>			1,233,597	1,356,883	1,356,883	2,590,480	2,590,480
Oak Ridge Reservation	HQ-SW-0013X-OR	Solid Waste Stabilization and Disposition-Science Current Generation	142,978	0	0	142,978	142,978
Oak Ridge Reservation	OR-0011Y	NM Stabilization and Disposition-ETTP Uranium Facilities Management	52,430	0	0	52,430	52,430
Oak Ridge Reservation	OR-0011Z	Downblend of U-233 in Building 3019	244,633	140,188	140,188	384,821	384,821

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
Oak Ridge Reservation	OR-0013A	Solid Waste Stabilization and Disposition-2006	464,919	0	0	464,919	464,919
Oak Ridge Reservation	OR-0013B	Solid Waste Stabilization and Disposition-2012	1,236,229	414,635	459,511	1,650,864	1,695,740
Oak Ridge Reservation	OR-0020	Safeguards and Security	195,843	80,528	83,949	276,371	279,792
Oak Ridge Reservation	OR-0030	Soil and Water Remediation-Melton Valley	350,609	0	0	350,609	350,609
Oak Ridge Reservation	OR-0031	Soil and Water Remediation-Offsites	61,924	68	71	61,992	61,995
Oak Ridge Reservation	OR-0040	Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)	2,412,103	758,961	802,697	3,171,064	3,214,800
Oak Ridge Reservation	OR-0041	Nuclear Facility D&D-Y-12	531,589	562,659	640,515	1,094,248	1,172,104
Oak Ridge Reservation	OR-0041.NEW	Y-12 Recovery Act Project	165,777	0	0	165,777	165,777
Oak Ridge Reservation	OR-0042	Nuclear Facility D&D-Oak Ridge National Laboratory	600,885	570,732	646,669	1,171,617	1,247,554
Oak Ridge Reservation	OR-0042.NEW	Oak Ridge Recovery Act Project	50,056	31,550	32,956	81,606	83,012
Oak Ridge Reservation	OR-0043	Nuclear Facility D&D-East Tennessee Technology Park (Defense)	85,161	43,182	45,324	128,343	130,485
Oak Ridge Reservation	OR-0100	Oak Ridge Reservation Community & Regulatory Support (Defense)	110,558	34,527	35,866	145,085	146,424
Oak Ridge Reservation	OR-0101	Oak Ridge Contract/Post-Closure Liabilities/Administration	105,152	0	0	105,152	105,152
Oak Ridge Reservation	OR-0102	East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration	193,301	101,265	105,543	294,566	298,844
Oak Ridge Reservation	OR-0103	Oak Ridge Reservation Community & Regulatory Support (D&D Fund)	44,375	0	0	44,375	44,375
Oak Ridge Reservation	OR-0900-D	Pre-2004 Completions (Defense)	16,828	0	0	16,828	16,828
Oak Ridge Reservation	OR-0900-N	Pre-2004 Completions (Non-Defense)	618,688	0	0	618,688	618,688
<b>Oak Ridge Reservation Total</b>			<b>7,684,038</b>	<b>2,738,295</b>	<b>2,993,289</b>	<b>10,422,333</b>	<b>10,677,327</b>

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
Office of River Protection	HQ-HLW-0014X-RV	Radioactive Liquid Tank Waste Stabilization and Disposition-Storage Operations Awaiting Geologic Rep	0	122,239	122,239	122,239	122,239
Office of River Protection	ORP-0014	Radioactive Liquid Tank Waste Stabilization and Disposition	5,533,700	48,454,769	56,127,432	53,988,469	61,661,132
Office of River Protection	ORP-0060	Major Construction-Waste Treatment Plant	7,005,909	5,257,090	5,257,090	12,262,999	12,262,999
Office of River Protection	ORP-0061	Pre-Waste Treatment Plan, Transition Activity	433,314	0	0	433,314	433,314
Office of River Protection	ORP-0100	Office of River Protection Community and Regulatory Support	1,458	0	0	1,458	1,458
<b>Office of River Protection Total</b>			12,974,381	53,834,098	61,506,761	66,808,479	74,481,142
Other	CBC-0100-FN	CBC Post Closure Administration - Fernald	61,308	0	0	61,308	61,308
Other	CBC-0100-MD	CBC Post Closure Administration - Mound	1,683	266	266	1,949	1,949
Other	CBC-0100-RF	CBC Post Closure Administration - Rocky Flats	16,271	0	0	16,271	16,271
Other	CBC-CA-0013B-N	Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense)	6,298	214	214	6,512	6,512
Other	CBC-CA-0100-N	Community and Regulatory Support (Non-Defense)	2,871	0	0	2,871	2,871
Other	CH-OPS-0900	Pre-2004 Completions	98,850	0	0	98,850	98,850
Other	CH-PPPL-0030	Soil and Water Remediation-Princeton Site A/B	309	0	0	309	309
Other	NV-0030	Soil and Water Remediation - Offsites	84,149	0	0	84,149	84,149
Other	OH-OPS-0900-D	Pre-2004 Completions	57,659	0	0	57,659	57,659
Other	OH-OPS-0900-N	Pre-2004 Completions (Non-	396,924	0	0	396,924	396,924

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
		Defense)					
Other	VL-FAO-0100-D	Nuclear Material Stewardship (Defense)	108,725	0	0	108,725	108,725
Other	VL-FAO-0100-N	Nuclear Material Stewardship (Non-Defense)	14,954	0	0	14,954	14,954
Other	VL-FAO-0101	Miscellaneous Programs and Agreements in Principle	90,926	12,137	12,137	103,063	103,063
Other	VL-FAO-0900	Pre-2004 Completions	232,740	0	0	232,740	232,740
Other	VL-FOO-0013B-D	Solid Waste Stabilization and Disposition Support-Lawrence Livermore National Laboratory	14,518	716	716	15,234	15,234
Other	VL-FOO-0013B-N	Solid Waste Stabilization and Disposition-Oakland Sites-2012 (Non-Defense)	68	0	0	68	68
Other	VL-FOO-0100-D	LLNL Community and Regulatory Support	5,617	0	0	5,617	5,617
Other	VL-FOO-0100-N	Oakland Community and Regulatory Support (Non-Defense)	79	0	0	79	79
Other	VL-FOO-0900-N	Pre-2004 Completions (Non-Defense)	20,896	0	0	20,896	20,896
Other	VL-GA-0012	SNF Stabilization and Disposition-General Atomics	15,169	0	0	15,169	15,169
Other	VL-SPRU-0040	Nuclear Facility D&D-Separations Process Research Unit	147,880	0	0	147,880	147,880
Other	VL-SV-0100	South Valley Superfund	6,061	0	0	6,061	6,061
<b>Other Total</b>			1,383,955	13,333	13,333	1,397,288	1,397,288
Paducah Gaseous Diffusion Plant	GDP D&D	Nuclear Facility D&D-Paducah	0	5,800,000	12,500,000	5,800,000	12,500,000
Paducah Gaseous Diffusion Plant	PA-0011	NM Stabilization and Disposition-Paducah Uranium Facilities Management	36,600	20,322	21,112	56,922	57,712



**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
Paducah Gaseous Diffusion Plant	PA-0011X	NM Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion	807,709	1,985,557	1,985,557	2,793,266	2,793,266
Paducah Gaseous Diffusion Plant	PA-0013	Solid Waste Stabilization and Disposition	279,244	55,769	63,292	335,013	342,536
Paducah Gaseous Diffusion Plant	PA-0020	Safeguards and Security	64,355	78,533	85,783	142,888	150,138
Paducah Gaseous Diffusion Plant	PA-0040	Nuclear Facility D&D-Paducah	1,044,656	1,100,187	1,130,842	2,144,843	2,175,498
Paducah Gaseous Diffusion Plant	PA-0100	Paducah Community and Regulatory Support (Non-Defense)	10,534	0	0	10,534	10,534
Paducah Gaseous Diffusion Plant	PA-0102	Paducah Contract/Post-Closure Liabilities/Administration (D&D Fund)	38,433	5,828	7,674	44,261	46,107
Paducah Gaseous Diffusion Plant	PA-0103	Paducah Community and Regulatory Support (D&D Fund)	25,965	32,832	35,240	58,797	61,205
<b>Paducah Gaseous Diffusion Plant Total</b>			2,307,496	9,079,028	15,829,500	11,386,524	18,136,996
Pantex Plant	VL-PX-0030	Soil and Water Remediation-Pantex	180,885	0	0	180,885	180,885
Pantex Plant	VL-PX-0040	Nuclear Facility D&D-Pantex	15,209	0	0	15,209	15,209
<b>Pantex Plant Total</b>			196,094	0	0	196,094	196,094
Portsmouth Gaseous Diffusion Plant	PO-0011	NM Stabilization and Disposition- Portsmouth Uranium Facilities Management	100,975	0	0	100,975	100,975
Portsmouth Gaseous Diffusion Plant	PO-0011X	NM Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion	483,146	1,289,630	1,289,630	1,772,776	1,772,776
Portsmouth Gaseous Diffusion Plant	PO-0013	Solid Waste Stabilization and Disposition	524,533	0	0	524,533	524,533
Portsmouth Gaseous Diffusion Plant	PO-0020	Safeguards and Security	138,223	597,327	597,327	735,550	735,550
Portsmouth Gaseous Diffusion Plant	PO-0040	Nuclear Facility D&D-Portsmouth	1,308,377	4,593,475	11,400,146	5,901,852	12,708,523

**Environmental Management/  
Overview**

**FY 2013 Congressional Budget**

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
Portsmouth Gaseous Diffusion Plant	PO-0041	Nuclear Facility D&D-Portsmouth GCEP	66,104	0	0	66,104	66,104
Portsmouth Gaseous Diffusion Plant	PO-0101	Portsmouth Cold Standby	372,486	0	0	372,486	372,486
Portsmouth Gaseous Diffusion Plant	PO-0103	Portsmouth Contract/Post-Closure Liabilities/Administration (D&D Fund)	7,241	34,561	34,561	41,802	41,802
Portsmouth Gaseous Diffusion Plant	PO-0104	Portsmouth Community and Regulatory Support (D&D Fund)	4,128	16,627	16,627	20,755	20,755
<b>Portsmouth Gaseous Diffusion Plant Total</b>			3,005,213	6,531,620	13,338,291	9,536,833	16,343,504
Program Direction	HQ-PD-0100	Program Direction	4,588,310	7,489,965	7,489,965	12,078,275	12,078,275
<b>Program Direction Total</b>			4,588,310	7,489,965	7,489,965	12,078,275	12,078,275
Rocky Flats Environmental Technology Site	CBC-RF-0102	Rocky Flats Future Use	3,061	0	0	3,061	3,061
Rocky Flats Environmental Technology Site	RF-0011	NM Stabilization and Disposition	470,485	0	0	470,485	470,485
Rocky Flats Environmental Technology Site	RF-0013	Solid Waste Stabilization and Disposition	892,978	0	0	892,978	892,978
Rocky Flats Environmental Technology Site	RF-0020	Safeguards and Security	300,388	0	0	300,388	300,388
Rocky Flats Environmental Technology Site	RF-0030	Soil and Water Remediation	2,085,281	0	0	2,085,281	2,085,281
Rocky Flats Environmental Technology Site	RF-0040	Nuclear Facility D&D-North Side Facility Closures	1,920,831	0	0	1,920,831	1,920,831
Rocky Flats Environmental Technology Site	RF-0041	Nuclear Facility D&D-South Side Facility Closures	756,890	0	0	756,890	756,890
Rocky Flats Environmental Technology Site	RF-0100	Rocky Flats Environmental Technology Site Contract Liabilities	143,119	2,467,321	2,467,321	2,610,440	2,610,440
Rocky Flats Environmental Technology Site	RF-0101	Rocky Flats Community and Regulatory Support	37,023	0	0	37,023	37,023

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
<b>Rocky Flats Environmental Technology Site Total</b>			6,610,056	2,467,321	2,467,321	9,077,377	9,077,377
Sandia National Laboratory	VL-SN-0030	Soil and Water Remediation-Sandia	243,027	29,012	33,341	272,039	276,368
<b>Sandia National Laboratory Total</b>			243,027	29,012	33,341	272,039	276,368
Savannah River Site	HQ-SNF-0012X-SR	SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository	68,140	0	0	68,140	68,140
Savannah River Site	SR-0011A	NM Stabilization and Disposition-2006	134,009	0	0	134,009	134,009
Savannah River Site	SR-0011B	NM Stabilization and Disposition-2012	3,668,394	0	0	3,668,394	3,668,394
Savannah River Site	SR-0011C	NM Stabilization and Disposition-2035	2,085,446	4,912,400	5,542,403	6,997,846	7,627,849
Savannah River Site	SR-0012	SNF Stabilization and Disposition	403,872	514,764	532,364	918,636	936,236
Savannah River Site	SR-0013	Solid Waste Stabilization and Disposition	1,682,570	2,097,383	2,320,004	3,779,953	4,002,574
Savannah River Site	SR-0014C	Radioactive Liquid Tank Waste Stabilization and Disposition-2035	8,283,213	10,807,495	14,481,495	19,090,708	22,764,708
Savannah River Site	SR-0014C-T	Radioactive Liquid Tank Waste Stabilization and Disposition-2035 (T)	137,603	0	0	137,603	137,603
Savannah River Site	SR-0020	Safeguards and Security	1,600,313	1,991,218	1,991,218	3,591,531	3,591,531
Savannah River Site	SR-0030	Area Completion	1,840,756	2,529,272	2,864,114	4,370,028	4,704,870
Savannah River Site	SR-0040	Nuclear Facility D&D	494,444	4,843,108	5,352,974	5,337,552	5,847,418
Savannah River Site	SR-0040B	Nuclear Facility D&D-2012	778	0	0	778	778
Savannah River Site	SR-0100	Non-Closure Mission Support	207,714	135,000	135,000	342,714	342,714
Savannah River Site	SR-0101	Savannah River Community and Regulatory Support	142,342	202,500	202,500	344,842	344,842
Savannah River Site	SR-0900	Pre-2004 Completions	198,242	0	0	198,242	198,242
<b>Savannah River Site Total</b>			20,947,83	28,033,140	33,422,072	48,980,976	54,369,908

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
			6				
Stanford Linear Accelerator Center	CBC-SLAC-0030	Soil and Water Remediation-Stanford Linear Accelerator Center	62,496	0	0	62,496	62,496
<b>Stanford Linear Accelerator Center Total</b>			62,496	0	0	62,496	62,496
Technology Development and Deployment	HQ-TD-0100	Technology Development	1,760,352	1,296,007	1,296,007	3,056,359	3,056,359
<b>Technology Development and Deployment Total</b>			1,760,352	1,296,007	1,296,007	3,056,359	3,056,359
Waste Isolation Pilot Plant	CB-0020	Safeguards and Security	35,953	155,568	155,568	191,521	191,521
Waste Isolation Pilot Plant	CB-0080	Operate Waste Disposal Facility-WIPP	2,306,374	2,589,975	2,988,418	4,896,349	5,294,792
Waste Isolation Pilot Plant	CB-0081	Central Characterization Project	294,601	159,017	218,725	453,618	513,326
Waste Isolation Pilot Plant	CB-0090	Transportation-WIPP	409,190	482,326	551,378	891,516	960,568
Waste Isolation Pilot Plant	CB-0100	US/Mexico/Border/Material Partnership Initiative	11,404	0	0	11,404	11,404
Waste Isolation Pilot Plant	CB-0101	Economic Assistance to the State of New Mexico	264,302	0	0	264,302	264,302
Waste Isolation Pilot Plant	CB-0900	Pre-2004 Completions	7,137	0	0	7,137	7,137
<b>Waste Isolation Pilot Plant Total</b>			3,328,961	3,386,886	3,914,089	6,715,847	7,243,050
West Valley Demonstration Project	OH-WV-0012	SNF Stabilization and Disposition-West Valley	32,319	0	0	32,319	32,319
West Valley Demonstration Project	OH-WV-0013	Nuclear Facility D&D West Valley	279,669	0	0	279,669	279,669
West Valley Demonstration Project	OH-WV-0014	Radioactive Liquid Tank Waste Stabilization and Disposition-West Valley High-Level Waste Storage	0	166,678	207,678	166,678	207,678
West Valley Demonstration Project	OH-WV-0020	Safeguards and Security-West Valley	20,777	31,304	31,304	52,081	52,081
West Valley Demonstration	OH-WV-0040	Nuclear Facility D&D-West Valley	628,825	503,970	581,938	1,132,795	1,210,763

**Lifecycle Costs by Program Baseline Summary (PBS)**

Thousands of Dollars

Site	PBS Code	PBS Name	Prior Costs (97 - 2011)	FY12 and Remaining Cost (Low Range)	FY12 and Remaining Cost (High Range)	Lifecycle Cost (Low Range)	Lifecycle Cost (High Range)
Project							
<b>West Valley Demonstration Project Total</b>			961,590	701,952	820,920	1,663,542	1,782,510
<b>Grand Total</b>			99,659,924	174,756,768	208,892,200	274,416,692	308,552,124

ENVIRONMENTAL MANAGEMENT PROJECT SCHEDULE RANGE	
Site	Completion Date
Inhalation Toxicology Laboratory	2011 <sup>a</sup>
Stanford Linear Accelerator Center	2012
Separations Process Research Unit	2013 - 2014
Los Alamos National Laboratory	2015 <sup>b</sup>
West Valley Demonstration Project	2018
Lawrence Livermore National Laboratory - Site 300	2019
Sandia National Laboratories - NM	2020
Energy Technology Engineering Center	2018 - 2025
Brookhaven National Laboratory	2018 - 2020
Oak Ridge Reservation	2021 - 2022
Nevada Test Site Projects	2027 - 2038
Moab	2025 <sup>c</sup>
Savannah River Site	2038 - 2040
Idaho National Laboratory	2035 - 2044
Waste Isolation Pilot Plant	2035 - 2039
Paducah Gaseous Diffusion Plant	2040 - 2052
Portsmouth Gaseous Diffusion Plant	2044 - 2052
Hanford Site	2050 - 2062

<sup>a</sup> Physical work at the Inhalation Toxicology Laboratory was completed by FY 2010.

<sup>b</sup> EM will continue to aggressively pursue cleanup at LANL in accordance with the Consent Order while working with regulators to facilitate cleanup as quickly as possible.

<sup>c</sup> With AARA funding, the completion date for Moab has been accelerated by three years to 2025.

**Environmental Management Federal Staffing**

(Full-Time Equivalents)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Carlsbad	58	56	54
Idaho	63	67	48
Oak Ridge	80	80	80
Portsmouth/Paducah Project Office	51	54	53
Richland	263	261	254
River Protection	148	153	153
Savannah River	322	328	304
Small Sites	32	38	36
Nevada	23	23	23
NNSA Sites	25	24	25
Subtotal, Field, Full-Time Equivalents	1,065	1,084	1,030
Headquarters Operations	337	325	322
Consolidated Business Center	198	173	166
<b>Total, Field, Full-Time Equivalents</b>	<b>1,600</b>	<b>1,582</b>	<b>1,518</b>





**Carlsbad**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Waste Isolation Pilot Plant			
CB-0080 / Operate Waste Disposal Facility-WIPP	136,790	135,403	153,385
CB-0081 / Central Characterization Project	22,448	37,600	22,448
CB-0090 / Transportation-WIPP	30,345	40,331	22,177
CB-0101 / Economic Assistance to the State of New Mexico	26,131	0	0
Subtotal, Waste Isolation Pilot Plant	215,714	213,334	198,010

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The Carlsbad Field Office will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. To support the Department’s Strategic Goal to enhance nuclear security through defense, nonproliferation, and environmental efforts, the Carlsbad Field Office has the responsibility for management of the National Transuranic Waste Program and the Waste Isolation Pilot Plant, the Nation’s only mined geologic repository for the permanent disposal of defense-generated transuranic waste. The Carlsbad Field Office’s National Transuranic Waste Program coordinates with all DOE sites that generate transuranic waste to retrieve, repackage, characterize, ship, and dispose of transuranic waste resulting in cleaning up sites, reducing risks, and decreasing nuclear footprints. This involves a number of activities: characterizing, transporting, storing and disposing of legacy transuranic wastes that have been stored at DOE sites for decades, as well as,

transuranic wastes generated through ongoing facility deactivation, environmental remediation activities at currently contaminated DOE sites and transuranic wastes generated by other DOE mission activities.

The life-cycle planning estimate range is 2035 to 2039 for decommissioning of the surface facilities and permanent closure of the underground, based on current site mission. This range is subject to change based on changes to DOE site cleanup schedules and transuranic waste inventories.

In meeting the Department’s strategic goal, the Carlsbad Field Office will work aggressively to support footprint reduction efforts throughout the DOE complex.

Direct maintenance and repair at the Carlsbad Field Office is estimated to be \$10,434,000.

**Regulatory Framework**

The Waste Isolation Pilot Plant has four primary regulators: 1) the Environmental Protection Agency, which regulates the radioactive constituents of waste and repository certification; 2) the New Mexico Environment Department, which regulates the hazardous constituents of waste; 3) the Nuclear Regulatory Commission, which certifies Type B shipping containers; and 4) the Department of Transportation, which

**Environmental Management/  
Carlsbad**

**FY 2013 Congressional Budget**

regulates highway transportation and Type B payload containers.

In the Waste Isolation Pilot Plant Land Withdrawal Act of 1992, as amended, (Public Law 102-579), Congress established regulatory conditions and standards covering limits on the types and quantities of waste that DOE could place in the repository. The Waste Isolation Pilot Plant operates under a renewed Resource Conservation and Recovery Act, Part B, Hazardous Waste Facility Permit issued by the New Mexico Environment Department in December 2010. The Environmental Protection Agency regulates the Waste Isolation Pilot Plant under specific criteria established in 40 Code of Federal Regulations Part 194 that require DOE to demonstrate that the Waste Isolation Pilot Plant would meet containment standards. The Environmental Protection Agency initially certified the Waste Isolation Pilot Plant's compliance with these regulations on May 18, 1998. The Department submitted its second Compliance Recertification Application to the Environmental Protection Agency in March 2006, and the third in November 2010.

**Program Accomplishments and Milestones**

During FY 2012 it is expected that the Carlsbad Field Office will complete the following major accomplishments:

- Safely operate the Waste Isolation Pilot Plant facility and perform waste characterization and transportation services, providing a capability to receive an average of at least 26 shipments (contact-handled and remote-handled combined) per week.
- Supports the capability and goal of up to 35 contact-handled and remote-handled shipments per week from large and small generator sites to the Waste Isolation Pilot Plant. (Actual shipment rate will depend on specific waste streams certified available for shipment and the respective shipping package used.)

**Milestones**

**Date**

- |   |                                  |
|---|----------------------------------|
| <ul style="list-style-type: none"> <li>▪ First TRUPACT III shipment received</li> <li>▪ 10,000<sup>th</sup> shipment of TRU waste received</li> </ul> | <p>8/4/2011</p> <p>9/29/2011</p> |
|---|----------------------------------|

Current estimated Life-Cycle cost range is \$6,715,847,000 to \$7,243,050,000; current projected closure date is 2035 to 2039, based on current site mission.

**Explanation of Changes**

The Department requests \$198,010,000 in Fiscal Year 2013 for the Carlsbad Field Office, which is a 7.2 percent decrease over the FY 2012 enacted appropriation level.

The FY 2013 request increases the levels for Operation of the Waste Disposal Facility (+\$17,982,000). The request decreases the Central Characterization Project (-\$15,152,000) and WIPP Transportation Program (-\$18,154,000).

**Program Planning and Management**

Program planning and management at the Carlsbad Field Office, which manages the nation's only transuranic waste repository, is conducted through the issuance and execution of contracts to large and small businesses. The Carlsbad Field Office develops near-term and long-term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. The prime Management and Operating contractor at the Carlsbad Field Office is Washington TRU Solutions, LLC. This contract covers all work at the Waste Isolation Pilot Plant, including receipt and handling of transuranic shipments, characterization of waste at generator sites, verification/certification of waste documentation, and all site operations through 2012. The request for proposal for a follow on contract is being prepared in 2012. The Carlsbad Field Office also manages several small non-Management and Operating contracts which provide management analysis, site integration, transportation communications support, and electric utilities.

**Strategic Management**

In meeting the Department's strategic goal, "Enhance nuclear security through defense, nonproliferation, and environmental efforts," the Department will work aggressively to reduce the footprint at Transuranic Waste Sites across the complex through disposal of transuranic waste streams. The Carlsbad Field Office is key to the ultimate disposition of transuranic waste across the DOE complex.

**Strategic Plan and Performance Measures**

No PM activity for current three-year budget period.
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**Explanation of Funding Changes**

(Dollars In Thousands)

	FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
<b>Defense Environmental Cleanup</b>			
<b>Waste Isolation Pilot Plant</b>			
<b>CB-0080 / Operate Waste Disposal Facility-WIPP</b>			
<ul style="list-style-type: none"> <li>▪ Increase in FY 2013 reflects the scope previously funded by the American Recovery and Reinvestment Act which is now included in the base program to maintain the required level of Waste Isolation Pilot Plant operations. Additionally, the increase reflects the implementation of new panel closure design with closures installed in all filled panels. The planned mining of panels 9A and 10A also contributes to the increase in FY 2013.</li> </ul>	135,403	153,385	+17,982
<b>CB-0081 / Central Characterization Project</b>			
<ul style="list-style-type: none"> <li>▪ Decrease reflects cost efficiencies gained through privatization of mobile loading teams performing Central Characterization Project activities at Transuranic Waste Sites and concentrated efforts at principle sites as small quantity sites are closed.</li> </ul>	37,600	22,448	-15,152
<b>CB-0090 / Transportation-WIPP</b>			
<ul style="list-style-type: none"> <li>▪ Decrease reflects a reduction in the level of transportation services, consistent with the closure of small quantity sites and the concentrated efforts at the remaining Transuranic Waste Sites performing characterization activities. Additionally two carrier contracts are being awarded in FY 2012 therefore increasing the funds level required for FY 2012. Funding reflects 18 months of operational commitments.</li> </ul>	40,331	22,177	-18,154
<b>Total, Carlsbad</b>	<b>213,334</b>	<b>198,010</b>	<b>-15,324</b>

## Operate Waste Disposal Facility-WIPP (PBS: CB-0080)

### Overview

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

This project supports 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 repository—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 systems sensitive parameters; and 3) National Transuranic Waste 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. All legacy transuranic waste has been removed from 19 sites.

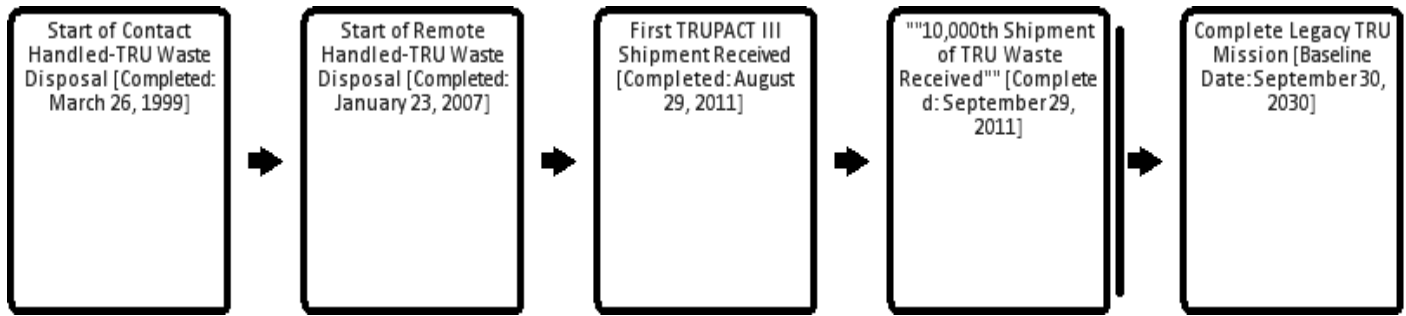
Although the volume of waste emplaced each year is somewhat dependent upon the specific waste streams shipped and payload constraints, the table below shows the cumulative actual volumes of transuranic waste (in cubic meters) emplaced at the Waste Isolation Pilot Plant Repository through FY 2011 by site and by fiscal year. While the EM Corporate Performance Metric “Transuranic Waste Dispositioned” describes activities involved in the preparation, characterization and disposal of suspected transuranic waste inventories, these tables below display only the portion of transuranic waste that is transported and emplaced at the Waste Isolation Pilot Plant. Contact-handled transuranic waste disposal began in 1999; remote-handled transuranic waste disposal began in 2007. TRU volumes emplaced from FY 2009 through FY 2012 will be accomplished by both American Recovery and Reinvestment Act funds and base appropriations.

Transuranic Waste Emplaced in the WIPP Repository											
Contact Handled (CH), Container Volume by Site (cubic meters)											
Fiscal Year	ANL-E	Hanford	INL	LANL	LLNL	NTS	ORNL	RFETS	SRS	WIPP	Cumulative Total
1999	0	0	15	190	0	0	0	62	0	0.0	266
2000	0	13	87	0	0	0	0	252	0	0.0	618
2001	0	68	717	74	0	0	0	1044	62	0.3	2,583
2002	0	18	2065	8	0	0	0	2903	141	0.5	7,717
2003	97	250	567	327	0	0	0	4017	2285	0.0	15,259
2004	24	448	342	0	0	106	0	4650	3240	0.2	24,069
2005	0	853	2564	171	146	235	0	2134	1554	0.0	31,726
2006	0	715	7890	546	0	64	0	0	1340	0.0	42,282
2007	0	765	5390	823	0	0	0	0	1548	0.0	50,808
2008	0	622	3304	689	0	0	12	0	1267	0.3	56,703
2009	0	9	4621	727	0	0	37	0	719	2.5	62,817
2010	0	475	5114	1063	0	0	230	0	862	0.0	70,561
2011	0	825	4211	1014	0	0	79	0	1139	0.0	77,828
2012*	0	0	890	261	0	0	57	0	350	0.0	79,385
Site Totals:	121	5,061	37,775	5,891	146	405	415	15,062	14,506	4	79,385
Remote Handled (RH), Container Volume by Site (cubic meters)											
Fiscal Year	ANL-E	BAPL	GEVNC	INL	LANL	ORNL	SNL	SRS	Cumulative Total		
2007	0.0	0.0	0.0	22.7	0.0	0.0	0.0	0.0	22.7		
2008	2.5	0.0	0.0	47.4	0.0	0.0	0.0	0.0	72.6		
2009	7.4	0.0	0.6	15.7	14.2	5.0	0.0	18.4	134.0		
2010	7.3	0.0	19.1	18.9	0.0	32.8	0.0	0.0	212.1		
2011	17.5	1.9	0.0	17.4	0.0	5.0	0.0	5.0	259.0		
2012*	4.4	1.3	0.0	0.0	0.0	3.2	0.6	0.0	268.4		
Site Totals:	39.1	3.2	19.7	122.1	14.2	46.0	0.6	23.4	268.4		

\*Data is as of December 31, 2011

The volumes provided here reflect certified TRU waste volumes emplaced at the Waste Isolation Pilot Plant, including total unfilled disposal package volume. This differs from the “TRU Dispositioned” corporate performance metric, which reflects waste inventories at generator sites, prior to full characterization and processing. A significant portion of the “TRU Dispositioned” inventory may be disposed of as low-level waste which is not disposed at the Waste Isolation Pilot Plant.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including disposal of TRU waste.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Maintained safety and personnel health programs, surface and underground operations and maintenance, program administration, generator site interface, public affairs programs, payments to the National Institute of Standards and Technology and other organizations for independent oversight, environmental oversight, and right-of-ways.</li> <li>▪ Provided funding for 40 Code of Federal Regulations 194 compliance, site environmental compliance, Resource Conservation and Recovery Act permit compliance, Quality Assurance, and payments to regulatory agencies.</li> <li>▪ Provided materials required for disposal of contact-handled transuranic waste including slip sheets, and MgO (Magnesium Oxide), as well as engineering services and contact-handled transuranic waste handling.</li> <li>▪ Supported handling of remote-handled waste, borehole drilling, and shield plugs required at the Waste Isolation Pilot Plant to receive and dispose of remote-handled transuranic waste.</li> <li>▪ Supported site maintenance items such as removing exhaust shaft surface duct salt build-up and several other similar projects.</li> <li>▪ A portion of the scope of work typically covered in this project was executed with American Recovery and Reinvestment Act funding.</li> </ul>	<b>136,790</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Maintain safety personnel health programs, surface and underground operations and maintenance, program administration, generator site interface, public affairs</li> </ul>	<b>135,403</b>

	<p>programs, payments to the National Institute of Standards and Technology and other organizations for independent oversight, environmental oversight, and right-of-ways.</p> <ul style="list-style-type: none"> <li>▪ Provide materials required for disposal of contact-handled transuranic waste including slip sheets and MgO (Magnesium Oxide), as well as, engineering services and contact-handled transuranic waste handling (including support for TRUPACT-III and payload containers at the generator sites and the Waste Isolation Pilot Plant).</li> <li>▪ Support handling of remote-handled waste, borehole drilling, and shield plugs required at the Waste Isolation Pilot Plant to receive and dispose of remote-handled transuranic waste.</li> <li>▪ Provide funding for 40 Code of Federal Regulations Part 194 compliance, site environmental compliance, Resource Conservation and Recovery Act permit compliance, Quality Assurance, and payments to regulatory agencies.</li> <li>▪ Maintain safety and personnel health programs, surface and underground operations and maintenance, program administration, emergency planning and services, generator site interface, payments to organizations for independent oversight, assistance, and regulatory compliance.</li> <li>▪ Support underground fan renovation, capital equipment purchases, road maintenance, facility modifications and construction, as well as upgrade underground fiber optic cabling.</li> <li>▪ Support the mining of Panel 8 and closure of filled panels in accordance with regulatory requirements.</li> <li>▪ Support critical site maintenance items; there will be an annual WIPP site maintenance outage to allow for maintenance functions in the underground and surface facility.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain safety personnel health programs, surface and underground operations and maintenance, program administration, generator site interface, public affairs programs, payments to the National Institute of Standards and Technology and other organizations for independent oversight, environmental oversight, and right-of-ways.</li> <li>▪ Provide materials required for disposal of contact-handled transuranic waste including slip sheets and MgO (Magnesium Oxide), as well as engineering services and contact-handled transuranic waste handling (including support for TRUPACT-III and payload containers at the generator sites and the Waste Isolation Pilot Plant).</li> <li>▪ Support handling of remote-handled waste, borehole drilling, and shield plugs required at the Waste Isolation Pilot Plant to receive and dispose of remote-handled transuranic waste.</li> <li>▪ Provide funding for 40 Code of Federal Regulations Part 194 compliance, site environmental compliance, Resource Conservation and Recovery Act permit compliance, Quality Assurance, and payments to regulatory agencies.</li> </ul>	153,385

	<ul style="list-style-type: none"><li>▪ Maintain safety and personnel health programs, surface and underground operations and maintenance, program administration, emergency planning and services, generator site interface, payments to organizations for independent oversight, assistance, and regulatory compliance.</li><li>▪ Support underground fan renovation, capital equipment purchases, road maintenance, facility modifications and construction, as well as upgrade underground fiber optic cabling.</li><li>▪ Support site maintenance items; there will be an annual WIPP site maintenance outage to allow for maintenance functions in the underground and surface facility.</li><li>▪ Implement new panel closure design with closures installed in all filled panels.</li></ul>	
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## Central Characterization Project (PBS: CB-0081)

### Overview

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

The Carlsbad Field Office manages the National Transuranic Waste Integration Program—integration and infrastructure activities required to certify the transuranic waste and coordinate all activities across the transuranic waste complex for shipments of waste to the Waste Isolation Pilot Plant.

This project scope includes labor, materials, and supplies for operation of mobile waste characterization systems deployed to DOE generator sites for characterization of transuranic waste to be disposed at the Waste Isolation Pilot Plant, as well as centralized transuranic waste analytical services at Idaho and the Carlsbad Environmental Monitoring and Research Center. It also includes generator site services at selected sites to characterize transuranic waste for transportation to the Waste Isolation Pilot Plant or to another site for final certification, when cost-effective. The use of mobile systems provides generator sites with a highly regulated program that has already been certified for use. DOE reviews have concluded that the Central Characterization Project provides the most cost-effective and reliable characterization capabilities. This project also provides a DOE-wide single certification program for remote-handled transuranic waste shipments to the Waste Isolation Pilot Plant at the generator/shipping sites and a DOE-wide transuranic waste shipping confirmation process required by the Waste Isolation Pilot Plant's Hazardous Waste Facility Permit issued by the New Mexico Environment Department.

### Sequence

There are no milestones associated with this PBS.

### Benefits

Waste Disposition and Disposal	▪ Transuranic waste disposal is an activity for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework, and it will enable near-term site completions and reduce our legacy footprint further.
Benefits to the Department for Footprint Reduction	▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.



<b>Funding and Activity Schedule</b>		
<b>Fiscal Year</b>	<b>Activity</b>	<b>Funding (dollars in thousands)</b>
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided Acceptable Knowledge and procedural support, mobile waste loading support at select generator sites, waste certification support, headspace gas analysis, and soils and solids analysis required for characterization activities.</li> <li>▪ Supported generator site interface for the Central Characterization Project activities, Central Characterization Project administration, and Performance Demonstration Program for Resource Conservation and Recovery Act constituents.</li> <li>▪ Supported Central Characterization Project waste certification for transportation of waste consolidated at Idaho National Laboratory. The Central Characterization Project is the transportation certification program for all transuranic waste shipments from Idaho National Laboratory.</li> <li>▪ Supported Central Characterization Project for contract-handled and remote-handled transuranic waste at Los Alamos National Laboratory for disposal at the Waste Isolation Pilot Plant.</li> <li>▪ Supported Central Characterization Project for contract-handled and remote-handled transuranic waste at Oak Ridge National Laboratory for disposal at the Waste Isolation Pilot Plant.</li> <li>▪ A portion of the scope of work typically covered in this project was executed with American Recovery and Reinvestment Act funding.</li> </ul>	<b>22,448</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Support generator site interface for the Central Characterization Project activities, transuranic waste audits, Performance Demonstration Program for Non-destructive Assay, and Resource Conservation and Recovery Act constituents.</li> <li>▪ Provide acceptable knowledge, shipping site waste loading services, waste certification support, headspace gas analysis, and soils and solids analysis required for characterization activities.</li> <li>▪ Support waste certification for transportation of contract-handled transuranic waste consolidated at the Idaho National Laboratory and Los Alamos National Laboratory.</li> </ul>	<b>37,600</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide Acceptable Knowledge and procedural support, mobile waste loading support at select generator sites, waste certification support, headspace gas analysis, and soils and solids analysis required for characterization activities.</li> <li>▪ Support generator site interface for the Central Characterization Project activities, Central Characterization Project administration, and Performance Demonstration Program for Resource Conservation and Recovery Act constituents.</li> <li>▪ Central Characterization Project, primarily for legacy transuranic waste disposition, to be provided at: Idaho National Laboratory and Los Alamos National Laboratory (Central Characterization Project maintains the capability to perform transuranic waste certification for transportation from any transuranic waste generator or storage site).</li> </ul>	<b>22,448</b>

**Transportation-WIPP (PBS: CB-0090)**

**Overview**

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

This project includes all transportation activities required to support the disposal of both contact-handled and remote-handled transuranic waste to the Waste Isolation Pilot Plant, or transport to other designated sites for treatment and/or characterization prior to shipment for disposal. This includes carrier services, transportation packaging, shipping coordination, and stakeholder interfaces related to transportation. As required in the Waste Isolation Pilot Plant Land Withdrawal Act, as amended, this project provides for technical assistance for the purpose of training public safety officials and other emergency responders in any State or Indian tribal lands through which DOE plans to transport transuranic waste to or from the Waste Isolation Pilot Plant and inter-site transfers of TRU waste.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Maximize Success of Construction and Operations Outcomes	<ul style="list-style-type: none"> <li>▪ Transuranic waste disposal is an activity for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Supported carrier contracts and contact-handled packaging (TRUPACT-II) maintenance.</li> <li>▪ Supported shipping corridor readiness, contact-handled and remote-handle waste packaging, and shipping services, including Nuclear Regulatory Commission fees.</li> <li>▪ A portion of the scope of work typically covered in this project was executed with American Recovery and Reinvestment Act funding.</li> </ul>	<b>30,345</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Supports the carrier contracts which have an increase in funding reflecting 18</li> </ul>	<b>40,331</b>

	<p>months operational commitments due to the awarding of new contracts for each carrier.</p> <ul style="list-style-type: none"> <li>▪ Supports shipping corridor readiness, contact-handled and remote-handled waste packaging, and shipping services, including Nuclear Regulatory Commission fees.</li> <li>▪ Supports the capability and goal of up to 35 shipments (contact-handled and remote-handled combined) per week for 41 weeks per year. These shipments will be from large and small generator sites to the Waste Isolation Pilot Plant. (Actual shipment rate will depend on specific waste streams certified and available for shipment and the respective type of shipping package used.) Packaging to be used in transport waste will include TRUPACT II's, Half PACTs, TRUPACT III's, and remote-handled-72B's (RH waste).</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Provides funding for the carrier contracts.</li> <li>▪ Supports shipping corridor readiness, contact-handled and remote-handled waste packaging, and shipping services including Nuclear Regulatory Commission fees.</li> <li>▪ Supports up to 26 shipments (contact-handled and remote-handled combined) per week for 41 weeks per year. These shipments will be from generator sites where characterization activities are being performed to the Waste Isolation Pilot Plant. (Actual shipment rate will depend on specific waste streams certified and available for shipment and the respective type of shipping package used. Packaging to be used in transport waste will include TRUPACT II's, Half PACTs, TRUPACT III's, and RH-72B's (for remote-handled and contact-handled transuranic waste).</li> </ul>	<b>22,177</b>

**Economic Assistance to the State of New Mexico (PBS: CB-0101)**

**Overview**

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

This project fulfilled a requirement of the Waste Isolation Pilot Plant Land Withdrawal Act, as amended, (Public Law 102-579) which authorized payments to the State of New Mexico in the amount of \$20,000,000 (adjusted for inflation) for each of the 14 fiscal years beginning with FY 1998. The Statutory requirement to provide funding has expired.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve and Maintain Positive Stakeholder and Regulator Relationships	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided economic assistance payments to the State of New Mexico required by the Waste Isolation Pilot Plant Land Withdrawal Act, as amended, which is a Federal Law.</li> <li>▪ Provided funds for state and local governments for road improvements, as needed, in connection with waste shipments to the Waste Isolation Pilot Plant.</li> <li>▪ Provided funds to units of local government in Lea and Eddy counties.</li> <li>▪ Provided for independent Environment Assessments and Economic Studies associated with the Waste Isolation Pilot Plant.</li> </ul>	<b>26,131</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Provides no economic assistance to the State of New Mexico.</li> </ul>	<b>0</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provides no economic assistance to the State of New Mexico.</li> </ul>	<b>0</b>

Idaho

Funding Schedule by Activity

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Idaho National Laboratory			
Idaho Cleanup and Waste Disposition			
ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)	0	20,014	12,500
ID-0013 / Solid Waste Stabilization and Disposition	0	164,435	163,859
ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012	0	109,419	64,600
ID-0030B / Soil and Water Remediation-2012	0	86,701	155,648
Subtotal, Idaho Cleanup and Waste Disposition	0	380,569	396,607
Idaho Community and Regulatory Support			
ID-0100 / Idaho Community and Regulatory Support	0	4,100	3,000
Idaho National Laboratory			
ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)	7,900	0	0
ID-0013 / Solid Waste Stabilization and Disposition	169,760	0	0
ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012	149,350	0	0
ID-0030B / Soil and Water Remediation-2012	67,764	0	0
ID-0100 / Idaho Community and Regulatory Support	3,892	0	0
Subtotal, Idaho National Laboratory	398,666	0	0
Total, Idaho National Laboratory	398,666	384,669	399,607
Non-Defense Environmental Cleanup			
Small Sites			
Idaho National Laboratory			
ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense)	4,782	5,131	5,790
Total, Idaho	403,448	389,800	405,397

In FY 2012, the P.L. 112-74, Consolidated Appropriations Act, 2012 established new control points within the Defense Environmental Cleanup Appropriation.

The funding table below provides a comparable display of the impacted activities and a comparable display will be continued throughout this budget chapter to aid in budget review.

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Idaho National Laboratory			
Idaho Cleanup and Waste Disposition			
ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012	149,350	109,419	64,600
ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)	7,900	20,014	12,500
ID-0030B / Soil and Water Remediation-2012	67,764	86,701	155,648
ID-0013 / Solid Waste Stabilization and Disposition	169,760	164,435	163,859
Subtotal, Idaho Cleanup and Waste Disposition	394,774	380,569	396,607
Idaho Community and Regulatory Support			
ID-0100 / Idaho Community and Regulatory Support	3,892	4,100	3,000
Total, Idaho National Laboratory	398,666	384,669	399,607
Non-Defense Environmental Cleanup			
Small Sites			
Idaho National Laboratory			
ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense)	4,782	5,131	5,790
Total, Idaho	403,448	389,800	405,397

**Public Law Authorizations**

P. L. 112-74, Consolidated Appropriations Act, 2012

P. L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The Idaho Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. The Idaho Cleanup Project is responsible for the treatment, storage and disposition of a variety of radioactive and hazardous waste streams, removal and disposition of targeted buried waste, protection of the Snake River Plain Aquifer, removal or

**Environmental Management/  
Idaho**

deactivation of unneeded facilities, and the removal of DOE’s inventory of spent (used) nuclear fuel and high level waste from Idaho.

By FY 2015, the Idaho Site is expected to have achieved significant risk reduction, completed the Subsurface Disposal Area waste exhumation, removed all liquid tank waste from above the aquifer and closed the tank farm and will have placed all nuclear materials in safe storage ready for disposal.

The remaining work-scope will include any remaining legacy spent (used) nuclear fuel not acceptable for Nuclear Energy’s missions, including calcine disposition,

and final Comprehensive Environmental Response, Compensation and Liability Act capping requirement.

Direct maintenance and repair at the Idaho National Laboratory is estimated to be \$23,473,000.

### **Regulatory Framework**

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

**Federal Facility Agreement and Consent Order (1991)**: The Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory between DOE, the United States Environmental Protection Agency, and Idaho Department of Environmental Quality established a strategy and plan for cleanup at the Idaho Site. The agreement divides the Idaho Site into 10 waste area groups based on similar characteristics or geographic boundaries. Nine groups generally correspond to the Site's major facility areas. The tenth group assesses overall risk to the aquifer beneath the site, addresses sites outside the boundaries of the Idaho site's primary facility areas, and allows for inclusion of newly identified release sites.

**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 liquid 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 (used) nuclear fuel at the Idaho National Laboratory. The agreement specifies milestones such as the removal of all spent (used) nuclear fuel

from Idaho site by 2035 and treatment of liquid radioactive waste by December 31, 2012. In addition, all calcine waste must be road ready for shipment out of state by December 2035.

**Site Treatment Plan**: To fulfill requirements in the 1992 Federal Facility 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). The plan also has prescriptive schedules and requirements for processing of mixed waste. This enforceable plan was approved by the State of Idaho and is updated annually.

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

### **Program Accomplishments and Milestones**

The Idaho National Laboratory has implemented a strategy to complete the majority of Environmental Management clean up scope by the end of FY 2015, which will significantly reduce EM costs for infrastructure and surveillance and maintenance. The primary accomplishments for FY 2012 involve assigning priority to and achieving significant progress in disposition of legacy stored and buried transuranic waste, and treatment of liquid sodium bearing tank waste. By FY 2015, Idaho National Laboratory anticipates completing decontamination and decommissioning of EM buildings and facilities, soil and ground water cleanup, and closure of underground liquid waste tanks and associated piping and infrastructure. Following FY 2015, the remaining EM scope at Idaho National Laboratory will involve placing final burial ground covers; design, construction, and operation of the treatment system for stored calcine waste; treatment and disposition of Nuclear Energy's transuranic waste agreed to in the 2009 Nuclear Energy Environmental Liabilities Transfer; and decontamination

**Environmental Management/  
Idaho**

**FY 2013 Congressional Budget**

and demolition of Nuclear Energy facilities no longer having a mission.

During FY 2012 it is expected that the Idaho Site will complete the following major accomplishments:

- Complete the Remote Handled Waste systems final design.
- Begin Sodium Bearing Waste operations in anticipation of a FY 2013 completion.
- Process 4,000 cubic meters of waste managed as contact handled transuranic waste.

Current estimated Life-Cycle cost range \$21,995,000,000 to \$23,590,000,000; current projected closure date FY 2035 to FY 2044.

<u>Milestones</u>	<u>Date</u>
Complete Voluntary Consent Order Action Plan.	March 2011
Complete construction of the Sodium Bearing Waste project.	June 2011
Submitted renewal application for Fort St. Vrain independent Spent (used) Fuel Storage Installation to the Nuclear Regulatory Commission.	July 2011
Complete Phase I of Waste Area Group 3, Operable Unit 3-14 remedial action.	September 2011
Complete Repair of Three Mile Island Independent Spent (Used) Fuel Storage Installation concrete.	September 2012
Complete treatment of Sodium Bearing Waste.	December 2012
Establish sodium treatment capability.	June 2013

**Explanation of Changes**

The Department requests \$405,397,000 in FY-2013 for the Idaho Site, which is a 4 percent increase over the FY 2012 enacted appropriation level.

This request reflects the use of \$2,000,000 in Closure Site uncosted balances from prior years to offset on-going mission work at the Idaho National Laboratory. This strategy is consistent with the Department of Energy’s (Chief Financial Officer) guidance to utilize old, prior year uncosted balances to clear them off DOE’s financial records. The balances were originally appropriated in support of Fernald settlement/closeout charges, ongoing litigation support and contract close-out balances remaining from work with Kaiser-Hill.

**Environmental Management/  
Idaho**

The majority of the increase is related to Soil and Water remediation (+\$68,947,000). For more information please see the PBS level of detail located in the Explanation of Funding Changes section later in this chapter.

**Program Planning and Management**

Program planning and management at the Idaho Cleanup Project is conducted through the issuance and execution of contracts to large and small businesses. Idaho develops near-term-and long-term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule.

- The prime management and operating contractor at Idaho is CH2M-WG Idaho, LLC. This contract covers spent (used) nuclear fuel and high-level waste storage and disposition, including sodium bearing tank waste disposition, soil and groundwater remediation, and decommissioning work at the site through 2012.
- The Idaho Treatment Group, LLC performs waste processing at the Advanced Mixed waste Treatment Project. This contract is estimated at approximately \$417,000,000 and will run through 2015. The Idaho Treatment Group will be responsible for processing and disposing of transuranic waste and mixed low-level waste being stored at the Idaho site’s transuranic storage area.

**Strategic Management**

The Idaho site will identify disposal pathways and schedules for liquid sodium-bearing waste, tank farm closure, calcined waste, spent (used) nuclear fuel and wastes with no existing path at this time for disposal in time to meet key Idaho National Laboratory commitments.

The following factors present the strongest impacts to the overall achievement of the program’s strategic goal:

- 1) Availability of shipping assets (containers, tractors, trailers and drivers and shipping schedules) for the shipment of transuranic waste to the Waste Isolation Pilot Plant.
- 2) Availability of acceptable knowledge documentation.
- 3) Availability of spent nuclear fuel data, and inter-site coordination for foreign and domestic research reactor receipts; and off-site disposition of the high-level waste and spent nuclear fuel is required.



**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Develop novel methods for addressing high-level waste that can accelerate progress and reduce costs of this multidecadal program.</b>		
<b>Idaho Site Measure 1: Liquid Waste in Inventory eliminated (Thousands of Gallons)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	900	N/A
Current Year(Cumulative to date)	600	N/A
Prior Year(Cumulative to date)	100	0/Not Met
Analysis	<p>Through the elimination of the tank wastes at the Idaho site, the EM program is demonstrating tangible evidence of the program's goal to reduce the highest risks in the complex. The Department and its predecessor agencies generated radioactive liquid waste as a by-product of the production of nuclear weapons. The Idaho site has an estimated 900,000 gallons of highly radioactive waste from the legacy of the Cold War held in four tanks (discussed below). In the prior year, the EM program had targeted 100 thousand gallons of liquid waste. As of the end of FY 2011, the Idaho site has not eliminated any liquid waste.</p> <p>By reducing and disposing of the sodium-bearing tank wastes, EM is demonstrating tangible evidence of the program's goal to reduce the highest risks in the complex. By eliminating high-risk material, corresponding life-cycle cost reductions are achieved for an activity that is a major cost driver to the EM program. Through the use of the Environmental Management Engineering and Technology Roadmap, we will leverage our national laboratories' capabilities to provide technical solutions where none exist, improved solutions that enhance safety and operating efficiency, or technical alternatives that reduce cost, schedule, or performance risks. Deployment of the new technologies will reduce the life cycle and accelerate completion across the EM complex.</p> <p>For FY 2011, the Idaho site targeted a cumulative total of 100 thousand gallons of liquid waste to be eliminated. As of the end of FY 2011, the Idaho site had eliminated any liquid waste, falling short of its target for FY 2011 by 100 thousand gallons.</p>	

<b>Idaho Site Measure 2: Liquid Waste Tanks closed (Number of Tanks)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	11	N/A
Current Year(Cumulative to date)	11	N/A
Prior Year(Cumulative to date)	7	7/Met
Analysis	The Idaho site has four remaining underground tanks (seven tanks have already	

	<p>been closed through activities in prior years). These remaining tanks hold an estimated 900,000 gallons of highly radioactive waste from nuclear energy research and development. As the liquid tank waste is eliminated, the targeted tanks can be closed. The closure of the remaining tanks in the tank farm is a key measure of the EM program's goal to reduce the highest risks in the complex.</p> <p>For FY 2011 the Idaho site had set no targets for this metric; the Idaho site had closed 7 tanks in prior years.</p>
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<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Idaho Site Measure 3a: Transuranic Waste Dispositioned (Cubic meters) - Remote Handled</b>		
	<u><b>Target</b></u>	<u><b>Actual/ Met or Not Met</b></u>
Budget Year(Cumulative to date)	100	N/A
Current Year(Cumulative to date)	100	N/A
Prior Year(Cumulative to date)	96	100/Met
Analysis	<p>Management and removal of remote handled (RH) Transuranic (TRU) waste from the Idaho site directly supports risk reduction and the goal of reducing the EM site footprint. It should be noted that this metric directly support the Idaho Settlement Agreement which established a target that all TRU (both Contact Handled and Remote Handled) waste and alpha contaminated low-level waste would be out of the State of Idaho by end of calendar year 2015.</p> <p>For FY 2011 the Idaho site targeted a cumulative total of 96 cubic meters of RH TRU Waste to be removed from inventory. At the end of FY 2011, the Idaho site program removed 100 cubic meters of RH TRU waste from inventory, meeting its target.</p>	

<b>Idaho Site Measure 3b: Transuranic Waste Dispositioned (Cubic meters) - Contact Handled</b>		
	<u><b>Target</b></u>	<u><b>Actual/ Met or Not Met</b></u>
Budget Year(Cumulative to date)	57,993	N/A
Current Year(Cumulative to date)	50,389	N/A
Prior Year(Cumulative to date)	47,652	47,584/Not Met
Analysis	<p>Management and removal of contact handled (CH) Transuranic (TRU) waste from the Idaho site directly supports risk reduction and the goal of reducing the EM site footprint. It should be noted that this metric directly support the Idaho Settlement Agreement which established a target that all TRU (both Contact Handled and Remote Handled) waste and alpha contaminated low-level waste would be out of the State of Idaho by end of calendar year 2015.</p> <p>For FY 2011 the Idaho site targeted a cumulative total of 46,652 cubic meters of CH TRU waste to be removed from inventory by the Idaho site. At the end of FY 2011, the EM program removed 47,584 cubic meters of CH-TRU waste from inventory for the Idaho site, falling short of its target by 68 cubic meters.</p>	

<b>Idaho Site Measure 4: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	78120	N/A
Current Year(Cumulative to date)	73,177	N/A
Prior Year(Cumulative to date)	71,026	71,392/Met
Analysis	<p>Management and removal of legacy and newly generated low-level waste and mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint at the Idaho site. It should also be noted that these metrics directly support the Idaho Settlement Agreement which established a target that all TRU waste and alpha contaminated low-level waste would be out of the State of Idaho by end of calendar year 2015.</p> <p>For FY 2011 the Idaho site targeted a cumulative total of 71,026 cubic meters of legacy and newly generated low-level waste and mixed low-level waste to be disposed. At the end of FY 2011, the Idaho site disposed of 71,392 cubic meters of low-level/mixed low-level waste, exceeding its target by 366 cubic meters.</p>	

<b>Idaho Site Measure 5: Remediation Complete (Number of Release Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	554	N/A
Current Year(Cumulative to date)	554	N/A
Prior Year(Cumulative to date)	545	546/Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contamination also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Idaho site targeted a cumulative total of 545 release sites to be completed. By the end of FY 2011 the Idaho site had completed a cumulative total of 546 release sites at the site, exceeding its target by one release site.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

**Explanation of Funding Changes**

**(Dollars In Thousands)**

	<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>	<b>FY 2013 vs FY 2012</b>
<b>Defense Environmental Cleanup</b>			
<b>Idaho National Laboratory</b>			
<b>Idaho Cleanup and Waste Disposition</b>			
<b>ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)</b>			
▪ The decrease is due to a smaller amount of EBR-II fuel being retrieved from storage.	20,014	12,500	-7,514
<b>ID-0013 / Solid Waste Stabilization and Disposition</b>			
▪ No significant change.	164,435	163,859	-576
<b>ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012</b>			
▪ The decrease is due to treatment of the majority of the 900,000 gallons of radioactive liquid waste located in underground tanks through the Sodium Bearing Waste facility in FY 2012. Treatment will be complete in early FY 2013, meeting compliance requirements.	109,419	64,600	-44,819
<b>ID-0030B / Soil and Water Remediation-2012</b>			
▪ The increase reflects the retrieval of buried waste and shipment activities to the Waste Isolation Pilot Plant previously funded by the American Recovery and Reinvestment Act in FY 2012 returning to base program. Funding at requested level will allow shipments (approximately 490) to the Waste Isolation Pilot Plant to continue at a rate similar to previous years.	86,701	155,648	+68,947
<b>Idaho Community and Regulatory Support</b>			
<b>ID-0100 / Idaho Community and Regulatory Support</b>			
▪ The decrease reflects a reduction of groundwater monitoring and sub-surface investigations in FY 2013.	4,100	3,000	-1,100
<b>Non-Defense Environmental Cleanup</b>			
<b>Small Sites</b>			
<b>ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense)</b>			
▪ Increase allows for implementation of Nuclear Regulatory Commission license renewal for Three Mile Island-2.	5,131	5,790	+659
<b>Total, Idaho</b>	<b>389,800</b>	<b>405,397</b>	<b>15,597</b>

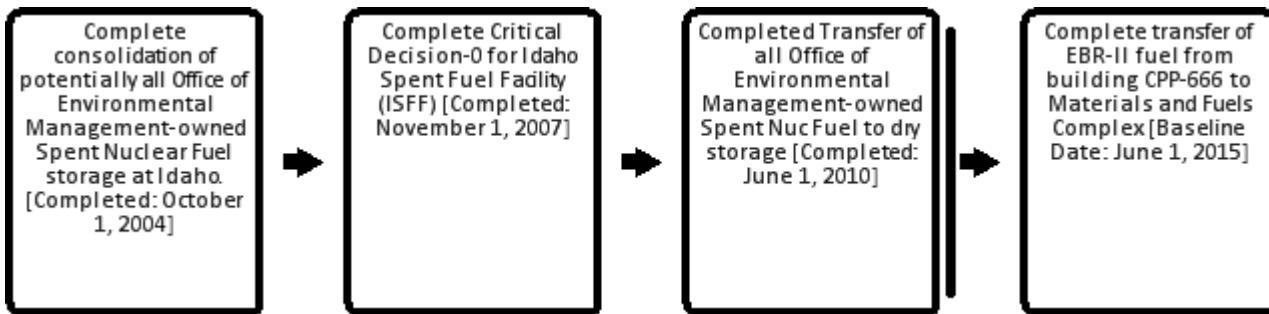
**SNF Stabilization and Disposition-2012 (Defense) (PBS: ID-0012B-D)**

**Overview**

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

This project includes safe and secure storage of legacy spent (used) nuclear fuel through 2012 and managing the receipt of off-site spent (used) nuclear fuel shipments. EM currently manages and stores approximately 262 metric tons of spent (used) nuclear fuel at the Idaho Site and in Colorado. The EM plan includes the receipt of approximately 22 metric tons of spent nuclear fuel from off-site locations, including Foreign and Domestic Research Reactor spent (used) nuclear fuel from FY 2005 through FY 2027. From FY 2005 to FY 2011 .7 metric tons of spent (used) nuclear fuel has been received and .03 metric tons is projected to be received in FY 2012.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Maintained the Chemical Processing Plant building-666 with accompanying spent (used) nuclear fuel.</li> <li>▪ Maintained all dry spent (used) nuclear fuel storage facilities.</li> <li>▪ Received and unload one shipment of domestic research reactor spent (used) nuclear fuel.</li> </ul>	<b>7,900</b>

	<ul style="list-style-type: none"> <li>▪ Stored incoming shipments of Advanced Test Reactor fuel in Chemical Processing Plant building-666.</li> <li>▪ Conducted scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Maintain the Chemical Processing Plant building-666 with accompanying spent (used) nuclear fuel.</li> <li>▪ Maintain all dry spent (used) nuclear fuel storage facilities.</li> <li>▪ Receive and store up to 31 shipments of Advanced Test Reactor spent (used) nuclear fuel.</li> <li>▪ Retrieve and unload one shipment of Domestic and Foreign Research Reactor spent (used) nuclear fuel.</li> <li>▪ Retrieve EBR II fuel from storage for transfer to the Materials and Fuels Complex.</li> <li>▪ Conduct scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel and capability to re-license facilities to advance spent (used) nuclear fuel packaging to achieve cost reductions, and to initiate activities to identify, characterize, and develop treatment technologies for challenging materials.</li> </ul>	<b>20,014</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain the Chemical Processing Plant building-666 with accompanying spent (used) nuclear fuel.</li> <li>▪ Maintain all dry spent (used) nuclear fuel storage facilities.</li> <li>▪ Receive and unload one shipment of Domestic and Foreign Research Reactor spent (used) nuclear fuel.</li> <li>▪ Retrieve EBR II fuel from storage for transfer to the Materials and Fuels Complex.</li> <li>▪ Conduct scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel.</li> </ul>	<b>12,500</b>

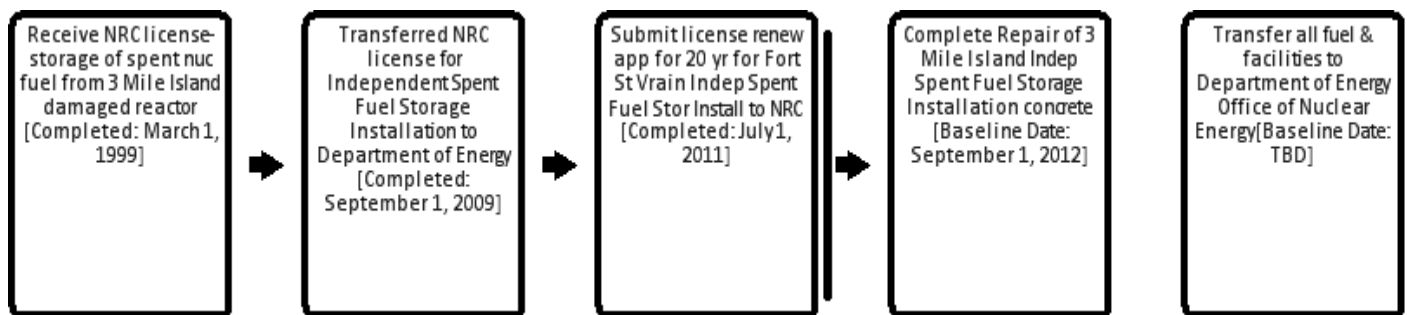
**SNF Stabilization and Disposition-2012 (Non-Defense) (PBS: ID-0012B-N)**

**Overview**

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

The purpose of this project is to maintain and operate the Nuclear Regulatory Commission licensed Independent Spent (Used) Fuel Storage Installations in accordance with license basis documents. This includes the management of approximately 15 metric tons of spent (used) 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 (Used) Nuclear Fuel Storage Installations and payment of licensing fees for the Idaho Spent (Used) Fuel Facility that is designed and licensed, but not yet built.

**Sequence**



**Benefits**

Proliferation Benefits	<ul style="list-style-type: none"> <li>▪ We have been successfully mitigating the technically challenging risks and have made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided payments to the Nuclear Regulatory Commission for licensing-related activities related to both Fort St. Vrain and Three Mile Island-2 Spent (Used) Nuclear Fuel.</li> <li>▪ Provided security for Fort St. Vrain Spent (Used) Nuclear Fuel.</li> <li>▪ Continue to monitor Three Mile Island-2 Spent (Used) Nuclear Fuel.</li> </ul>	<b>4,782</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide payments to the Nuclear Regulatory Commission for licensing-related activities related to both Fort St. Vrain and Three Mile Island-2 Spent (Used) Nuclear Fuel.</li> </ul>	<b>5,131</b>

	<ul style="list-style-type: none"> <li>▪ Provide security for Fort St. Vrain Spent (Used) Nuclear Fuel.</li> <li>▪ Continue to monitor Three Mile Island-2 Spent (Used) Nuclear Fuel.</li> <li>▪ Complete repair of Three Mile Island Independent Spent (Used) Fuel Storage Installation concrete.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide payments to the Nuclear Regulatory Commission to implement license and for licensing-related activities related to both Fort St. Vrain and Three Mile Island-2 Spent (Used) Nuclear Fuel.</li> <li>▪ Provide security for Fort St. Vrain Spent (Used) Nuclear Fuel.</li> <li>▪ Continue to monitor Three Mile Island-2 Spent (Used) Nuclear Fuel.</li> <li>▪ Implement Nuclear Regulatory Commission license renewal for Three Mile Island-2.</li> </ul>	<b>5,790</b>



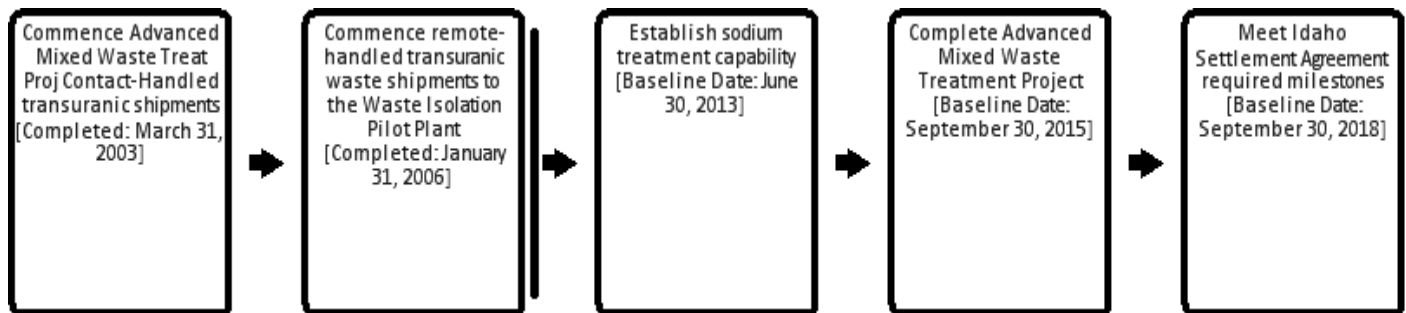
**Solid Waste Stabilization and Disposition (PBS: ID-0013)**

**Overview**

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

This waste treatment and disposal activity accelerates the disposition of stored transuranic waste, low-level waste, Resource Conservation and Recovery Act hazardous waste, and mixed low-level waste backlog; closes on-site low-level waste disposal facilities at the Radioactive Waste Management Complex; and accelerates the consolidation of waste management facilities to reduce operating costs. The various waste inventories to be disposed by this project were generated primarily by other DOE sites and also active operations at the Idaho Site. Completion of these activities is necessary for reducing the footprint and completing cleanup of the site.

**Sequence**



**Benefits**

Waste Disposition and Disposal	<ul style="list-style-type: none"> <li>Transuranic waste and low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Provided for site-wide environmental compliance.</li> <li>Provided maintenance and operation of the Radioactive Waste Management Complex infrastructure including utility systems, project management, engineering, training, environmental safety and health and quality assurance. This project also includes monitoring of air, water, soils, and biota surveillance.</li> <li>Met requirements of the Idaho Settlement Agreement and Site Treatment Plan by disposing of remote-handled low-level waste at the Radioactive Waste Management Complex disposal pit; characterize and certify remote-handled transuranic waste at</li> </ul>	<b>169,760</b>

	<p>the Idaho Nuclear Technology and Engineering Center in preparation for shipment to the Waste Isolation Pilot Plant; prepare facilities and equipment for transfer and treatment of sodium contaminated remote-handled transuranic and mixed low-level waste; and receive, characterize, certify, transuranic waste from other DOE sites in preparation for shipment to the Waste Isolation Pilot Plant.</p> <ul style="list-style-type: none"> <li>▪ Shipped 4,500 m<sup>3</sup> of contact-handled transuranic waste to the Waste Isolation Pilot Plant.</li> <li>▪ Disposed mixed low-level and low-level waste off-site.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide for site-wide environmental compliance.</li> <li>▪ Provide maintenance and operation of the Radioactive Waste Management Complex infrastructure including utility systems, project management, engineering, training, environmental safety and health and quality assurance. This project also includes monitoring of air, water, soils, and biota surveillance.</li> <li>▪ Meet requirements of the Idaho Settlement Agreement and Site Treatment Plan by disposing of remote-handled low-level waste at the Radioactive Waste Management Complex disposal pit; characterize and certify remote-handled transuranic waste at the Idaho Nuclear Technology and Engineering Center in preparation for shipment to the Waste Isolation Pilot Plant; prepare facilities and equipment for transfer and treatment of sodium contaminated remote-handled transuranic and mixed low-level waste; and receive, characterize, certify, transuranic waste from other DOE sites in preparation for shipment to the Waste Isolation Pilot Plant.</li> <li>▪ Ship 4,500 m<sup>3</sup> of contact-handled transuranic waste to the Waste Isolation Pilot Plant.</li> <li>▪ Dispose mixed low-level and low-level waste off-site.</li> <li>▪ Complete the Remote Handled Waste systems final design.</li> </ul>	<b>164,435</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide for site-wide environmental compliance.</li> <li>▪ Maintain and operate the Radioactive Waste Management Complex infrastructure including utility systems, project management, engineering, training, environmental safety and health and quality assurance. This project also includes monitoring of air, water, soils, and biota surveillance.</li> <li>▪ Meet requirements of the Idaho Settlement Agreement and Site Treatment Plan by disposing of remote-handled low-level waste at the Radioactive Waste Management Complex disposal pit; characterize and certify remote-handled transuranic waste at the Idaho Nuclear Technology and Engineering Center in preparation for shipment to the Waste Isolation Pilot Plant; prepare facilities and equipment for transfer and treatment of sodium contaminated remote-handled transuranic and mixed low-level waste; and receive, characterize, certify, transuranic waste from other DOE sites in preparation for shipment to the Waste Isolation Pilot Plant.</li> <li>▪ Ship 4,500 m<sup>3</sup> of contact-handled transuranic waste to the Waste Isolation Pilot Plant.</li> <li>▪ Dispose mixed low-level and low-level waste off-site.</li> </ul>	<b>163,859</b>

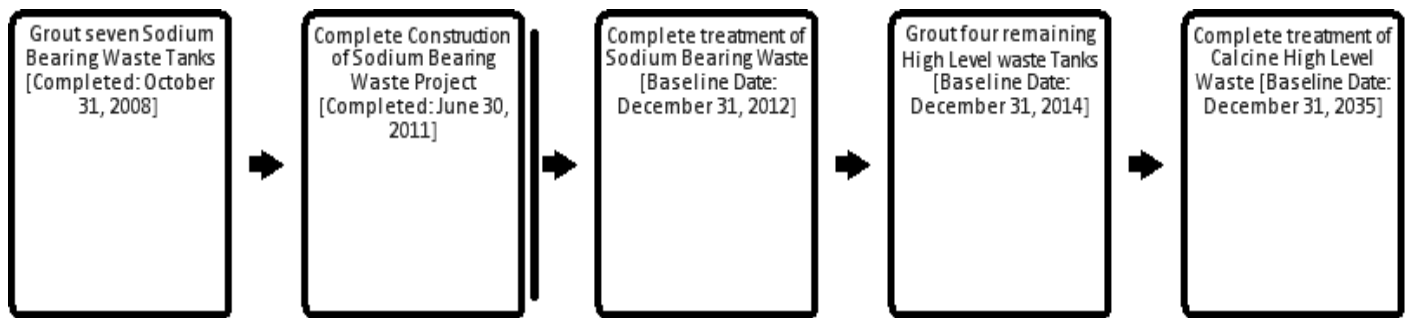
**Radioactive Liquid Tank Waste Stabilization and Disposition-2012 (PBS: ID-0014B)**

**Overview**

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

The overall objectives of this project are to treat and dispose of the sodium-bearing tank waste; close the tank farm tanks, associated piping and infrastructure, and operate and maintain Idaho Nuclear Technology and Engineering Center. This project also includes activities to support the preparation of stored high-level waste calcine for final disposition. Completion of this project will close the last 4 high-level liquid waste tanks and cap the tank farm area leading to the reduction of the most significant environmental, safety and health threat.

**Sequence**



**Benefits**

Maximize Success of Construction and Operations Outcomes	<ul style="list-style-type: none"> <li>High-level waste disposal activities using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
Develop novel methods for addressing high-level waste that can accelerate progress and reduce cost	<ul style="list-style-type: none"> <li>Improved solutions in waste disposal, modular tank waste treatment, and next-generation melters for waste vitrification enhance safety and operating efficiency, and/or technical alternatives that reduce cost, schedule, or performance risks.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Evaluated calcine waste for formulation and design activities to ensure submittal of a Resource Conservation and Recovery Act Part B permit to the State by December 2012.</li> <li>Completed construction of the Sodium Bearing Waste project.</li> <li>Maintained tank farm and systems necessary for safe delivery of sodium bearing waste until treatment is complete.</li> <li>Provided acceptable Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for the process waste system, support laboratories, and existing process facilities.</li> </ul>	<b>149,350</b>

FY 2012	<ul style="list-style-type: none"> <li>▪ Begin Sodium Bearing waste operations in anticipation of a December 2012 completion.</li> <li>▪ Maintain tank farm and systems necessary for safe delivery of sodium bearing waste until treatment is complete.</li> <li>▪ Provide acceptable Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for the process waste system, support laboratories, and existing process facilities.</li> </ul>	<b>109,419</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Complete Sodium Bearing waste operations by December 2012.</li> <li>▪ Complete preparation and submittal of Resource Conservation and Recovery Act Part B permit Modification Request to the State by December 1, 2012, in support of the Calcine Project.</li> <li>▪ Maintain tank farm and systems necessary for safe delivery of sodium bearing waste until treatment is complete.</li> <li>▪ Continue providing acceptable Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for the process waste system, support laboratories, and existing process facilities.</li> <li>▪ Initiate tank heel removal, flushing and other cleaning, grouting and activities supporting Resource Conservation and Recovery Act closure of the final four high-level waste tanks.</li> </ul>	<b>64,600</b>

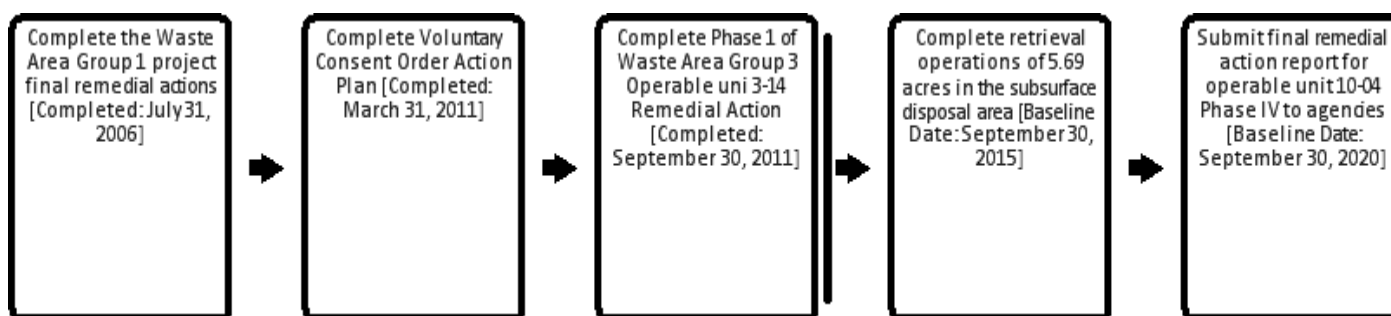
## Soil and Water Remediation-2012 (PBS: ID-0030B)

### Overview

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

The objective of this project is remediation of contaminated soil and groundwater and closure of legacy Comprehensive Environmental Response, Compensation, and Liability Act sites at the Idaho National Laboratory Site. Voluntary Consent Order scope for closure of tanks and facilities also contributes to reduction of risk to the Snake River Plain Aquifer. Completion of this project will contribute to reducing the footprint and the completion of the Idaho Cleanup project.

### Sequence



### Benefits

Cleanup Benefits	<ul style="list-style-type: none"> <li>Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Retrieved, characterized/treated and disposed of targeted buried waste.</li> <li>Continued groundwater treatment and monitoring at Waste Area Group 1 (Test Area North).</li> <li>Maintained remedies at Waste Area Group 2 (Test Reactor Area); Waste Area Group 4 (Central Facility Area); Waste Area Group 5 (Power Burst Facility/Auxiliary Reactor Area); and Waste Area Group 6 (Experimental Breeder Reactor/BORAX).</li> <li>Implemented the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 3 (Operable Unit-3-14) (Idaho Nuclear Technology and Engineering Center) tank farm soils and groundwater.</li> <li>Implemented the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit 10-08 (Site wide) site wide ground water, miscellaneous sites, and future sites.</li> <li>Implemented the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit-10-04) unexploded</li> </ul>	<b>67,764</b>

	<p>ordinances.</p> <ul style="list-style-type: none"> <li>▪ Completed buried waste retrieval operations in Accelerated Retrieval Project-IV over Pit 5 (0.79 acres).</li> <li>▪ Initiated buried waste retrieval operations in Accelerated Retrieval Project-V over Pit 9 (0.55 acres) and in Accelerated Retrieval Project-VI over Pit 4, west (0.40 acres).</li> <li>▪ Completed the FY 2010 Comprehensive Environmental Response, Compensation, and Liability Act remediation effectiveness Site-wide five year review.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide risk reduction through implementation of the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for buried transuranic waste at the Waste Area Group 7 (Radioactive Waste Management Complex) subsurface disposal area.</li> <li>▪ Ship retrieved Waste Area Group 7 buried targeted waste to the Waste Isolation Pilot Plant.</li> <li>▪ Continue groundwater treatment and monitoring at Waste Area Group 1 (Test Area North).</li> <li>▪ Maintain remedies at Waste Area Group 2 (Test Reactor Area); Waste Area Group 4 (Central Facility Area); Waste Area Group 5 (Power Burst Facility/Auxiliary Reactor Area); and Waste Area Group 6 (Experimental Breeder Reactor/BORAX).</li> <li>▪ Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for the Waste Area Group 3 (Operable Unit 3-14) (Idaho Nuclear Technology and Engineering Center) tank farm soils and groundwater.</li> <li>▪ Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit 10-08 (Site wide) site wide ground water, miscellaneous sites, and future sites.</li> <li>▪ Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit 10-04) unexploded ordinance.</li> <li>▪ Retrieve buried waste from the Subsurface Disposal Area (0.20 acres).</li> </ul>	<b>86,701</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide risk reduction through implementation of the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for buried transuranic waste at the Waste Area Group 7 (Radioactive Waste Management Complex) subsurface disposal area.</li> <li>▪ Ship retrieved Waste Area Group 7 buried targeted waste to the Waste Isolation Pilot Plant.</li> <li>▪ Maintain the remedies at Waste Area Group 2 (Test Reactor Area); Waste Area Group 4 (Central Facility Area); Waste Area Group 5 (Power Burst Facility/Auxiliary Reactor Area); and Waste Area Group 6 (Experimental Breeder Reactor/BORAX).</li> <li>▪ Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for the Waste Area Group 3 (Operable Unit 3-14) (Idaho Nuclear Technology and Engineering Center) tank farm soils and groundwater.</li> <li>▪ Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group (Operable Unit 10-08 (Site wide) site wide ground water, miscellaneous sites, and future sites.</li> <li>▪ Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit 10-04) unexploded ordinance.</li> <li>▪ Maintain Radioactive Waste Management Complex infrastructure.</li> <li>▪ Retrieve buried waste from the Subsurface Disposal Area (0.20 acres).</li> </ul>	<b>155,648</b>

**Idaho Community and Regulatory Support (PBS: ID-0100)**

**Overview**

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

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

- 1) State of Idaho Department of Environmental Quality (Resource Conservation and Recovery Act compliance, and Air Quality Permitting Fees-Federal Facility Agreement/Consent Order).
- 2) The United States Geological Survey performs groundwater monitoring and subsurface investigation on the regional (Eastern Snake River Plain Aquifer) and sub-regional (site-wide) scale for the Idaho Site.
- 3) The Idaho Site Citizens Advisory Board is chartered by the DOE as an EM Site-Specific Advisory Board.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve Contract and Project Management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Continued the groundwater monitoring and subsurface investigation with analysis of contaminants and transport mechanisms affecting the Snake River Aquifer, both on-site and off-site.</li> <li>▪ Paid fees for the Title V Air Permit and technical assistance for air quality compliance.</li> <li>▪ Provided the State of Idaho Department of Environmental Quality support for Resource Conservation and Recovery Act oversight, Federal Facilities Agreement/Consent Order, and monitoring and grants.</li> </ul>	<b>3,892</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue the groundwater monitoring and subsurface investigation with analysis</li> </ul>	<b>4,100</b>

	<p>of contaminants and transport mechanisms affecting the Snake River Aquifer, both on-site and off-site.</p> <ul style="list-style-type: none"> <li>▪ Payment of fees for the Title V Air Permit and technical assistance for air quality compliance.</li> <li>▪ Provide grant to the State of Idaho Department of Environmental Quality.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue groundwater monitoring and subsurface investigation with analysis of contaminants and transport mechanisms affecting the Snake River Aquifer, both on-site and off-site.</li> <li>▪ Payment of fees for the Title V Air Permit and technical assistance for air quality compliance.</li> <li>▪ Provide grant to the State of Idaho Department of Environmental Quality.</li> </ul>	<b>3,000</b>



Oak Ridge

Funding Schedule by Activity

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Oak Ridge			
Building 3019			
OR-0011Z / Downblend of U-233 in Building 3019	0	37,000	0
Oak Ridge			
OR-0011Z / Downblend of U-233 in Building 3019	28,600	0	0
OR-0013B / Solid Waste Stabilization and Disposition-2012	41,930	0	0
OR-0041 / Nuclear Facility D&D-Y-12	26,006	0	0
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory	51,100	0	0
OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense)	4,500	0	0
Subtotal, Oak Ridge	152,136	0	0
OR Cleanup and Disposition			
OR-0013B / Solid Waste Stabilization and Disposition-2012	0	85,900	109,470
OR Nuclear Facility D&D			
OR-0041 / Nuclear Facility D&D-Y-12	0	30,000	26,528
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory	0	39,000	40,895
OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)	0	100	102
Subtotal, OR Nuclear Facility D&D	0	69,100	67,525
OR Reservation Community and Regulatory Support			
OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense)	0	6,409	4,500
Total, Oak Ridge	152,136	198,409	181,495
Uranium Enrichment Decontamination and Decommissioning Fund			
Oak Ridge			
Oak Ridge			

OR-0040 / Nuclear Facility D&D-East			
Tennessee Technology Park (D&D Fund)	0	182,747	207,798
OR-0102 / East Tennessee Technology Park			
Contract/Post-Closure			
Liabilities/Administration	0	18,109	0
Subtotal, Oak Ridge	0	200,856	207,798
D&D Activities			
Oak Ridge			
OR-0040 / Nuclear Facility D&D-East			
Tennessee Technology Park (D&D Fund)	222,906	0	0
OR-0102 / East Tennessee Technology Park			
Contract/Post-Closure			
Liabilities/Administration	8,800	0	0
Subtotal, Oak Ridge	231,706	0	0
Pension and Community and Regulatory Support			
Oak Ridge			
OR-0102 / East Tennessee Technology Park			
Contract/Post-Closure			
Liabilities/Administration	0	0	13,140
Total, Uranium Enrichment Decontamination and Decommissioning Fund	231,706	200,856	220,938
Total, Oak Ridge	383,842	399,265	402,433

In FY 2012, the P.L. 112-74, Consolidated Appropriations Act, 2012 established new control points within the Defense Environmental Cleanup Appropriation.

The funding table below provides a comparable display of the impacted activities and a comparable display will be continued throughout this budget chapter to aid in budget review.

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Oak Ridge			
Building 3019			
OR-0011Z / Downblend of U-233 in Building 3019	28,600	37,000	0
OR Cleanup and Disposition			
OR-0013B / Solid Waste Stabilization and Disposition-2012	41,930	85,900	109,470
OR Nuclear Facility D&D			
OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory	51,100	39,000	40,895
OR-0041 / Nuclear Facility D&D-Y-12	26,006	30,000	26,528
OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)	0	100	102
Subtotal, OR Nuclear Facility D&D	77,106	69,100	67,525
OR Reservation Community and Regulatory Support			
OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense)	4,500	6,409	4,500
Total, Oak Ridge	152,136	198,409	181,495
Uranium Enrichment Decontamination and Decommissioning Fund			
Oak Ridge			
Oak Ridge			
OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)	222,906	182,747	207,798
Pension and Community and Regulatory Support			
Oak Ridge			
OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration	8,800	18,109	13,140
Total, Uranium Enrichment Decontamination and Decommissioning Fund	231,706	200,856	220,938
Total, Oak Ridge	383,842	399,265	402,433

## **Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

## **Overview**

The Oak Ridge Reservation Site will support the Department's Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment.

The EM Program Portfolio in Oak Ridge is comprised of three geographic locations, located in an urban area and co-located with ongoing Department missions. The three geographic locations are:

- The East Tennessee Technology Park site occupies approximately 5,000 acres adjacent to the Clinch River and is located approximately 13 miles west of Oak Ridge, Tennessee. Approximately 2,200 of these acres are to be addressed under the Comprehensive Environmental Response, Compensation and Liability Act. The site is a former gaseous diffusion plant that was shut down in 1984. It is currently being transitioned to a private sector industrial park.
- The Oak Ridge National Laboratory covers 3,300 acres. Oak Ridge National Laboratory currently conducts multi-program and energy research activities. Historically, Oak Ridge National Laboratory supported both the defense production operations and civilian energy research efforts. Manhattan Project and Cold War era legacies co-exist with modernized laboratory facilities.
- The Y-12 National Security Complex site is 811 acres that was a uranium processing facility and now dismantles nuclear weapons components and serves as one of the nation's storehouses for special nuclear materials. Manhattan Project and Cold War era legacies co-exist with revitalized national security facilities at the Y-12 National Security Complex site. The Environmental Management Waste Management Facility (a Comprehensive Environmental Response, Compensation and Liability Act disposal facility supporting cleanup of all three sites) is also located at Y-12 National Security Complex.

A key element to the overall success of the EM mission at Oak Ridge is the presence of Regulatory drivers that are in place to continue and/or complete the work necessary to meet milestones contained within the Oak Ridge Federal Facility Agreement and Site Treatment Plan with the U.S. Environmental Protection Agency and/or the State of Tennessee.

Direct maintenance and repair at the East Tennessee Technology Park is estimated to be \$10,049,000 in FY 2013.

## **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. In conjunction with the Federal Facility Agreement, DOE, the Environmental Protection Agency and the Tennessee Department of Environment and Conservation signed the Oak Ridge Accelerated Cleanup Plan Agreement on June 18, 2002. The purpose of this Agreement was to describe a streamlined decision-making process to facilitate the accelerated implementation of cleanup activities, to resolve any 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 and transuranic wastes under the Resource Conservation and Recovery Act. This order establishes milestones to complete treatment of all Oak Ridge mixed low-level wastes with a known disposition path by 2012 (accomplished in 2011). This order also establishes milestones for processing and shipment of transuranic Wastes.

- 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 requires substantive annual progress in disposition of polychlorinated biphenyl contaminated waste at Oak Ridge.

**Program Accomplishments**

The Oak Ridge EM Integrated Program Plan reflects the need and priority for remediating the cold war nuclear weapons production legacy to protect health and the environment, and meet regulatory commitments. During FY 2012, it is expected that the Oak Ridge EM Program will complete the following major accomplishments:

Current estimated Life-Cycle cost range \$10,422,000,000 - \$10,677,000,000; current projected closure dates 2021 - 2022.

**Explanation of Changes**

The Department requests \$402,433,000 in FY 2013 for the Oak Ridge site, which is a one percent increase over the FY 2012 enacted appropriation level. This request reflects the use of \$2,000,000 in Closure Site uncosted balances from prior years to offset ongoing mission work at the Oak Ridge Site. This strategy is consistent with the Department of Energy’s Chief Financial Officer guidance to utilize old, prior year uncosted balances to clear them off DOE’s financial records. The balances were originally appropriated in support of Fernald settlement/closeout charges, ongoing litigation support and contract close-out balances remaining from work with Kaiser-Hill.

The FY 2013 request reflects realignment from PBS OR-0011Z (-\$37,000,000) to PBS OR-0013B; increase of waste management activities for direct disposition scope for uranium-233 material (+\$23,570,000); and an increase to East Tennessee Technology Park decontamination and decommissioning due to acceleration of demolition preparation in the East Wing of the K-25 Building Project (+\$25,051,000).

- Continue structural demolition of 18 building units in the East Wing of Building K-25 at the East Tennessee Technology Park.
- Complete demolition preparation for final five units of the East Wing and North End of K-25 building.
- Complete processing of 80 cubic meters of remote-handled and 179 cubic meters of contact-handled transuranic waste.
- Initiate the transfer of the uranium-233 inventory in Building 3019, to the National Nuclear Security Administration Device Assembly Facility in Nevada.
- Complete decommissioning of Central Neutralization Facility at the East Tennessee Technology Park.

<u>Milestones</u>	<u>Date</u>
Complete remediation of approximately 1,400 acres in Zone 1 under Comprehensive Environmental Response Compensation and Liability Act	2011
Complete demolition of K-33 Building	2011

**Program Planning and Management**

Program planning and management at Oak Ridge is conducted through the issuance and execution of contracts to large and small businesses. Oak Ridge develops near- and long- term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. Current contracts at Oak Ridge include:

- Wastren Advantage contract for treatment and disposition of transuranic waste at the Transuranic Waste Processing center, covering the period from 2009 – 2013 with renewal option to 2015,
- URS/CH2M Hill (UCOR) contract for decontamination and decommissioning of surplus buildings and legacy soil and groundwater remediation at the East Tennessee Technology Park (former uranium gaseous diffusion plant), covering the period 2011 – 2016 with an option to 2020,
- Isotek contract for disposition of uranium 233 with a base period of 2003 – 2007 with an option through 2017; and, various other existing site contracts through other departmental elements for decontamination and decommissioning, and soil and groundwater

remediation at Oak Ridge National Laboratory and the Y-12 National Security Complex.

A key component of cleanup success in Oak Ridge is continued partnering with regulatory agencies and stakeholders. The Oak Ridge Reservation Federal Facilities Agreement and the Site Treatment Plan were enacted among DOE, U.S. Environmental Protection Agency and/or the Tennessee Department of Environment and Conservation to promote cooperation. Milestones for completion of cleanup efforts are established under the Federal Facility Agreement and provide a mechanism for ensuring that Oak Ridge Reservation cleanup priorities are developed in collaboration with all stakeholders to reduce risk and protect public health and the environment.

**Strategic Management**

The Oak Ridge cleanup strategies consist of near-term goals to pursue; (1) removal of one-half of the uranium-233 nuclear/radiological inventory; (2) continuing transuranic waste processing at the Oak Ridge National Laboratory; (3) an environmental plan to continue to address mercury releases at the Y-12 National Security Complex; and (4) a lifecycle cost plan to complete demolition of Buildings K-25 and K-27 at the East Tennessee Technology Park.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Oak Ridge Site Measure 1a: Transuranic Waste Dispositioned (Cubic meters) - Remote Handled</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	70	N/A
Current Year(Cumulative to date)	13	N/A
Prior Year(Cumulative to date)	4	4/Met
Analysis	<p>Management and removal of remote handled transuranic waste across the EM complex directly supports risk reduction and the goal of reducing the EM site footprint.</p> <p>For FY 2011, the Oak Ridge Site had not targeted any remote handled transuranic to be removed from the inventory; all targeted work for this metric for the site had been completed in prior years.</p>	

<b>Oak Ridge Site Measure 1b: Transuranic Waste Dispositioned (Cubic meters) - Contact Handled</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	236	N/A
Current Year(Cumulative to date)	147	N/A
Prior Year(Cumulative to date)	82	82/Met
Analysis	Management and removal of contact handled transuranic waste across the EM	

	<p>complex directly supports risk reduction and the goal of reducing the EM site footprint.</p> <p>For FY 2011, the Oak Ridge Site had not targeted any contact handed transuranic waste to be removed from the inventory; all targeted work for this metric for the site had been completed in prior years.</p>
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<b>Oak Ridge Site Measure 2: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	125,418	N/A
Current Year(Cumulative to date)	125,274	N/A
Prior Year(Cumulative to date)	125,274	124,710/Not Met
Analysis	<p>Management and removal of legacy and newly generated low-level waste and mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint at the Oak Ridge site. It should be noted that Disposition of Oak Ridge waste is dependent on the Nevada National Security Site, Energy Solutions (formerly known as Envirocare Clive, Utah facility) for low-level, and mixed low-level waste disposal.</p> <p>For FY 2011 the Oak Ridge site targeted a cumulative total of 125,274 cubic meters of legacy and newly generated low-level waste and mixed low-level waste to be disposed. At the end of FY 2011, Oak Ridge disposed a cumulative total of 124,710 cubic meters of low-level waste and mixed low-level waste, falling short of its target by 564 cubic meters.</p>	

<b>Oak Ridge Site Measure 3: Radioactive Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	28	N/A
Current Year(Cumulative to date)	28	N/A
Prior Year(Cumulative to date)	28	27/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning of excess legacy facilities measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing the number of facilities that have reached their end state. 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 indicator of EM's progress towards the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities. Footprint is also achieved through soil and groundwater remediation as measured by release site completions.</p> <p>For FY 2011 the Oak Ridge site targeted a cumulative total of 28 Radioactive Facilities to be completed. At the end of FY 2011, the Oak Ridge site completed a cumulative total of 27 Radioactive facilities, falling short of its target by one</p>	

	facility.
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<b>Oak Ridge Site Measure 4: Industrial Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	377	N/A
Current Year(Cumulative to date)	377	N/A
Prior Year(Cumulative to date)	376	370/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning of excess legacy facilities measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing the number of facilities that have reached their end state. 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 indicator of EM's progress towards the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities. Footprint is also achieved through soil and groundwater remediation as measured by release site completions.</p> <p>For FY 2011 the Oak Ridge site targeted a cumulative total of 376 Industrial facilities to be completed. At the end of FY 2011, the Oak Ridge site completed a cumulative total of 370 industrial facilities, falling short of its target by six facilities.</p>	

<b>Oak Ridge Site Measure 5: Remediation Complete (Number of Release Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	444	N/A
Current Year(Cumulative to date)	444	N/A
Prior Year(Cumulative to date)	444	440/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contamination also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the Oak Ridge Site targeted a cumulative total of 444 release sites to be completed. At the end of FY 2011 the Oak Ridge site had completed a cumulative total of 440 release sites, four release sites short of its target.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.



**Explanation of Funding Changes**

(Dollars In Thousands)

FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
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**Defense Environmental Cleanup**

**Oak Ridge**

**Building 3019**

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

- Decrease of \$37,000,000 reflects the transfer of uranium-233 disposition scope from PBS OR-0011Z to PBS OR-0013B. No further work on uranium-233 disposition will be funded out of this PBS beginning in FY 2013 and the uranium-233 disposition scope will be transferred to PBS OR-0013B due to the suspension of the capital project and initiation of direct disposition.
 

	37,000	0	-37,000
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**OR Cleanup and Disposition**

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

- Increase of \$23,570,000 reflects transfer of uranium-233 disposition scope from PBS OR-0011Z for direct disposition of uranium-233 material to PBS OR-0013B. The capital project of the uranium-233 has been suspended and the remaining scope, disposition of the material stored in building 3019, aligns with the waste management scope of PBS OR-0013B.
 

	85,900	109,470	+23,570
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**OR Nuclear Facility D&D**

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

- Decrease reflects completion of characterization activities at the Y-12 National Security Complex.
 

	30,000	26,528	-3,472
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**OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory**

- Increase reflects additional decontamination and decommissioning cleanup in the Central Campus area of the Oak Ridge National Laboratory.
 

	39,000	40,895	+1,895
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**OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)**

- No significant change.
 

	100	102	+2
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**OR Reservation Community and Regulatory Support**

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

- The decrease reflects reduced support for environmental oversight grants for state of Tennessee Maintenance and Operation and Federal Facility Agreement regulators.
 

	6,409	4,500	-1,909
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**Uranium Enrichment Decontamination and Decommissioning Fund**

**Oak Ridge**

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

- Increase reflects acceleration of demolition activities in the East Wing of the K-25 Building and associated waste disposal operations.
 

	182,747	207,798	+25,051
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**Pension and Community and Regulatory Support**

**OR-0102 / East Tennessee Technology Park Contract/Post-Closure**

**Environmental Management/  
Oak Ridge**

**FY 2013 Congressional Budget**

**Liabilities/Administration**

- Decrease reflects reduced costs associated with pension and post retirement life and medical benefits.

	18,109	13,140	-4,969
<b>Total, Oak Ridge</b>	<b>399,265</b>	<b>402,433</b>	<b>3,168</b>

## Downblend of U-233 in Building 3019 (PBS: OR-0011Z)

### Overview

This PBS is within the Defense Environmental Cleanup appropriation.

Oak Ridge maintains DOE inventory of uranium-233 currently stored in Building 3019 at the Oak Ridge National Laboratory. Uranium-233 is a special nuclear material which requires strict safeguards and security controls to protect against access. The primary objectives of this project are to: 1) eliminate safety and nuclear criticality concerns; and 2) prepare the material for disposal. Disposing the uranium-233 inventory will reduce the substantial annual costs associated with safeguards and security requirements, which are funded by the Office of Science. Further, the risk of a nuclear criticality event will be eliminated as well as the need for future facility upgrades to Building 3019 to ensure safe storage of the inventory.

The Defense Nuclear Facilities Safety Board issued Recommendation 97-1, *Safe Storage of Uranium-233*, has identified concerns related to long-term storage of the inventory in Building 3019. In addition, the Uranium-233 Project received approval of the performance baseline (Critical Decision 2) and limited construction/dismantling (Critical Decision 3A) on May 25, 2007.

In FY 2013, the work scope for Uranium-233 disposition project funded out of this PBS will be transferred to PBS OR-0013B due to the change in nature of the scope, which suspended the capital project associated with PBS OR-0011Z and initiated the direct disposition of waste material located in Building 3019. The direct disposition aligns with the waste management scope in OR-0013B.

### Sequence

There are no milestones associated with this PBS.

### Benefits

Waste and Nuclear Disposition and Disposal	<ul style="list-style-type: none"><li>Transuranic waste, low-level waste, and nuclear material disposition are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li></ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"><li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to furthering other priorities of the Department.</li></ul>

<b>Funding and Activity Schedule</b>		
<b>Fiscal Year</b>	<b>Activity</b>	<b>Funding (dollars in thousands)</b>
FY 2011	<ul style="list-style-type: none"> <li>▪ Maintained safe and secure storage of the nation's uranium-233 inventory, which requires Category 1 Security and compliance with 10 Code of Federal Regulations 830 and 835 for a category II nuclear facility.</li> <li>▪ Completed design of the Building 3019 modifications necessary for dissolution and down-blending of the inventory, and certify for construction.</li> <li>▪ Completed the Phase I and Phase II alternatives analysis in support of the identification of any potentially more efficient disposition pathways for the inventory.</li> <li>▪ Initiated planning and preparation for shipment of portions of the inventory which the Phase I analysis concluded could be direct-disposed (i.e. without processing) which will be executed under PBS OR-0013B.</li> </ul>	<b>28,600</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue required surveillance and maintenance and other activities at Building 3019 to maintain a safe and secure condition (using \$17,500,000 of uncosted carryover funds).</li> <li>▪ Complete the transfer of Zero Power Reactor plates, a component of the uranium-233 inventory in Building 3019, to the National Nuclear Security Administration Device Assembly Facility in Nevada.</li> <li>▪ Conduct planning and preparation for shipment of Consolidated Edison Uranium Solidification Project material from the uranium-233 inventory to the Nevada National Security Site disposal facility.</li> </ul>	<b>37,000</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ The scope for the Uranium-233 disposition project will be transferred and funded out of PBS OR-0013B.</li> </ul>	<b>0</b>

## Solid Waste Stabilization and Disposition-2012 (PBS: OR-0013B)

### Overview

This PBS is within the Defense Environmental Cleanup appropriation.

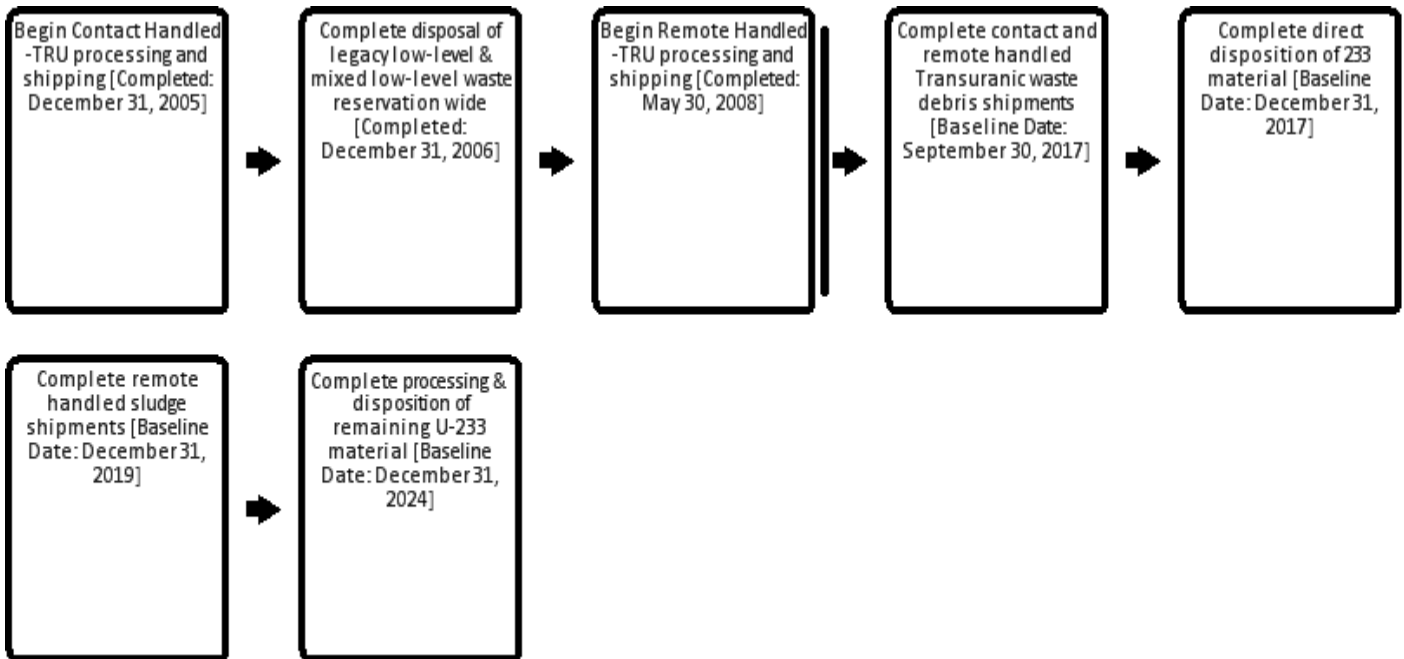
This PBS funds storage and Resource Conservation and Recovery Act storage, closure, treatment and disposal of low-level, mixed low-level, hazardous, industrial, and sanitary waste from the East Tennessee Technology Park, Oak Ridge National Laboratory, and Polychlorinated Biphenyl Federal Facility Compliance Agreement mixed waste from Y-12. It also includes the operation and closure/decommission of the Toxic Substances Control Act Incinerator and the Central Neutralization Facility. In addition, this PBS funds the disposition of the Oak Ridge Reservation transuranic waste and the disposition of waste stored at East Tennessee Technology Park. Contact-handled transuranic debris processing was initiated in FY 2006 and processing of remote-handled transuranic debris started in FY 2008 at the Transuranic Waste Processing Center. Processed waste is transferred to the Waste Isolation Pilot Plant or the Nevada National Security Site for disposal.

Beginning in FY 2013, this PBS funds the processing and disposition of the Oak Ridge Reservation uranium-233 waste inventory which have been determined to be eligible for transfer to other DOE programs or for direct disposition (i.e. without processing). Oak Ridge maintains DOE's inventory of uranium-233 currently stored in Building 3019 at the Oak Ridge National Laboratory. Uranium-233 is a special nuclear material which requires strict safeguards and security controls to protect against access. The primary objectives of this project are to: eliminate safety and nuclear criticality concerns; and prepare the material for disposal. Disposing the uranium

-233 inventories will reduce the substantial annual costs associated with safeguards and security requirements, which are funded by the Office of Science, as well as annual costs associated with operation of an aging category II nuclear facility. Further, the risk of a nuclear criticality event will be eliminated as well as the need for future facility upgrades to Building 3019 to ensure safe storage of the inventory. In Fiscal Year 2013, Oak Ridge will complete necessary modifications of the Type B shipping container, and all other preparations for shipment of the Consolidation Edison Uranium Solidification Project material to the Nevada National Security Site; initiate shipments for permanent disposal, and achieve a cumulative disposition of approximately 25% of the entire uranium-233 inventory in Building 3019. If the Phase II analysis indicates that capital improvements are not required to enable uranium-233 processing, begin processing of the remaining uranium-233 inventory will be dispositioned by the end of 2017.

The Defense Nuclear Facilities Safety Board issued Recommendation 97-1, *Safe Storage of Uranium-233*, identified concerns related to long-term storage of the inventory in Building 3019. In addition, the uranium-233 Project received approval of the performance baseline (Critical Decision 2) and limited construction/dismantling (Critical Decision 3A) on May 25, 2007.

**Sequence**



**Benefits**

Waste and Nuclear Material Disposition and Disposal	<ul style="list-style-type: none"> <li>Transuranic waste and low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further. Disposition of Nuclear Material will reduce costs by reducing the need for intensive safeguards and security, and surveillance and maintenance.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to furthering other priorities of the Department.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Managed and stored mixed low-level waste in compliance with regulations.</li> <li>Continued to process, store and transfer remote-handled and contact-handled transuranic waste at the Transuranic Waste Processing Center.</li> <li>Maintained regulatory safety basis documents and permits for, and operate, waste storage facilities.</li> <li>Continued shipment of Polychlorinated biphenyls contaminated waste in accordance with the Federal Facility Compliance Agreement.</li> <li>The transuranic waste disposition activities typically covered in this project was executed with American Reinvestment &amp; Recovery Act funding.</li> </ul>	<b>41,930</b>

FY 2012	<ul style="list-style-type: none"> <li>▪ Continue to manage and store mixed low-level and transuranic waste in compliance with regulations.</li> <li>▪ Maintain regulatory safety basis documents and permits and operate waste storage facilities at the East Tennessee Technology Park and the Oak Ridge National Laboratory.</li> <li>▪ Initiate retrieval, treatment, packaging, and shipment for disposal of Solid Waste Storage Area 5 waste.</li> <li>▪ Continue to manage storage and transfers of transuranic waste bound for the Transuranic Waste Processing Facility.</li> <li>▪ Continue processing and disposal of contact-handled and remote-handled transuranic waste to meet regulatory milestones.</li> <li>▪ Treat and ship mixed low-level wastes to off-site disposal.</li> <li>▪ Complete decommissioning of Central Neutralization Facility.</li> <li>▪ Prepare transuranic waste for certification, shipment, and disposal at the Waste Isolation Pilot Plant.</li> <li>▪ Operate Hexavalent Chromium Water treatment system.</li> <li>▪ Transfer scope for transuranic waste processing from American Reinvestment Recovery Act to PBS OR-0013B.</li> </ul>	<b>85,900</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue to manage and store mixed low-level and transuranic waste in compliance with regulations.</li> <li>▪ Maintain regulatory safety basis documents and permits and operate waste storage facilities at the East Tennessee Technology Park and the Oak Ridge National Laboratory.</li> <li>▪ Continue retrieval, treatment, packaging and shipment for disposal of Solid Waste Storage Area 5 waste.</li> <li>▪ Continue transfers of transuranic waste bound for the Transuranic Waste Processing Facility.</li> <li>▪ Continue processing and disposal of contact-handled and remote-handled transuranic waste to meet regulatory milestones.</li> <li>▪ Treat and ship mixed low-level waste to off-site disposal.</li> <li>▪ Initiate construction of the sludge buildout capital project.</li> <li>▪ Initiate shipments of Consolidated Edison Uranium Solidification Project material from the uranium-233 inventory to offsite disposal.</li> <li>▪ Continue required surveillance and maintenance and other activities at Building 3019 to maintain a safe and secure condition.</li> <li>▪ Initiate planning for processing of the remaining uranium-233 inventory.</li> </ul>	<b>109,470</b>

## Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund) (PBS: OR-0040)

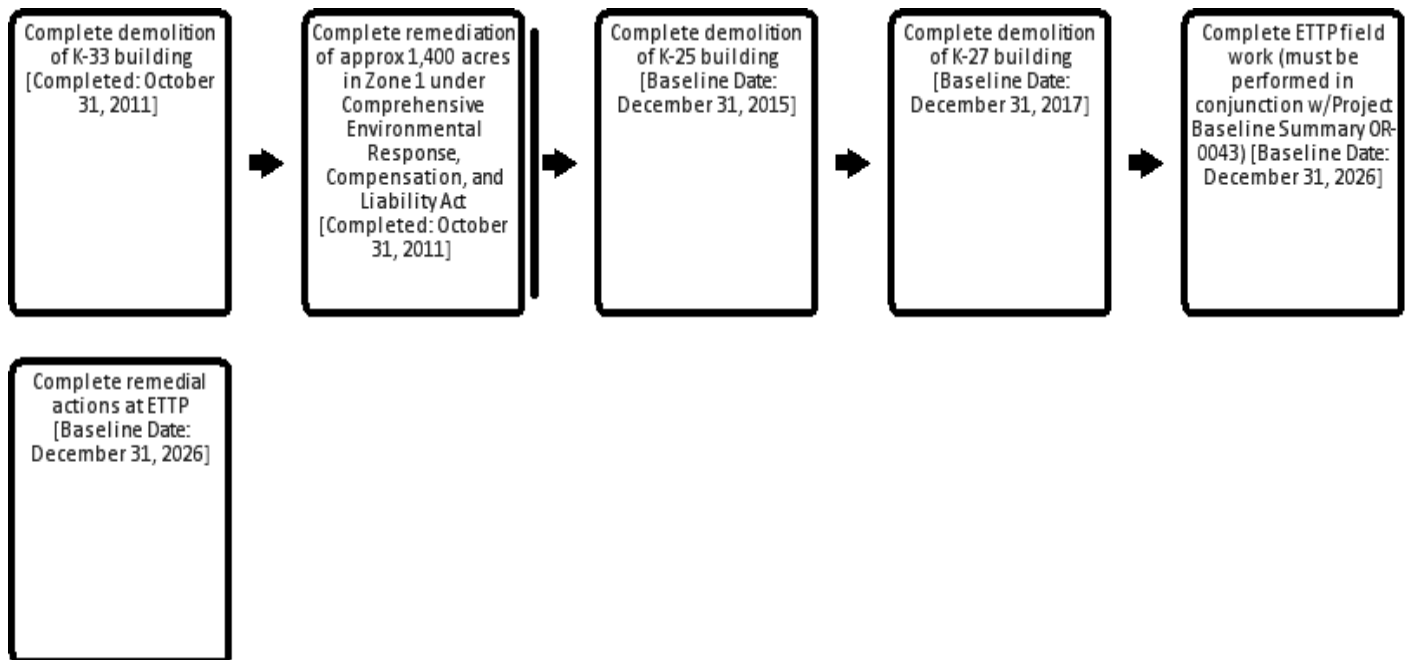
### Overview

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

This PBS funds decommissioning and decontamination of facilities and remedial actions for contaminated sites at the East Tennessee Technology Park. It also funds the site infrastructure services. Approximately 2,200 acres of the 5,000 acres at the site contain potential contamination, including known groundwater contaminant plumes from former burial grounds and contaminated soils. This PBS includes approximately 165 release sites requiring remediation and 500 facilities (125 major buildings) requiring decommissioning and decontamination. The decommissioning and demolition of the K-25 gaseous diffusion process-building is the top priority because of worker safety concerns stemming from the continuing deteriorating condition of the building. The scope of the K-25 building subproject is to abate the hazardous materials; remove the process equipment and excess materials stored in the buildings; demolish the building structures; and appropriately characterize, package, transport and dispose of all the associated wastes. The scope of this PBS also includes the decontamination and decommissioning of other facilities (including planning, deactivation of utilities, asbestos and other hazardous material abatement, equipment dismantlement and disposal, structure demolition and waste disposition); 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 end state of the site will be appropriate for industrial use for all areas of land down to a grade of ten feet below the surface.

### Sequence





**Benefits**

<p>Waste and Nuclear Material Disposition and Disposal</p>	<ul style="list-style-type: none"> <li>▪ This project is driven by three Records of Decision which address soils, surface water, groundwater, sediment and ecological protection. This site is contaminated with various radioactive elements, mercury, asbestos, polychlorinated biphenyls and industrial waste. Completion of the scope associated with this PBS will result in reduction of risks to the environment, and the public.</li> <li>▪ Completion of the K-25 building will result in disposal of approximately 280,000 cubic meters of mixed low level waste.</li> </ul>
<p>Benefits to the Department for Footprint Reduction</p>	<ul style="list-style-type: none"> <li>▪ Completion of decontamination and demolition and remedial actions at East Tennessee Technology Park will result in the removal of approximately 5,000 administrative acres from the Department’s footprint (2,200 acres under the Comprehensive Environmental Response Compensation and Liability Act action).</li> <li>▪ Demolition of facilities will result in reduced surveillance and maintenance costs.</li> <li>▪ Demolition of the K-25 building will reduce the footprint by 1,400,000 square feet (44 acres) and save approximately \$8,000,000 per year in surveillance and maintenance costs.</li> <li>▪ Completion of the scope for this PBS will result in approximately \$60,000,000 per year savings for base operation and infrastructure activities conducted to maintain the site in a safe configuration.</li> </ul>

<p><b>Funding and Activity Schedule</b></p>		
<p>Fiscal Year</p>	<p>Activity</p>	<p>Funding (dollars in thousands)</p>
<p>FY 2011</p>	<ul style="list-style-type: none"> <li>▪ Conducted base operation activities at the East Tennessee Technology Park to provide infrastructure and support to the cleanup project.</li> <li>▪ Maintained East Tennessee Technology Park in a safe and secure condition.</li> <li>▪ Conducted pre-demolition activities in preparation for demolition of the East Wing and North End of the K-25 Building.</li> <li>▪ Initiated structural demolition of the K-25 East Wing (non – Technetium 99 Units)</li> <li>▪ Provided infrastructure support for decontamination and decommissioning and remedial action projects.</li> </ul>	<p><b>222,906</b></p>
<p>FY 2012</p>	<ul style="list-style-type: none"> <li>▪ Maintain East Tennessee Technology Park in a safe and secure condition.</li> <li>▪ Continue base operations activities at the East Tennessee Technology Park to provide infrastructure and support to the cleanup projects.</li> <li>▪ Continue characterization of K-25 East Wing Technetium 99 area and develop the Waste Handling Plan in support of K-25 East Wing gaseous diffusion equipment removal and demolition.</li> <li>▪ Continue High Risk Equipment removal in the K-25 East Wing and North End.</li> <li>▪ Continue removal of gaseous diffusion equipment from the North End of K-25.</li> <li>▪ Complete National Historical Preservation Act negotiations consultation for the K-25 North End.</li> <li>▪ Begin demolition of remaining high risk Poplar Creek facilities, in accordance with the milestone.</li> <li>▪ Support Research &amp; Development for Mercury Integration Project and advanced</li> </ul>	<p><b>182,747</b></p>

	<p>monitoring systems.</p> <ul style="list-style-type: none"> <li>▪ Support Research &amp; Development for Transformational Characterization Technologies and Remote Systems for Equipment Removal and Dismantlement.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain East Tennessee Technology Park in a safe and secure condition.</li> <li>▪ Continue base operations activities at the East Tennessee Technology Park to provide infrastructure and support to cleanup projects.</li> <li>▪ Continue characterization of K-25 East Wing Technetium 99 area in support of K-25 East Wing gaseous diffusion equipment removal and demolition.</li> <li>▪ Continue High Risk Equipment removal in the K-25 East Wing and North End.</li> <li>▪ Continue removal of gaseous diffusion equipment from the North End of K-25.</li> <li>▪ Continue demolition of the K-25 Building and dispose of associated wastes.</li> <li>▪ Continue demolition of remaining high risk Poplar Creek facilities, in accordance with the milestone.</li> </ul>	<b>207,798</b>

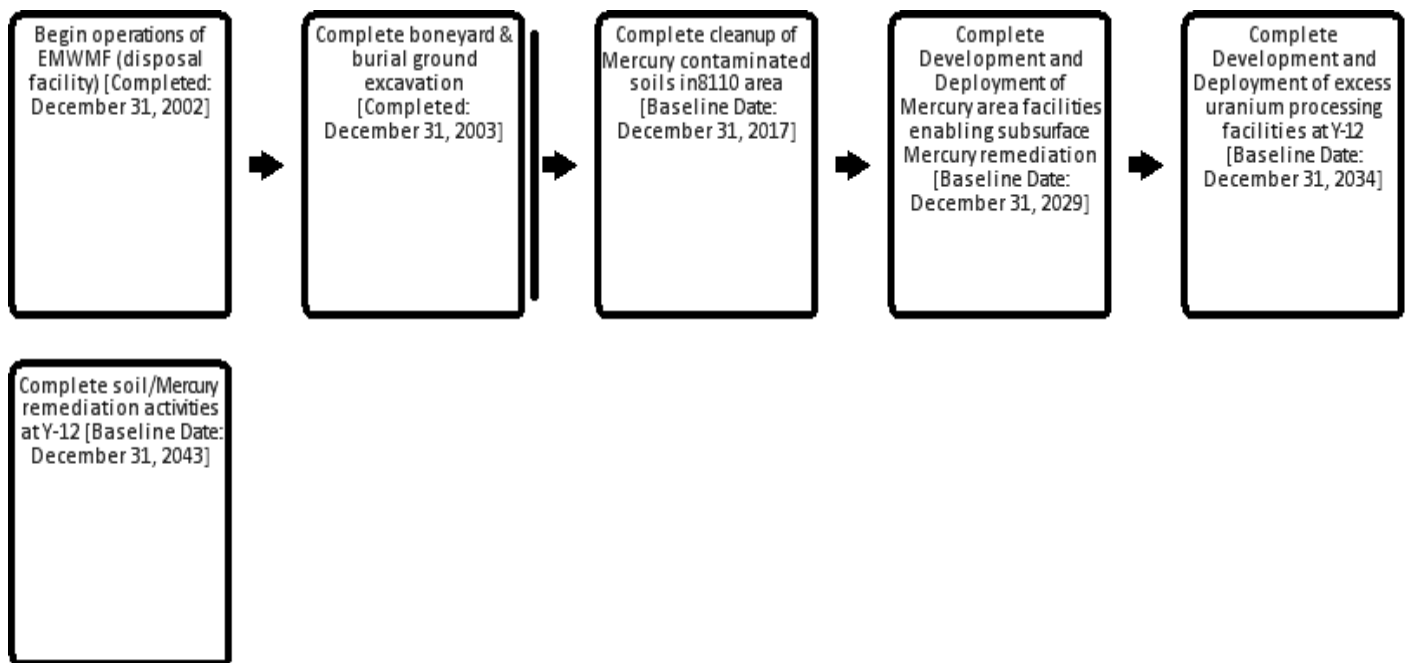
## Nuclear Facility D&D-Y-12 (PBS: OR-0041)

### Overview

This PBS is within the Defense Environmental Cleanup appropriation.

This PBS funds the cleanup at the Y-12 National Security Complex, which is a significant contributor of mercury, radio nuclides, volatile organic compounds, and polychlorinated biphenyls contamination to the Upper East Fork of Poplar Creek that flows through the City of Oak Ridge. The work of Y-12 focuses on high-risk reduction projects in the near-term; surveillance and maintenance of current surplus facilities awaiting future decontamination and decommissioning; and groundwater and surface water monitoring to assess the effectiveness of completed cleanup actions that support future remediation decisions identified in Comprehensive Environmental Response, Compensation, and Liability Act Records of Decision. Funds also support the cost-effective cleanup of the Oak Ridge Reservation through the construction and operation of the Environmental Management Waste Management Facility (maximum capacity of 2,200,000 cubic yards) and the Oak Ridge Reservation Landfills for disposition of waste from all on-site DOE program offices. A total of \$18,000,000 in payments to a State of Tennessee trust fund will provide funding for the perpetual care of the Environmental Management Waste Management Facility after final closure.

### Sequence



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup. Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to furthering other priorities of the Department.</li> </ul>
Reduce transfer of onsite contaminants to offsite surface water systems.	<ul style="list-style-type: none"> <li>Mercury pollution abatement activities will be conducted to reduce the flux of mercury contaminants to Upper East Fork Poplar Creek, until the sources of contamination can be remediated.</li> </ul>
Operate safe, compliant waste disposal operations in support of Oak Ridge Reservation D&D and cleanup activity.	<ul style="list-style-type: none"> <li>Operations at multiple landfills at Y-12 will continue to service the disposal needs for cleanup operations, principally for the ETPP site.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Complied with legal agreements between the DOE, United States Environmental Protection Agency, Region 4, and the State of Tennessee; environmental laws and regulations; and DOE Order requirements for Environmental Management Waste Management Facility operations; groundwater and surface water monitoring; surveillance and maintenance of waste sites and inactive facilities; and preparation of an annual remediation effectiveness report.</li> <li>Operated Environmental Management Waste Management Facility and other Oak Ridge Reservation Landfills to receive wastes from demolition and remedial activities in accordance with DOE Order requirements for groundwater and surface water monitoring, including Environmental Management Waste Management Facility waste acceptance criteria attainment activities.</li> <li>Completed initial characterization of 81-10 Mercury Area.</li> <li>A portion of the scope of work typically covered in this project was executed with American Recovery and Reinvestment Act funding including Old Salvage Yard remediation and West End Mercury Area storm water remediation.</li> </ul>	<b>26,006</b>
FY 2012	<ul style="list-style-type: none"> <li>Comply with legal agreements between the DOE, United States Environmental Protection Agency, Region 4, and the State of Tennessee; environmental laws and regulations; and DOE Order requirements for Environmental Management Waste Management Facility operations; groundwater and surface water monitoring; surveillance and maintenance of waste sites and inactive facilities; and preparation of an annual remediation effectiveness report.</li> <li>Operate Environmental Management Waste Management Facility and other Oak Ridge Reservation Landfills to receive wastes from demolition and remedial activities in accordance with DOE Order requirements for groundwater and surface water monitoring, including Environmental Management Waste Management Facility waste acceptance criteria attainment activities.</li> <li>Continue operations of the Oak Ridge Reservation landfills to support disposal of sanitary waste and building debris from environmental cleanup and DOE program</li> </ul>	<b>30,000</b>

	activities on the Oak Ridge Reservation.	
FY 2013	<ul style="list-style-type: none"> <li>▪ Comply with legal agreements between the DOE, United States Environmental Protection Agency, Region 4, and the State of Tennessee; environmental laws and regulations; and DOE Order requirements for Environmental Management Waste Management Facility operations; groundwater and surface water monitoring; surveillance and maintenance of waste sites and inactive facilities; and preparation of an annual remediation effectiveness report.</li> <li>▪ Operate Environmental Management Waste Management Facility and other Oak Ridge Reservation Landfills to receive wastes from demolition and remedial activities in accordance with DOE Order requirements for groundwater and surface water monitoring, including Environmental Management Waste Management Facility waste acceptance criteria attainment activities.</li> <li>▪ Complete characterization activities for Y-12 National Security Complex land area formerly housing the Building 81-10 Mercury Recovery Facility using American Recovery and Reinvestment Act funding.</li> </ul>	<b>26,528</b>

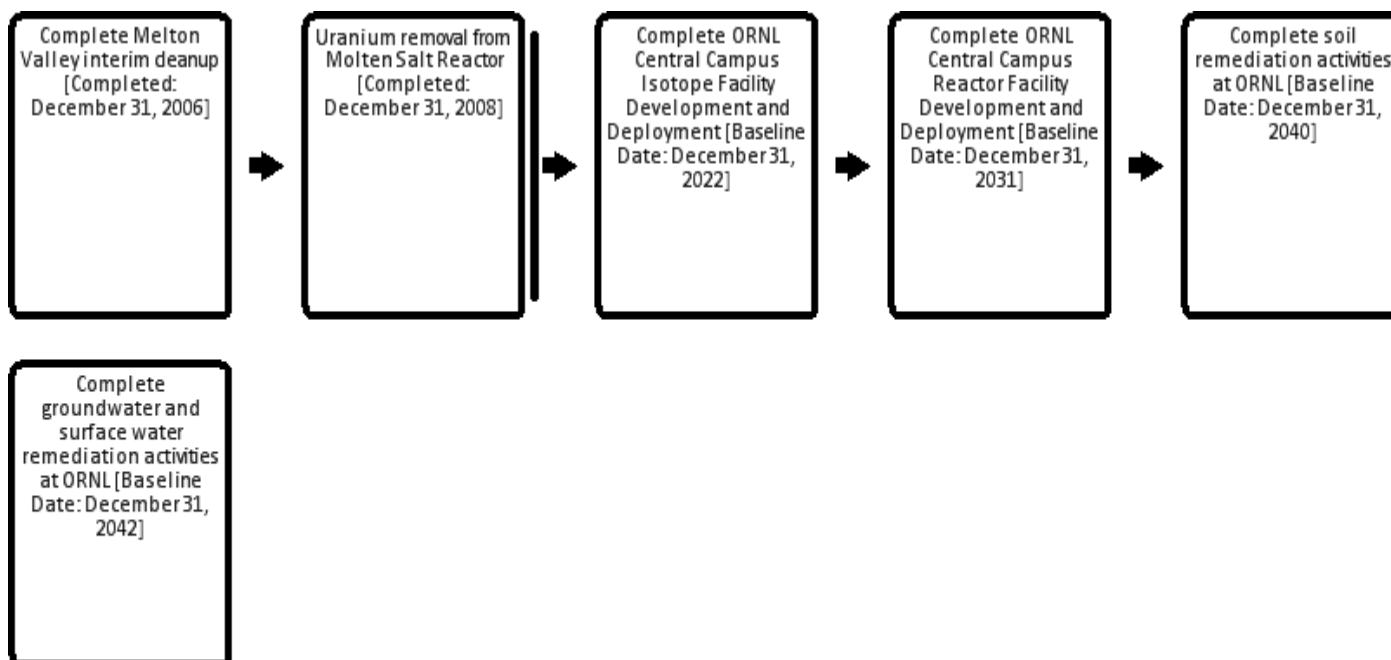
## Nuclear Facility D&D-Oak Ridge National Laboratory (PBS: OR-0042)

### Overview

This PBS is within the Defense Environmental Cleanup appropriation.

This PBS funds areas requiring remediation including more than 200 inactive facilities (including several inactive research reactors and isotope production facilities), three contaminated groundwater plumes, contaminated surface water, and numerous areas of soil and sediment contamination, including highly contaminated sediments from surface impoundments located adjacent to White Oak Creek. The activities performed under this PBS will ensure worker safety and mitigate the potential for contaminant release. This PBS also includes surveillance and maintenance activities to maintain contaminated sites in accordance with safety basis documents until final decommissioning, decontamination and remedial actions are undertaken; and it includes maintaining liquid, gaseous and process waste operations systems in support of the Office of Science and Environmental Management missions.

### Sequence



### Benefits

Waste and Nuclear Material Disposition and Disposal	<ul style="list-style-type: none"> <li>▪ Continue to provide for safe, compliant disposition of liquid and gaseous wastes generated by ongoing mission and cleanup operations at Oak Ridge National Laboratory. Reduce risk through the removal of nuclear materials located in the midst of Oak Ridge National Laboratory.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing decommissioned facilities at Oak Ridge National Laboratory, while reducing Science mission risks posed by the continued presence of deteriorating, contaminated facilities within the Oak Ridge National Laboratory.</li> </ul>

<b>Funding and Activity Schedule</b>		
<b>Fiscal Year</b>	<b>Activity</b>	<b>Funding (dollars in thousands)</b>
FY 2011	<ul style="list-style-type: none"> <li>▪ Monitored groundwater and surface water in accordance with the Melton Valley and Bethel Valley Records of Decision.</li> <li>▪ Performed surveillance and maintenance for Environmental Management inactive facilities and reactors at the Oak Ridge National Laboratory to maintain a safe and compliant condition.</li> <li>▪ Maintained liquid, gaseous and process waste operations systems in support of the missions of the Offices of Environmental Management and Science.</li> <li>▪ Performed surveillance and maintenance required by the Melton Valley Comprehensive Environmental Response, Compensation and Liability Act Record of Decision and for inactive facilities and reactors at the Oak Ridge National Laboratory.</li> </ul>	<b>51,100</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Monitor groundwater and surface water in accordance with the Melton Valley and Bethel Valley Record of Decision.</li> <li>▪ Perform surveillance and maintenance required by the Melton Valley Comprehensive Environmental Response Compensation and Liability Act Record of Decision and for inactive facilities and reactors at the Oak Ridge National Laboratory.</li> <li>▪ Maintain liquid, gaseous and process waste operations systems in support of the Office of Science and Environmental Management missions.</li> <li>▪ Develop a Molten Salt Reactor Experiment Remediation Strategy plan.</li> <li>▪ Deactivate and decommission of contaminated isotope facilities at the Oak Ridge National Laboratory in compliance with Federal Facility Enforceable Agreement Milestones, using American Reinvestment &amp; Recovery Act funding.</li> </ul>	<b>39,000</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain liquid, gaseous and process waste operations systems in support of the Office of Science and Environmental Management missions.</li> <li>▪ Perform surveillance and maintenance required by the Melton Valley Comprehensive Environmental Response Compensation and Liability Act Record of Decision and for inactive facilities and reactors at the Oak Ridge National Laboratory.</li> <li>▪ Monitor groundwater and surface water in accordance with the Melton Valley and Bethel Valley Comprehensive Environmental Response Compensation and Liability Act Records of Decision.</li> </ul>	<b>40,895</b>

## Nuclear Facility D&D-East Tennessee Technology Park (Defense) (PBS: OR-0043)

### Overview

This PBS is within the Defense Environmental Cleanup appropriation.

This PBS, in combination with PBS OR-0040, Nuclear Facility Decontamination and Decommissioning East Tennessee Technology Park (Uranium Enrichment Decontamination and Decommissioning Fund) will accomplish the closure of East Tennessee Technology Park which will result in a significant reduction in the Department's liability. This PBS funds decontamination, decommissioning, and demolition 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 PBS also provides for the surveillance and maintenance required to maintain the Centrifuge facilities in accordance with safety basis documents while they await decontamination and decommissioning.

### Sequence

There are no milestones associated with this PBS.

### Benefits

Waste and Nuclear Material Disposition and Disposal	<ul style="list-style-type: none"><li>▪ The demolition of the facilities is driven by the Remaining Facilities Action memorandum and the need to reduce surveillance and maintenance as well as security costs. Following decontamination and decommissioning, the two Record of Decisions which address soils, surface water, groundwater, sediment and ecological protection, will drive the site cleanup. The site is contaminated with various radioactive elements, mercury, asbestos, polychlorinated biphenyls, and industrial waste. Completion of the scope associated with this PBS will result in reduction of risks to the environment, and the public.</li><li>▪ Completion of the Centrifuge facilities will result in disposal of approximately 14,000 cubic meters of mixed low level waste.</li></ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"><li>▪ Demolition of the Centrifuge facilities at East Tennessee Technology Park will result in a footprint reduction of approximately 170,000 square feet and will reduce the inventory of facilities by 17. Demolitions of these facilities are also required to complete the mission of cleaning up the East Tennessee Technology Park. The completion of East Tennessee Technology Park will result in the removal of 5,000 acres from the Department's footprint (2,200 acres under the Comprehensive Environmental Response Compensation and Liability Act action).</li><li>▪ Completion of environmental cleanup activities reduces the surveillance and</li></ul>



	<p>maintenance costs associated with managing large tracts of land, while having the potential to furthering other priorities of the Department.</p>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ No activities are planned.</li> </ul>	<b>0</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Perform surveillance and maintenance of the Centrifuge Facilities complex, to maintain it in a safe and secure condition in accordance with DOE orders.</li> </ul>	<b>100</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Perform surveillance and maintenance of the Centrifuge Facilities complex, to maintain it in a safe and secure condition in accordance with DOE Orders.</li> </ul>	<b>102</b>

**Oak Ridge Reservation Community & Regulatory Support (Defense) (PBS: OR-0100)**

**Overview**

This PBS is within the Defense Environmental Cleanup appropriation.

This PBS funds two Tennessee non-regulatory Agreement-In-Principle grants, one Tennessee regulatory Federal Facility Agreement grant, and the activities of the Oak Ridge Site Specific Advisory Board. The first Agreement-In-Principle 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 associated with the Oak Ridge Reservation. The second Agreement-In-Principle supports the Tennessee Emergency Management Agency in emergency response planning initiatives, including cooperative planning, conducting joint training exercises and developing public information regarding preparedness activities. The Federal Facility Agreement grant supports the Tennessee Department of Environment and Conservation, provides oversight of the requirements of the interagency agreement under the Comprehensive Environmental Response, Compensation, and Liability Act. The support for the Site Specific Advisory Board is chartered under the Federal Advisory Committee Act.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve and Maintain Positive Stakeholder and Regulator Relationships	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Continued support to the State of Tennessee for conducting annual oversight, monitoring, and reporting. This includes: annual reports to the public; independent monitoring program of all environmental media; off reservation monitoring program of wells owned by private citizens adjacent to DOE land; establishment of background levels; DOE facility surveillance walkthroughs; Federal Facility Agreement support activities; and emergency management exercises.</li> </ul>	<b>4,500</b>

	<ul style="list-style-type: none"> <li>▪ Continued activities by the Site Specific Advisory Board sponsored by DOE-EM to assist in public participation activities and out-reach assistance.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue support to the State of Tennessee for conducting annual oversight, monitoring, and reporting. This includes: annual reports to the public; independent monitoring program of all environmental media; off reservation monitoring program of wells owned by private citizens adjacent to DOE land; establishment of background levels; DOE facility surveillance walkthroughs; Federal Facility Agreement support activities; and emergency management exercises.</li> <li>▪ Continue activities by the Site Specific Advisory Board sponsored by DOE-EM to assist in public participation activities and out reach assistance.</li> </ul>	<b>6,409</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue to support the State of Tennessee for conducting annual oversight, monitoring, and reporting. This includes: annual reports to the public; independent monitoring program of all environmental media; off reservation monitoring program of wells owned by private citizens adjacent to DOE land; establishment of background levels; DOE facility surveillance walkthroughs; Federal Facility Agreement activities; and emergency management exercises.</li> <li>▪ Continue activities by the Site Specific Advisory Board sponsored by DOE-EM to assist in public participation activities and out-reach assistance.</li> </ul>	<b>4,500</b>

**East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration (PBS: OR-0102)**

**Overview**

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

This PBS funds ongoing, long-term contractor obligations including post-retirement life and medical, long-term disability and pension benefits for pre-April 1998 retirees, who supported Oak Ridge enrichment facility programs.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve Contract and Project Management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Continued funding of contractor liabilities associated with post-retirement life, medical benefits and pensions.</li> </ul>	<b>8,800</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue funding of contractor liabilities associated with post-retirement life, medical benefits and pensions.</li> </ul>	<b>18,109</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue funding of contractor liabilities associated with post-retirement life, medical benefits and pensions.</li> </ul>	<b>13,140</b>

**Paducah**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
<b>Non-Defense Environmental Cleanup</b>			
Gaseous Diffusion Plants			
Paducah Gaseous Diffusion Plant			
PA-0011 / NM Stabilization and Disposition-			
Paducah Uranium Facilities Management	1,297	1,369	1,369
PA-0011X / NM Stabilization and Disposition-			
Depleted Uranium Hexafluoride Conversion	49,604	50,921	39,479
Subtotal, Paducah Gaseous Diffusion Plant	<u>50,901</u>	<u>52,290</u>	<u>40,848</u>
<b>Uranium Enrichment Decontamination and Decommissioning Fund</b>			
Paducah			
Paducah Gaseous Diffusion Plant			
PA-0013 / Solid Waste Stabilization and Disposition	0	6,665	0
PA-0040 / Nuclear Facility D&D-Paducah	0	70,665	90,142
PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration	0	1,502	0
PA-0103 / Paducah Community and Regulatory Support	0	2,525	0
Subtotal, Paducah Gaseous Diffusion Plant	<u>0</u>	<u>81,357</u>	<u>90,142</u>
<b>D&amp;D Activities</b>			
Paducah Gaseous Diffusion Plant			
PA-0013 / Solid Waste Stabilization and Disposition	6,747	0	0
PA-0040 / Nuclear Facility D&D-Paducah	73,809	0	0
PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration	370	0	0
PA-0103 / Paducah Community and Regulatory Support	2,580	0	0
Subtotal, Paducah Gaseous Diffusion Plant	<u>83,506</u>	<u>0</u>	<u>0</u>
<b>Pension and Community and Regulatory Support</b>			
Paducah Gaseous Diffusion Plant			
PA-0103 / Paducah Community and Regulatory Support	0	0	2,580
<b>Total, Uranium Enrichment Decontamination and Decommissioning Fund</b>	<u>83,506</u>	<u>81,357</u>	<u>92,722</u>
<b>Total, Paducah</b>	<u>134,407</u>	<u>133,647</u>	<u>133,570</u>

**Environmental Management/  
Paducah Project Office**

**FY 2013 Congressional Budget**

The funding table below provides a comparable display of the impacted activities and a comparable display will be continued throughout this budget chapter to aid in budget review.

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Non-Defense Environmental Cleanup			
Gaseous Diffusion Plants			
Paducah Gaseous Diffusion Plant			
PA-0011 / NM Stabilization and Disposition- Paducah Uranium Facilities Management	1,297	1,369	1,369
PA-0011X / NM Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion	49,604	50,921	39,479
Subtotal, Paducah Gaseous Diffusion Plant	50,901	52,290	40,848
Uranium Enrichment Decontamination and Decommissioning Fund			
Paducah			
Paducah Gaseous Diffusion Plant			
PA-0013 / Solid Waste Stabilization and Disposition	6,747	6,665	0
PA-0040 / Nuclear Facility D&D-Paducah	73,809	70,665	90,142
Subtotal, Paducah Gaseous Diffusion Plant	80,556	77,330	90,142
Pension and Community and Regulatory Support			
Paducah Gaseous Diffusion Plant			
PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration	370	1,502	0
PA-0103 / Paducah Community and Regulatory Support	2,580	2,525	2,580
Subtotal, Paducah Gaseous Diffusion Plant	2,950	4,027	2,580
Total, Uranium Enrichment Decontamination and Decommissioning Fund	83,506	81,357	92,722
Total, Paducah	134,407	133,647	133,570

**Public Law Authorizations**

P. L. 112-74, Consolidated Appropriations Act, 2012

P. L. 112-10, Department of Defense and Full Year  
Continuing Appropriation Act, 2011

**Overview**

The Paducah Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health

**Environmental Management/  
Paducah Project Office**

and the environment. The overall cleanup strategy at Paducah will take near-term actions to control or eliminate ongoing sources of contamination along with continued investigation of other potential sources.

Paducah has completed construction of the depleted uranium hexafluoride conversion facility. DOE anticipates the depleted uranium hexafluoride conversion operations will continue over thirty years (including decontamination and decommissioning of the conversion facility).

**FY 2013 Congressional Budget**

To complete cleanup, Paducah will maintain a safe, secure, and compliant posture; support high priority groundwater remediation; deactivate and decommission excess facilities; disposition transuranic, mixed, and low-level waste; convert and disposition depleted uranium hexafluoride; and reduce DOE's liabilities through involvement with local community stakeholders.

Direct maintenance and repair of the remediation related infrastructure at the Paducah Gaseous Diffusion Plant is estimated to be \$10,314,000 in FY 2013.

### **Regulatory Framework**

In May 1994, the Paducah site was placed on the Environmental Protection Agency's National Priorities List under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. The 1997 Federal Facility Agreement among the Department, the Commonwealth of Kentucky, and the Environmental Protection Agency-Region 4 established the framework for cleanup at Paducah, instituted enforceable milestones, and coordinated site-specific cleanup requirements under the Comprehensive Environmental Response, Compensation, and Liability Act and the Resource Conservation and Recovery Act. The Department also achieved resolution of long-standing regulatory disputes through the Agreed Order with the Commonwealth of Kentucky.

The Environmental Protection Agency and the Kentucky Department for Environmental Protection are the principal regulatory agencies for Paducah's waste management operations, in compliance with provisions of the Resource Conservation and Recovery Act-Part B, Hazardous Waste Management Permits; the Toxic Substances Control Act regulations for polychlorinated biphenyl wastes; DOE Order 435.1-Radioactive Waste Management; the Commonwealth of Kentucky, surface water discharge regulations and the Commonwealth of Kentucky solid and hazardous waste regulations.

### **Uranium Hexafluoride Transfer**

The Department plans to continue to maximize the utilization of its material excess assets, including uranium, in order to conduct its cleanup mission. The uranium transfer allows for additional environmental remediation and decontamination and decommissioning activities at the Gaseous Diffusion Facilities. Consistent with applicable laws, including the United States Enrichment Corporation Privatization Act, DOE plans to transfer up to 1,750 metric tons of uranium in FY 2013. The actual value of the material is subject to the final

**Environmental Management/  
Paducah Project Office**

amounts transferred quarterly and the market value at the time of the transfer.

### **Program Accomplishments and Milestones**

The Paducah Site vision is to complete the majority of clean-up scope which will significantly reduce EM costs for infrastructure and surveillance and maintenance. The primary accomplishments for FY 2012 involve assigning priority to and achieving significant progress in disposition of depleted uranium hexafluoride, and completing preparatory work and removal of excess equipment and hazardous materials from buildings that will be decontaminated and decommissioned. For the life-cycle, Paducah anticipates completing decontamination and decommissioning of 21 contaminated inactive nuclear production and support facilities; completing remediation of eight contaminated groundwater sources; two watersheds including 6 miles of publically accessible creeks; over 200 acres of potentially contaminated soil areas; and eight unlined historical disposal areas; install final treatment systems for two off-site groundwater plumes consisting of 8,500,000,000 gallons of contaminated water; and dispose of over 1,300,000,000 cubic feet of contaminated legacy waste.

During FY 2012, it is expected that the Paducah Site will complete the following major accomplishments:

- Operate depleted uranium hexafluoride conversion facility at full capacity.
- Start structural demolition of the C-340 and C-410 complexes which will contribute to the footprint reduction goal of up to 70 percent of EM's total liability at Paducah.
- Start construction of the Phase IIa trichloroethylene source treatment system located near C-400.

Current estimated Life-Cycle cost range \$11,387,000,000 to \$18,137,000,000; current projected closure date FY 2040 to FY 2052.

**FY 2013 Congressional Budget**

<u>Milestones</u>	<u>Date</u>
Completion of disposition of all mixed transuranic waste.	April 2011
Dispose of up to 26,500 cubic feet of newly generated non-project waste.	September 2012
Sign Southwest Plume Record of Decision for three historic trichloroethylene contamination source areas.	September 2012
Complete demolition of the 200,000 square foot C-410 Feed Plant complex that contained significant quantities of uranium hold-up.	September 2013
Complete demolition of the 65,000 square foot C-340 Uranium Metal Productions complex.	September 2013

### Explanation of Changes

The Department requests \$133,570,000 in Fiscal Year 2013 for the Paducah site, which is a 0.06 percent decrease from the FY 2012 enacted appropriation level.

The FY 2013 request increases the level for Nuclear Facility decontamination and decommissioning (+\$19,477,000) while decreasing Nuclear Material Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (-\$11,442,000), and Solid Waste Stabilization and Disposition (-\$6,665,000). For more information please see the PBS level of detail located in the Explanation of Funding Changes section later in this chapter.

### Program Planning and Management

Program planning and management at Paducah is conducted through the issuance and execution of contracts to large and small businesses. Paducah develops near-term and long-term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. Current contracts at Paducah include:

- B&W Conversion Services contract for treatment and disposition of Depleted Uranium Hexafluoride, covering the period from 2011 – 2016.

- LATA Kentucky contract for decontamination and decommissioning of surplus buildings and legacy soil and groundwater remediation, covering the period 2010 – 2015.
- Swift and Staley contract for site support services covering the period 2009 – 2015.

### Strategic Management

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. DOE is currently working with the Kentucky Department for Environmental Protection Agency, Region 4, to further define which projects can be sequenced, while optimizing resources and utilizing a risk-based approach, to ensure timely environmental cleanup and minimize workforce impacts.

The following factors that could have significant impacts on individual projects and may impact the overall cleanup scope, schedule, and costs have been identified:

1. DOE does not have a regulatory agreement on final cleanup levels, which remains a long-term, end-state issue.
2. The final Comprehensive Environmental Response, Compensation and Liability Act action for the Paducah environmental remedial activities are ongoing. Until Records of Decision are agreed upon, a high degree of project uncertainty exists. For example, current planning assumptions include that no more than three burial grounds will require excavation, and that the other burial grounds will be capped and managed in situ.
3. Future decontamination and decommissioning costs will be subject to several significant uncertainties including; the timing of the return of the Paducah Gaseous Diffusion Plant to DOE by the United States Enrichment Corporation, the extent of final environmental contamination, regulatory frameworks (Resource Conservation and Recovery Act vs. Comprehensive Environmental Response, Compensation and Liability Act cleanup levels), disposal options, and stakeholder/regulator acceptance.



**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Paducah Site Measure 1: Depleted and Other Uranium packaged for disposition (Metric Tons)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	23,676	N/A
Current Year(Cumulative to date)	7,750	N/A
Prior Year(Cumulative to date)	7,750	0/Not Met
Analysis	<p>Since the 1950s, the depleted uranium hexafluoride produced during enrichment operations are now stored in large steel cylinders at the Portsmouth and Paducah Gaseous Diffusion Plants. DOE is responsible for the management of approximately 440,700 metric tons of depleted uranium hexafluoride stored at Paducah. DOE has constructed a depleted uranium hexafluoride conversion facility at Paducah to convert the depleted uranium hexafluoride to a more stable form for reuse or disposal.</p> <p>For FY 2011 the Paducah Site targeted 7,750 Metric Tons of depleted uranium and other uranium to be packaged for disposition. At the end of FY 2012 the EM program did not package any depleted uranium and other uranium falling 7,750 Metric Tons short of its target.</p>	

<b>Paducah Site Measure 2: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	23,369	N/A
Current Year(Cumulative to date)	22,623	N/A
Prior Year(Cumulative to date)	22,140	21,877/Not Met
Analysis	<p>Management and removal of legacy and newly generated low-level waste and mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint at the Paducah site. It should be noted that the Paducah site is dependent upon the Nevada National Security Site and commercial waste disposal sites for low-level, and mixed low-level waste disposal.</p> <p>For FY 2011 the Paducah Site targeted a cumulative total of 22,140 cubic meters of legacy and newly generated low-level waste and mixed low-level waste to be disposed. At the end of FY 2011 the Paducah site disposed of 21,877 cubic meters of legacy and newly generated low-level waste and mixed low-level waste falling short of its target by 263 cubic meters.</p>	

<b>Paducah Site Measure 3: Radioactive Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	5	N/A
Current Year(Cumulative to date)	5	N/A
Prior Year(Cumulative to date)	4	4/Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Paducah site targeted a cumulative total of 4 radioactive facilities. At the end of FY 2011 the site has met its target for FY 2011.</p>	

<b>Paducah Site Measure 4: Industrial Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	19	N/A
Current Year(Cumulative to date)	19	N/A
Prior Year(Cumulative to date)	19	18/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning of excess legacy facilities measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing the number of facilities that have reached their end state. 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 indicator of EM's progress towards the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities. Footprint is also achieved through soil and groundwater remediation as measured by release site completions.</p> <p>For FY 2011 the Paducah site targeted a cumulative total of 19 Industrial Facilities to be completed. At the end of FY 2011, the Paducah site completed a cumulative total of 18 industrial facilities, falling short of its target by one facility.</p>	

<b>Paducah Site Measure 5: Remediation Completions (Number of Release Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	125	N/A
Current Year(Cumulative to date)	125	N/A

Prior Year(Cumulative to date)	125	109/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contamination also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Paducah site targeted a cumulative total of 125 release sites to be completed. At the end of FY 2011, the Paducah site completed a cumulative total of 109 release sites, 26 release sites short of its target.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

### Explanation of Funding Changes

(Dollars In Thousands)

FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
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#### Non-Defense Environmental Cleanup

##### Gaseous Diffusion Plants

##### Paducah Gaseous Diffusion Plant

##### PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion

- Decrease reflects a reduction due to deferral of off-site disposition of converted uranium.

50,921                      39,479                      -11,442

#### Uranium Enrichment Decontamination and Decommissioning Fund

##### Paducah

##### PA-0013 / Solid Waste Stabilization and Disposition

- Decrease is due to completion of legacy waste and remaining activities, including landfill operations supporting successful completion of projects within PA-0040 and surveillance and maintenance activities transferring to PBS-0040.

6,665    0    -6,665

##### PA-0040 / Nuclear Facility D&D-Paducah

- Increase supports the selection and implementation of a different remedy for the trichloroethylene contamination in the regional groundwater aquifer by the C-400 facility, addressing the site's single largest source of trichloroethylene contamination, and supports the landfill operations now managed within PBS PA-0040.

70,665    90,142    +19,477

#### Pension and Community and Regulatory Support

##### PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration

- Decrease reflects a reduction in the requirements due to reduced post closure contract liabilities.

1,502    0    -1,502

##### PA-0103 / Paducah Community and Regulatory Support

- No significant change.

2,525    2,580    +55

#### Total, Paducah

**132,278    132,201    -77**

**NM Stabilization and Disposition-Paducah Uranium Facilities Management (PBS: PA-0011)**

**Overview**

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

This project scope includes management of legacy polychlorinated biphenyl remediation activities, compliance with the Toxic Substances Control Act (40 CFR 761) and the Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992. It also supports DOE Orders and other applicable requirements and support to the Nuclear Regulatory Commission for the five-year report to Congress on environmental, safety, and health.

**Sequence**

Inspect, maintain contain. system; meet milestones - Fed Compliance Agreements (lifecycle end date). [Baseline Date: December 31, 2040]

**Benefits**

Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Continued to maintain cleanup, sampling, and decontamination of polychlorinated spills and leaks, and monitoring activities related to polychlorinated biphenyls.</li> <li>▪ Inspected and maintained polychlorinated biphenyl collection and containment systems.</li> <li>▪ Conducted cleanup, sampling and disposal of polychlorinated biphenyl spills.</li> </ul>	<b>1,297</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue to maintain cleanup, sampling, and decontamination of polychlorinated spills, leaks, and monitoring activities related to polychlorinated biphenyls.</li> <li>▪ Continue field activities associated with the polychlorinated biphenyl collection and containment troughing system in the cascade buildings (C-331, C-333, C-335, and C-337).</li> </ul>	<b>1,369</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue to maintain cleanup, sampling, and decontamination of polychlorinated</li> </ul>	<b>1,369</b>

	<p>spills and leaks, and monitoring activities related to polychlorinated biphenyls.</p> <ul style="list-style-type: none"><li>▪ Continue field activities associated with the polychlorinated biphenyl collection and containment troughing system in the cascade buildings (C-331, C-333, C-335, and C-337).</li></ul>	
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**NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (PBS: PA-0011X)**

**Overview**

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

This PBS scope includes design, permitting, building, and operating a depleted uranium hexafluoride conversion facility at the Paducah Gaseous Diffusion Plant site. Approximately 700,000 metric tons of depleted uranium hexafluoride are stored in 60,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites. The facility converts depleted uranium hexafluoride into a more stable form of depleted uranium oxide suitable for reuse or disposition. The depleted uranium oxide and cylinders will be initially stored on-site and ultimately sent to a disposal facility. There are circumstances that prevent the Department from finalizing the Supplement Analysis for Locations (s) to dispose of depleted uranium oxide conversion products generated from DOE’s inventory of depleted uranium hexafluoride and the associated Record of Decision in accordance with the National Environmental Policy Act requirements. The hydrogen fluoride co-products will be sold on the commercial market and the proceeds from the sale of hydrogen fluoride are used to offset operating costs. Completion of these activities is required for reducing the site footprint and completing cleanup of the site.

**Sequence**

Operate the DUF6 Conversion Facility to process depleted uranium (lifecycle end date). [Baseline Date: December 31, 2038]

**Benefits**

Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Completed hot functional testing and commenced safe operation of the Depleted Uranium Hexafluoride Conversion Facility.</li> <li>▪ Conducted cylinder surveillance and maintenance to keep existing material in a safe, stable condition.</li> </ul>	<b>49,604</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue to conduct cylinder surveillance and maintenance, to keep existing material in a safe stable condition.</li> </ul>	<b>50,921</b>

	<ul style="list-style-type: none"> <li>▪ Package 7,750 metric tons of depleted uranium for disposition as operations phase to full capacity.</li> <li>▪ Continue to maintain safe DUF6 conversion operations with a gradual ramp up to full scale operations.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Conduct cylinder surveillance and maintenance, to keep existing material in a safe stable condition.</li> <li>▪ Maintain safe DUF6 conversion operations at full capacity.</li> <li>▪ Package 18,000 metric tons of depleted uranium for disposition, and defer off-site disposal.</li> </ul>	<b>39,479</b>

## Solid Waste Stabilization and Disposition (PBS: PA-0013)

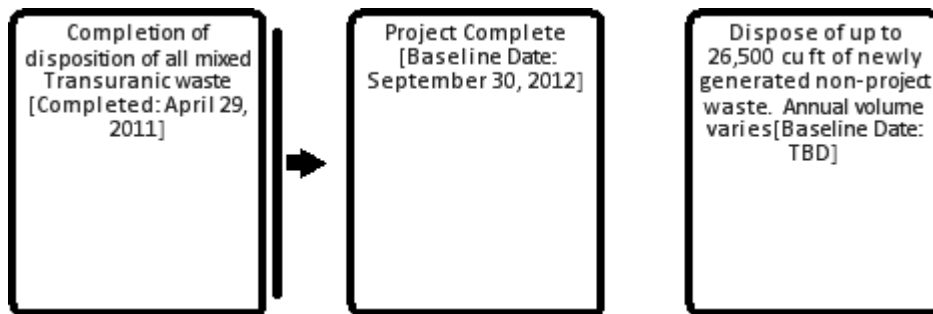
### Overview

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

This PBS scope includes activities related to maintaining compliance with the Resource Conservation and Recovery Act Permit, Site Treatment Plan, and the C-746-U Contained Landfill Permit. This PBS scope includes storage, treatment, and disposition of all legacy waste generated by activities at the Paducah Gaseous Diffusion Plant prior to 1993 and all newly-generated waste from waste storage, treatment, and disposal operations. With the legacy work-scope complete the only remaining waste operations is what results from decontamination and decommissioning activities. That scope will be transferred to PBS PA-0040 to include operation of the onsite sanitary landfill (C-746-U) and its auxiliary buildings.

Completion of these activities is required for reducing the site footprint and completing cleanup of the site.

### Sequence



### Benefits

Cleanup Benefits	<ul style="list-style-type: none"> <li>Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Continued landfill operations and maintenance.</li> <li>Constructed cells 6 through 11 for the C-746-U on-site sanitary landfill, consistent with the waste generation estimates.</li> <li>Characterized, treated, and disposed of any newly-generated waste.</li> <li>Conducted surveillance and maintenance of the waste storage buildings.</li> </ul>	<b>6,747</b>
FY 2012	<ul style="list-style-type: none"> <li>Continue disposition of newly-generated waste.</li> <li>Conduct disposal of low-level and mixed low-level waste.</li> </ul>	<b>6,665</b>



FY 2013	▪ No activities planned for FY 2013. All remaining work scope will be conducted in PBS PA-0040.	0
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## Nuclear Facility D&D-Paducah (PBS: PA-0040)

### Overview

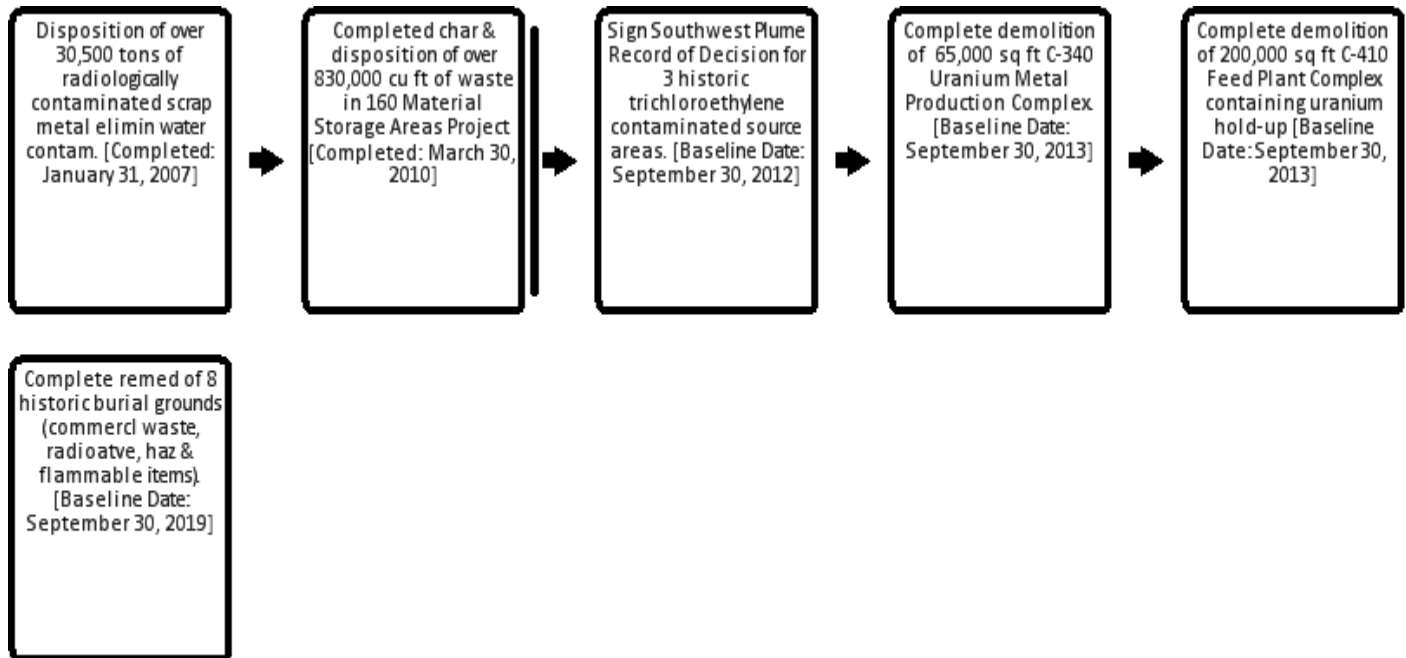
This PBS is within the Uranium Enrichment Decontamination and Decommissioning Fund appropriation.

This PBS scope includes environmental cleanup and risk reduction through focused response actions and surveillance and maintenance activities, including decontamination and decommissioning of inactive or excess facilities at the Paducah Gaseous Diffusion Plant. Decontamination and decommissioning of the Paducah Gaseous Diffusion Plant itself is not yet included in the project scope, but limited planning has begun for the return (from lease by the United States Enrichment Corporation) and transition to DOE for decontamination and decommissioning. In FY 2013, Paducah plans to perform significant soil and groundwater remediation by completing construction and initiating operation of two treatment systems; and, demobilizing another treatment system. Paducah will complete demolition of two large uranium production facilities abandoned in the mid 1970s. In addition, Paducah will conduct landfill operations and maintenance activities previously included in PBS PA-0013.

The Department plans to continue to maximize the utilization of its excess material assets, including uranium, in order to conduct its cleanup mission. The uranium transfer allows for environmental remediation and decontamination and decommissioning activities at the Gaseous Diffusion Facilities. Consistent with applicable laws, including the United States Enrichment Corporation Privatization Act, DOE plans to transfer up to 1,750 metric tons of uranium in FY 2013. The actual value of the material is subject to the final amounts transferred quarterly and the market value at the time of the transfer.

Completion of these activities is required for reducing the site footprint and completing cleanup of the site.

### Sequence



## Benefits

Cleanup Benefits	<ul style="list-style-type: none"> <li>Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

## Funding and Activity Schedule

Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Continued deactivation of the C-410 Complex.</li> <li>Continued deactivation of C-340 A/B/C Complex.</li> <li>Completed Remedial Action Completion Report for the removal of two inactive soil facilities (C-218, and C410B).</li> <li>Completed a site-wide walkover for the areas outside the plant security fence.</li> <li>Continued pump-and-treat operations and environmental surveillance, monitoring, and reporting.</li> <li>Conducted management and infrastructure surveillance and maintenance.</li> <li>Demolished the C-340-D, C-340-E, and C-746-A East End Smelter.</li> </ul>	<b>73,809</b>
FY 2012	<ul style="list-style-type: none"> <li>Complete deactivation of the C-410 Complex.</li> <li>Start demolition of C-340 A/B/C Complex.</li> <li>Complete construction of Southwest Plume sources treatment system and initiate operations.</li> <li>Complete C-400 groundwater plume project (removal of trichloroethylene Dense Non-Aqueous Phase Liquids).</li> </ul>	<b>70,665</b>
FY 2013	<ul style="list-style-type: none"> <li>Complete demolition of C-340 and C-410 complexes.</li> <li>Dispose of all demolition waste from C-340 and C-410 complexes and complete site restoration activities.</li> <li>Complete C-400 Trichloroethylene Source Area Remedial Treatment System (Phase IIa) demobilization.</li> <li>Complete C-400 Trichloroethylene Source Area Remedial Treatment System (Phase IIb) construction and initiate operations.</li> <li>Complete Southwest Plume Trichloroethylene Source Area Remedial Treatment System construction and initiate operations.</li> <li>Complete Northeast Plume Pump and Treat System optimization construction and testing.</li> </ul>	<b>90,142</b>

**Paducah Contract/Post-Closure Liabilities/Administration (PBS: PA-0102)**

**Overview**

This PBS can be found within the Uranium Enrichment Decontamination and Decommissioning Fund appropriation.

This PBS scope supports a contract liability to provide for record searches performed for DOE and the Department of Justice investigations/studies, pending litigation, Freedom of Information Act requests, and information requests from both state and Federal regulatory and elected officials.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve Contract and Project Management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitments to integrating environmental justice principles into our mission.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided support to DOE and Department of Justice for all investigations and litigation.</li> <li>▪ Provided payment into the Paducah pension program to remain in compliance with the Employee Retirement Income Security Act and other applicable laws, and DOE O 350.1 requirements.</li> </ul>	<b>370</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue to provide support to DOE and Department of Justice for all investigations and litigation.</li> <li>▪ Continue to provide payment into the Paducah pension program to remain in compliance with the Employee Retirement Income Security Act and other applicable laws, and DOE O 350.1 requirements.</li> </ul>	<b>1,502</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ No planned activities due to a reduction in post-closure contract requirements.</li> </ul>	<b>0</b>

**Paducah Community and Regulatory Support (PBS: PA-0103)**

**Overview**

This PBS can be found within the Uranium Enrichment Decontamination and Decommissioning Fund appropriation.

This PBS scope supports an Agreement-in-Principle grant to the Commonwealth of Kentucky to provide independent oversight of the environmental programs, including surface water, groundwater, air and other environmental monitoring at the Paducah Gaseous Diffusion Plant. Additionally, this project scope also supports a grant to the Kentucky Research Consortium for Energy and Environment and to the Paducah Citizens Advisory Board for assistance in all public participation activities.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve Contract and Project management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Supported the Citizens Advisory Board to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.</li> <li>▪ Continued to ensure requirements are met regarding the grants.</li> </ul>	<b>2,580</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue support to the Citizens Advisory Board to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.</li> <li>▪ Continue to ensure requirements are met regarding the grants.</li> </ul>	<b>2,525</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue support to the Citizens Advisory Board to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.</li> <li>▪ Continue to ensure requirements are met regarding the grants.</li> </ul>	<b>2,580</b>



**Portsmouth**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Non-Defense Environmental Cleanup			
Gaseous Diffusion Plants			
Portsmouth Gaseous Diffusion Plant			
PO-0011X / NM Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion	48,401	48,148	49,261
Uranium Enrichment Decontamination and Decommissioning Fund			
Portsmouth			
Portsmouth Gaseous Diffusion Plant			
PO-0013 / Solid Waste Stabilization and Disposition	0	21,682	0
PO-0040 / Nuclear Facility D&D-Portsmouth	0	166,491	127,038
PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration	0	775	0
PO-0104 / Portsmouth Community and Regulatory Support	0	1,019	0
Subtotal, Portsmouth Gaseous Diffusion Plant	0	189,967	127,038
D&D Activities			
Portsmouth Gaseous Diffusion Plant			
PO-0013 / Solid Waste Stabilization and Disposition	11,762	0	0
PO-0040 / Nuclear Facility D&D-Portsmouth	177,590	0	0
PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration	1,400	0	0
PO-0104 / Portsmouth Community and Regulatory Support	1,020	0	0
Subtotal, Portsmouth Gaseous Diffusion Plant	191,772	0	0
Pension and Community and Regulatory Support			
Portsmouth Gaseous Diffusion Plant			
PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration	0	0	775
PO-0104 / Portsmouth Community and Regulatory Support	0	0	1,020
Subtotal, Portsmouth Gaseous Diffusion Plant	0	0	1,795
Total, Uranium Enrichment Decontamination and Decommissioning Fund	191,772	189,967	128,833
Total, Portsmouth	240,173	238,115	178,094

**Environmental Management/  
Portsmouth Project Office**

**FY 2013 Congressional Budget**

The funding table below provides a comparable display of the impacted activities and a comparable display will be continued throughout this budget chapter to aid in budget review.

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Non-Defense Environmental Cleanup			
Gaseous Diffusion Plants			
Portsmouth Gaseous Diffusion Plant			
PO-0011X / NM Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion	48,401	48,148	49,261
Uranium Enrichment Decontamination and Decommissioning Fund			
Portsmouth			
Portsmouth Gaseous Diffusion Plant			
PO-0013 / Solid Waste Stabilization and Disposition	11,762	21,682	0
PO-0040 / Nuclear Facility D&D-Portsmouth	177,590	166,491	127,038
Subtotal, Portsmouth Gaseous Diffusion Plant	189,352	188,173	127,038
Pension and Community and Regulatory Support			
Portsmouth Gaseous Diffusion Plant			
PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration	1,400	775	775
PO-0104 / Portsmouth Community and Regulatory Support	1,020	1,019	1,020
Subtotal, Portsmouth Gaseous Diffusion Plant	2,420	1,794	1,795
Total, Uranium Enrichment Decontamination and Decommissioning Fund	191,772	189,967	128,833
Total, Portsmouth	240,173	238,115	178,094

**Public Law Authorizations**

P. L. 112-74, Consolidated Appropriations Act, 2012

P. L. 112-10, Department of Defense and Full Year Continuing Appropriations Act, 2011

decontamination and decommissioning and long term stewardship.

Portsmouth will operate the depleted uranium hexafluoride conversion facility at full capacity. DOE anticipates the depleted uranium hexafluoride conversion operations at Portsmouth to continue approximately twenty years (including decontamination and decommissioning of the conversion facility).

**Overview**

The Portsmouth Site will support the Department’s Strategic Plan to complete environmental remediation of legacy and active sites, while protecting human health and the environment, with the transitioning from enrichment operations to environmental cleanup, waste management, depleted uranium conversion,

To complete cleanup, Portsmouth will maintain a safe, secure, and compliant posture; support full-scale decontamination and decommissioning of gaseous diffusion plant; dispose of all low-level and mixed low-level waste; dispose of all excess materials; and perform

**Environmental Management/  
Portsmouth Project Office**

**FY 2013 Congressional Budget**



groundwater trichloroethylene source removal.

Direct maintenance and repair at the Portsmouth Site is estimated to be \$36,567,400.

**Regulatory Framework**

Oversight of cleanup activities at the Portsmouth site is the responsibility of the Ohio Environmental Protection Agency and the Environmental Protection Agency - Region V. The program is being conducted in accordance with a State of Ohio Consent Decree and an Environmental Protection Agency Administrative Consent Order. In addition, the site is included in a compliance agreement between the United States Environmental Protection Agency and DOE under the Toxic Substances Control Act.

Current cleanup activities are conducted in accordance with Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act requirements (although Portsmouth is not on the National Priorities List). DOE and the Ohio Environmental Protection Agency reached an agreement in 2010 on the regulatory framework for final decontamination and decommissioning of the facilities, and the disposition of project waste under the Comprehensive Environmental Response, Compensation, and Liability Act and ongoing environmental media cleanup activities under Resource Conservation and Recovery Act (Consent Order and Consent Decree, respectively). The Ohio Environmental Protection Agency issued Directors Final Findings and Orders to formalize the terms and requirements of the agreement. The more detailed process to develop the required cleanup and waste disposition decisions has been described in Remedial Investigation/Feasibility Study Work Plans.

**Uranium Hexafluoride Transfer**

The Department plans to continue to maximize the utilization of its excess material assets, including uranium, in order to conduct its cleanup mission. The uranium transfer allows for environmental remediation and decontamination and decommissioning activities at the Gaseous Diffusion Facilities. Consistent with applicable laws, including the United States Enrichment Corporation Privatization Act, DOE plans to transfer up to 1,750 metric tons of uranium in FY 2013. The actual value of the material is subject to the final amounts transferred quarterly and the market value at the time of the transfer.

**Program Accomplishments and Milestones**

The Portsmouth Site vision is to conduct the Environmental Management clean-up scope, resulting in a significant reduction in the site footprint and infrastructure, surveillance and maintenance costs. The primary accomplishments in FY 2012 include operations of the depleted uranium hexafluoride conversion facility and additional work in support of deactivation and decommissioning of the process buildings and balance of plant facilities.

During FY 2012 it is expected that the site will achieve the following major accomplishments:

- Operate the Depleted Uranium Hexafluoride Conversion Facility.
- Continue removal of excess equipment and hazardous materials from buildings X-326, X-330 and X-333 to prepare for decontamination and decommissioning.
- Initiate removal and disposal of process equipment (motors, compressors, enrichment converters, coolers, and, inter-connecting piping) from building X-326.
- Initiate deactivation and decommissioning of the ZX-100, X-100B, X-101, and the X109C buildings.

Current estimated Life-Cycle cost range \$9,537,000,000 to \$16,344,000,000; current projected closure date FY 2044 to 2052.

<u>Milestones</u>	<u>Date</u>
Completed uranium deposit removal program.	March 2011
Complete decontamination and decommissioning of 19 industrial facilities and 7 radioactive facilities.	September 2011
Issue Remedial Investigation/Feasibility Study for decontamination and decommissioning of the process buildings.	September 2012
Issue Remedial Investigation/Feasibility Study for waste disposition.	September 2012
Continue deactivation of hazardous material isolations and targeted equipment removals.	September 2013

## Explanation of Changes

The Department requests \$178,094,000 in FY-2013 for the Portsmouth site, which is a 25.2 percent decrease from the FY 2012 enacted appropriation level. The FY 2013 request reflects a decrease to Solid Waste Stabilization and Disposition (-\$21,682,000), and Nuclear Facility decontamination and decommissioning (-\$39,453,000). For more information please see the PBS level of detail located in the Explanation of Funding Changes section later in this chapter.

## Program Planning and Management

Program planning and management at Portsmouth is conducted through the issuance and execution of contracts to large and small businesses. Portsmouth develops near-term and long-term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. Current contracts at Portsmouth include:

- The Babcock and Wilcox Conversion Services contract for treatment and disposition of Depleted Uranium Hexafluoride, covering the period from 2011 – 2016.
- Fluor Babcock and Wilcox Portsmouth contract for decontamination and decommissioning of uranium gaseous diffusion buildings and legacy soil and groundwater remediation, covering the period 2010 – 2016 with an option to 2021.
- Wastren – EnergX contract for site support services covering the period 2010 – 2015.

## Strategic Management

The key strategies for the Portsmouth site are to continue operations of groundwater treatment facilities in support of installed remedies and to continue disposition of excess uranium materials and remove stored low-level and mixed waste streams contaminated with hazardous or toxic chemicals. Portsmouth will also initiate process building equipment removal actions, and continue hazardous material abatement and deactivation activities. In addition, Portsmouth will operate the depleted uranium hexafluoride conversion facility at full capacity. DOE anticipates the depleted uranium hexafluoride conversion operations to continue for approximately twenty years (including decontamination and decommissioning of the facility).

The following factors could have significant impacts on individual projects and may impact the overall cleanup scope, schedule, and costs have been identified:

- 1) In September 2011, the United States Enrichment Corporation returned the remaining gaseous diffusion plant facilities to the DOE for decontamination and decommissioning.
- 2) DOE is developing the required cleanup and waste disposition studies and evaluations. The evaluations will be utilized in the decision making process in coordination with the Ohio Environmental Protection Agency, the public, and the local community.
- 3) Future decontamination and decommissioning costs will be dependent upon the extent of final environmental contamination, regulatory frameworks, and disposal/recycling options for the decontamination and decommissioning materials and wastes.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Portsmouth Site Measure 1: Depleted and Other Uranium packaged for disposition (Metric Tons)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	18,589	N/A
Current Year(Cumulative to date)	9,800	N/A
Prior Year(Cumulative to date)	9,800	0/Not Met
Analysis	<p>Since the 1950s, the depleted uranium hexafluoride was produced during enrichment operations. The depleted uranium hexafluoride is now stored in large steel cylinders at the Portsmouth and Paducah Gaseous Diffusion Plants. DOE is responsible for the management of approximately 250,000 metric tons of depleted uranium hexafluoride stored at Portsmouth. DOE has constructed a depleted uranium hexafluoride conversion facility at Portsmouth to convert the depleted uranium hexafluoride to a more stable form for reuse or disposal.</p> <p>For FY 2011 the Portsmouth site targeted 9,800 Metric Tons of depleted uranium and other uranium to be packaged for disposition. At the end of FY 2012 the EM program did not complete packaging any depleted uranium and other uranium, falling 9,800 Metric Tons short of its target.</p>	

<b>Portsmouth Site Measure 2: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	36,690	N/A
Current Year(Cumulative to date)	36,690	N/A
Prior Year(Cumulative to date)	35,754	36,540/Met
Analysis	<p>Management and removal of legacy and newly generated waste and mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint at the Portsmouth Site.</p> <p>For FY 2011 the Portsmouth site targeted to dispose of a cumulative total of 35,754 cubic meters of low-level waste and mixed low-level waste. At the end of FY 2011, the Portsmouth site disposed a cumulative total of 36,540 cubic meters of low-level waste and mixed low-level waste, exceeding its target by 786 cubic meters.</p>	

<b>Portsmouth Site Measure 3: Industrial Facility Completions (Number of Facilities)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>

Budget Year(Cumulative to date)	22	N/A
Current Year(Cumulative to date)	22	N/A
Prior Year(Cumulative to date)	19	19/Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Portsmouth site targeted to complete a cumulative total of 19 industrial facilities. At the end of FY 2011, the Portsmouth site completed a cumulative total of 19 industrial facilities, meeting its target.</p>	

<b>Portsmouth Site Measure 4: Remediation Complete (Number of Release Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	151	N/A
Current Year(Cumulative to date)	151	N/A
Prior Year(Cumulative to date)	150	150/Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contamination also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Portsmouth site targeted to complete a cumulative total of 150 release sites. At the end of FY 2011, the Portsmouth site completed a cumulative total of 150 release sites, meeting its target.</p>	

\* The targets and actuals listed for this table are only from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

**Explanation of Funding Changes**

**(Dollars In Thousands)**

	<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>	<b>FY 2013 vs FY 2012</b>
<b>Non-Defense Environmental Cleanup</b>			
<b>Gaseous Diffusion Plants</b>			
<b>Portsmouth Gaseous Diffusion Plant</b>			
<b>PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion</b>			
▪ Increase to maintain full operations of the DUF6 Conversion Facility.	48,148	49,261	+1,113
<b>Uranium Enrichment Decontamination and Decommissioning Fund</b>			
<b>Pension and Community and Regulatory Support</b>			
<b>PO-0104 / Portsmouth Community and Regulatory Support</b>			
▪ No significant change.	1,019	1,020	+1
<b>Portsmouth</b>			
<b>PO-0013 / Solid Waste Stabilization and Disposition</b>			
▪ Decrease reflects project completion and transfer of remaining waste management scope which is associated with deactivation and decommissioning of waste, to PBS PO-0040.	21,682	0	-21,682
<b>PO-0040 / Nuclear Facility D&amp;D-Portsmouth</b>			
▪ Decrease reflects a reduction of deactivation and decommissioning activities in buildings X-330, X-333, and other site facilities.	166,491	127,038	-39,453
<b>Total, Portsmouth</b>	<b>237,340</b>	<b>177,319</b>	<b>-60,021</b>

**NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (PBS: PO-0011X)**

**Overview**

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

This PBS scope includes design, permitting, building, and operating a depleted uranium hexafluoride conversion facility at the Portsmouth Gaseous Diffusion Plant site. The facility converts depleted uranium hexafluoride into a more stable form of depleted uranium oxide suitable for reuse or disposition. The depleted uranium oxide and cylinders will be initially stored on-site and ultimately sent to a disposal facility, and the hydrogen fluoride co-products will be sold on the commercial market. The proceeds from the sale of hydrogen fluoride are used to offset operating costs.

This PBS also includes surveillance and maintenance of all depleted uranium hexafluoride cylinders during conversion of the existing stockpile, which will take about 18 years. Completion of these activities will contribute to reducing the footprint and total cleanup of the site.

**Sequence**

Operate the DUF6 Conversion Facility to process depleted uranium. [Baseline Date: December 31, 2030]

**Benefits**

Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant and cost-effective measure.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Commenced safe operation of the DUF6 conversion facility and disposition of the resultant uranium oxide and hydrofluoric acid.</li> <li>▪ Continued cylinder maintenance and surveillance to maintain existing material in safe condition.</li> </ul>	<b>48,401</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue to operate the DUF6 conversion facility at full capacity and package</li> </ul>	<b>48,148</b>

	<p>13,500 metric tons of depleted uranium for disposal.</p> <ul style="list-style-type: none"> <li>▪ Continue cylinder maintenance and surveillance to maintain existing material in safe condition.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue to operate the DUF6 conversion facility at full capacity and package 13,500 metric tons of depleted uranium for disposal.</li> <li>▪ Conduct cylinder surveillance and maintenance, to keep existing material in a safe stable condition.</li> </ul>	<b>49,261</b>

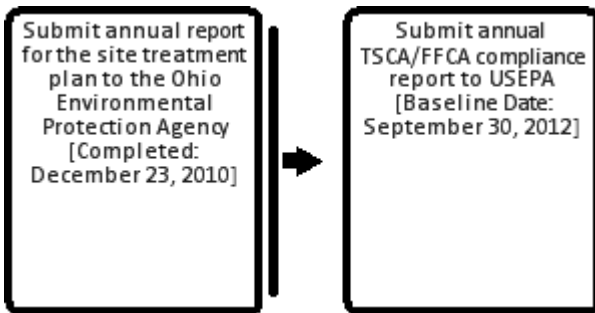
**Solid Waste Stabilization and Disposition (PBS: PO-0013)**

**Overview**

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

This PBS scope includes storage, characterization, treatment, and disposition of legacy waste generated by activities at the Portsmouth Gaseous Diffusion Plant. These activities will reduce risks and storage costs. The primary waste streams are low-level, mixed low-level, Toxic Substances Control Act low-level, hazardous, sanitary, and newly generated wastes. Disposal of legacy waste is critical to reducing the footprint and completing cleanup of the site. Any remaining waste management scope which is associated with deactivation and decommissioning waste will be managed in PBS PO-0040.

**Sequence**



**Benefits**

Cleanup Benefits	<ul style="list-style-type: none"> <li>Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Dispositioned uranium materials, including surplus low enriched natural and depleted uranium, from Fernald, Hanford, and several universities no longer used in research programs and material generated during cascade operations stored at the Uranium Management Center.</li> <li>Maintained waste minimization and pollution prevention programs to reduce the generation, volume, toxicity, and release of multi-media waste to promote the use of non-hazardous materials.</li> <li>Disposed of filter ash and oil-leak material and the inventory stored at the Uranium Management Center (Building X-744G).</li> <li>Continue to characterize, treat, and dispose of any newly generated waste.</li> </ul>	<b>11,762</b>



FY 2012	<ul style="list-style-type: none"> <li>▪ Complete disposition of uranium materials, including surplus low enriched natural and depleted uranium, from Fernald, Hanford, and several universities no longer used in research programs and material generated during cascade operations stored at the Uranium Management Center.</li> <li>▪ Characterize, treat, and dispose of any newly generated waste.</li> </ul>	<b>21,682</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ No activities planned. All waste management activities related to facility decontamination and decommissioning will be managed within Nuclear Facility Decontamination and Decommissioning PBS PO-0040 scope.</li> </ul>	<b>0</b>

## Nuclear Facility D&D-Portsmouth (PBS: PO-0040)

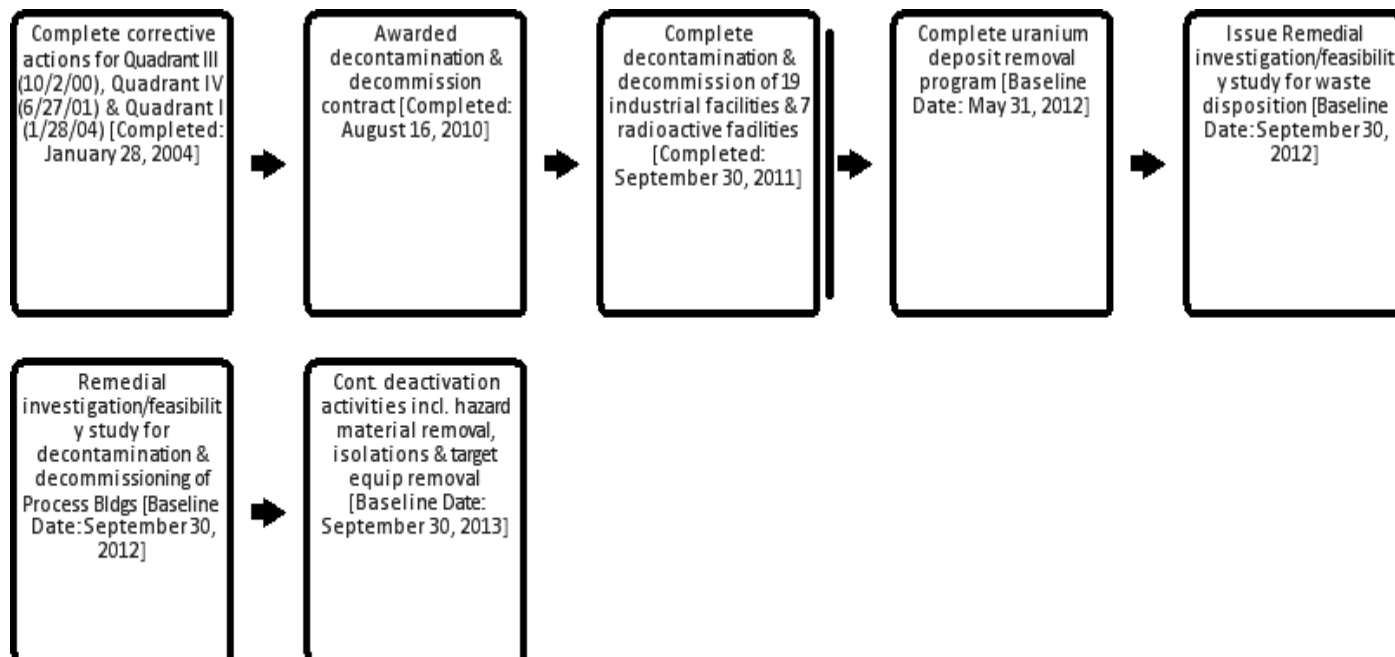
### Overview

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

This PBS scope includes remedial actions due to contamination resulting from the plant's historical uranium enrichment operations, facility decontamination and decommissioning, and surveillance and maintenance activities at the Portsmouth Gaseous Diffusion Plant. The Department has selected Fluor-B&W Portsmouth LLC for the decontamination and decommissioning of the Portsmouth Gaseous Diffusion Plant. For FY 2013, Portsmouth anticipates completing decommissioning and demolition of the X-100, X-100B, X-101, and the X-109C buildings which comprise the former Gaseous Diffusion Plant administration complex, and initiate deactivation and decommissioning of the X-600 coal fired steam plant. Process equipment will also continue to be removed from the X-326 uranium processing building. Also, by 2013; Portsmouth is planning to complete the Records of Decision for Process Building decontamination and decommissioning (for all three buildings) and waste disposition under the Comprehensive Environmental Response, Compensation, and Liability Act. The Department will also continue to optimize infrastructure costs at the site to focus on the cleanup. Completion of all decontamination and decommissioning activities will contribute to reducing the footprint and total cleanup of the site.

The Department plans to continue to maximize the utilization of its excess material assets, including uranium, in order to conduct its cleanup mission. The uranium transfer allows for environmental remediation and decontamination and decommissioning activities at the Gaseous Diffusion Facilities. Consistent with applicable laws, including the United States Enrichment Corporation Privatization Act, DOE plans to transfer up to 1,750 metric tons of uranium in FY 2013. The actual value of the material is subject to the final amounts transferred quarterly and the market value at the time of the transfer.

### Sequence



**Benefits**

Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Initiated process building equipment removal actions, hazardous materials abatement and other deactivation activities.</li> <li>▪ Initiated deferred unit remediation activities (buildings for which Resource Conservation and Recovery Act facility investigation has been deferred) in accordance with the deferred unit strategy.</li> <li>▪ Dispositioned, decontaminated and decommissioned waste off-site (during an interim period until a decision regarding waste disposition, including a potential on-site waste disposal facility and metal recycling, is made in consultation with regulators and stakeholders).</li> <li>▪ Continued site-wide infrastructure surveillance and maintenance to maintain compliance.</li> <li>▪ Initiated of small equipment removal, utility optimizations and hazardous material abatement actions within the gaseous diffusion plant operations buildings.</li> </ul>	<b>177,590</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Complete preparatory work to remove and dispose of excess equipment/hazardous materials from buildings X-326, X-330, and X-333.</li> <li>▪ Begin removal of building X-326 process equipment.</li> <li>▪ Issue Remedial Investigation/Feasibility Study for decontamination and decommissioning of the process buildings.</li> <li>▪ Issue Remedial Investigation/Feasibility Study for waste disposition.</li> </ul>	<b>166,491</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Conduct X-326 deactivation work, including hazardous material removal, isolations, and targeted equipment removal.</li> <li>▪ Perform facility site services, programmatic safety and environmental technical oversight.</li> <li>▪ Conduct soil and groundwater environmental monitoring and reporting and associated sample collection.</li> <li>▪ Conduct surveillance and maintenance of DOE facilities to maintain compliance.</li> <li>▪ Conduct characterization, treatment, and disposition of waste associated with deactivation and decommissioning.</li> </ul>	<b>127,038</b>

**Portsmouth Contract/Post-Closure Liabilities/Administration (PBS: PO-0103)**

**Overview**

This PBS can be found within the Uranium Enrichment Decontamination and Decommissioning fund appropriation.

The scope of this PBS supports ongoing litigation expenses, record searches and defense of numerous legal claims filed by plaintiffs alleging damages from or relating to the Portsmouth Gaseous Diffusion Plant. Record searches support 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. There is no clean end-state to these activities. DOE is required to defend itself against all current and future litigation.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve Contract and Project Management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitments to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided defense against legal claims filed against the Government and its contractors.</li> <li>▪ 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.</li> <li>▪ Continued to provide payment into the Portsmouth pension program to remain in compliance with the Employee Retirement Income Security Act, DOE 350.1 and other applicable laws.</li> </ul>	<b>1,400</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue to provide defense against legal claims filed against the Government and its contractors.</li> <li>▪ Continue record searches in support of legal claims, DOE and Department of Justice investigations/studies, Freedom of Information Act requests, and requests</li> </ul>	<b>775</b>

	<p>from both state and Federal regulatory and elected officials.</p> <ul style="list-style-type: none"> <li>▪ Continue to provide payment into the Portsmouth pension program to remain in compliance with the Employee Retirement Income Security Act, DOE 350.1 and other applicable laws.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue to provide defense against legal claims filed against DOE and its contractors.</li> <li>▪ 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.</li> <li>▪ Continue to provide payment into the Portsmouth pension program to remain in compliance with the Employee Retirement Income Security Act, DOE 350.1 and other applicable laws.</li> </ul>	<b>775</b>

**Portsmouth Community and Regulatory Support (PBS: PO-0104)**

Overview

This PBS can be found within the Uranium Enrichment Decontamination and Decommissioning fund appropriation.

This PBS supports activities to promote active involvement with the state and local stakeholders in the EM planning and decision-making processes and provides the opportunity for meaningful involvement in managing the cleanup and closure of the site.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve Contract and Project management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Supported oversight activities of the Ohio Environmental Protection Agency.</li> <li>▪ Supported the designated Site Specific Advisory Board.</li> <li>▪ Supported technical/scientific activities for the Ohio University.</li> </ul>	<b>1,020</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue to support oversight activities of the Ohio Environmental Protection Agency.</li> <li>▪ Continue support for the designated Site Specific Advisory Board.</li> <li>▪ Support technical/scientific activities for the Ohio University.</li> </ul>	<b>1,019</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide support for oversight activities of the Ohio Environmental Protection Agency.</li> <li>▪ Support the designated Site Specific Advisory Board.</li> <li>▪ Support technical/scientific activities for the Ohio University.</li> </ul>	<b>1,020</b>

**Richland**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Hanford Site			
Central Plateau Remediation			
RL-0011 / NM Stabilization and Disposition-PFP	69,266	99,195	121,749
RL-0012 / SNF Stabilization and Disposition	94,235	111,952	115,030
RL-0013C / Solid Waste Stabilization and Disposition- 2035	128,477	143,482	135,741
RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone - 2035	164,861	190,705	186,300
Subtotal, Central Plateau Remediation	456,839	545,334	558,820
Richland Community and Regulatory Support			
RL-0100 / Richland Community and Regulatory Support	0	19,540	15,156
River Corridor and Other Cleanup Operations			
RL-0040 / Nuclear Facility D&D-Remainder of Hanford - 2035	139,791	56,121	68,662
RL-0041 / Nuclear Facility D&D-River Corridor Closure Project	351,027	329,048	320,685
RL-0100 / Richland Community and Regulatory Support	19,540	0	0
Subtotal, River Corridor and Other Cleanup Operations	510,358	385,169	389,347
Total, Hanford Site	967,197	950,043	963,323
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D			
Fast Flux Test Reactor Facility D&D			
RL-0042 / Nuclear Facility D&D-Fast Flux Test Facility Project	3,652	2,703	2,704
Total, Richland	970,849	952,746	966,027

In FY 2012, the P.L. 112-74, Consolidated Appropriations Act, 2012 established new control points within the Defense Environmental Cleanup Appropriation.

The funding table below provides a comparable display of the impacted activities and a comparable display will be continued throughout this budget chapter to aid in budget review.

**Funding Schedule by Activity**

	(dollars in thousands)		
	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Hanford Site			
Central Plateau Remediation			
RL-0011 / NM Stabilization and Disposition-PFP	69,266	99,195	121,749
RL-0012 / SNF Stabilization and Disposition	94,235	111,952	115,030
RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone - 2035	164,861	190,705	186,300
RL-0013C / Solid Waste Stabilization and Disposition- 2035	128,477	143,482	135,741
Subtotal, Central Plateau Remediation	456,839	545,334	558,820
Richland Community and Regulatory Support			
RL-0100 / Richland Community and Regulatory Support	19,540	19,540	15,156
River Corridor and Other Cleanup Operations			
RL-0040 / Nuclear Facility D&D-Remainder of Hanford - 2035	139,791	56,121	68,662
RL-0041 / Nuclear Facility D&D-River Corridor Closure Project	351,027	329,048	320,685
Subtotal, River Corridor and Other Cleanup Operations	490,818	385,169	389,347
Total, Hanford Site	967,197	950,043	963,323
Non-Defense Environmental Cleanup			
Fast Flux Test Reactor Facility D&D			
Fast Flux Test Reactor Facility D&D			
RL-0042 / Nuclear Facility D&D-Fast Flux Test Facility Project	3,652	2,703	2,704
Total, Richland	970,849	952,746	966,027

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The Richland Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. The Richland Operations Office manages cleanup of the Hanford Site, with the exception



of the work managed by the Office of River Protection and the Pacific Northwest National Laboratory (managed by the Office of Science, Pacific Northwest Site Office).

The Hanford Site was established during World War II to produce plutonium for the nation's nuclear weapons. The Hanford mission is now primarily site cleanup and environmental restoration to protect the Columbia River.

The legacy of Hanford's 40 years of nuclear weapons production for the nation's defense includes enormous quantities of spent (used) nuclear fuel, leftover plutonium in various forms, buried waste, contaminated soil and groundwater, and contaminated buildings that must undergo cleanup and be torn down. Forty percent of the approximately one billion curies of human-made radioactivity that exist across the nuclear weapons complex reside at Hanford and must be dealt with to protect human health and the environment. Continued remediation of the waste sites and demolition of old facilities is required to prevent further contamination of the Columbia River due to contaminants leaching from the soils into the groundwater.

The Department is working aggressively to reduce the footprint at the Richland Site. The cleanup momentum over the past several years has been and continues to be focused on completing cleanup along the Columbia River Corridor and transitioning the Central Plateau of the Hanford Site to a modern, protective waste management operation—driving down the risks to workers, the community, and the environment. Maintenance of this cleanup momentum will lead to approximately 90 percent footprint reduction by 2015.

Direct maintenance and repair at the Richland site is estimated to be \$40,292,000.

### **Regulatory Framework**

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. In October 2010, the Department of Energy and the Washington State Department of Ecology reached an agreement on revised timetables under the Tri-party Agreement and a

Consent Decree filed in the federal district court for cleanup on the Hanford Site.

Tri-Party Agreement/Compliance Milestones:

Tri-Party Agreement significant milestones for Plutonium Finishing Plant Project

- M-083-43, Complete Transition of the 242-Z Waste Treatment Facility And 236-Z Plutonium Reclamation Facility To Support Plutonium Finishing Plant Decommissioning by 2013.
- M-083-44, Complete Transition of the 234-5Z (Plutonium Conversion Facility) and ZA (Plutonium Conversion Support Facility), 243-Z Low Level Waste Treatment Facility by 2015.
- M-083-00A, Plutonium Finishing Plant Facility Transition and Selected Disposition Activities by September 2016.

Tri-Party Agreement significant milestones for Transuranic Retrieval

- M-091-40, Complete Retrieval of Contact-Handled Waste by September 2016.
- M-091-41A, Complete Retrieval of Non-Caisson Remote-Handled Waste by September 2016.
- M-091-42, Complete the Treatment of Small Container Contact-Handled Mixed Low Level Waste by September 2017.
- M-091-46, Complete the Certification of Small Container Contract-Handled Transuranic Mixed Waste by September 2017.

Tri-Party Agreement significant milestones for River Corridor Closure Project

- M-016-00A, Complete All Interim Response Actions for the 100 Areas, with the Exception of the 100 K Area, by December 2012.
- M-093-22, Complete 105-KE Reactor Interim Safe Storage in Accordance with the Remedial Design/Remedial Action Work Plan by July 2014.
- M-016-175, Begin Sludge Removal from the 105-KW Fuel Storage Basin by September 2014.
- M-016-176, Complete Sludge Removal from the 105-KW Fuel Storage Basin by December 2015.
- M-094-00, Complete Disposition of 300 Area Surplus Facilities Identified in the Removal Action Work Plan(s) for the 300 Area Facilities by September 2015.
- M-016-69, Complete All Interim 300 Area Remedial Actions by September 2015.
- M-016-00C, Complete All Response Actions in the 100K Area by December 2020.

**Environmental Management/  
Richland**

**FY 2013 Congressional Budget**

Tri-Party Agreement significant milestones for the Groundwater Remediation

- M-015-00D, Complete the Remedial Investigation/Feasibility Study Through the Submittal of a Proposed Plan for All 100 and 300 area Operable Units by December 2012.
- M-015-91B, Submit Feasibility Study Reports and Proposed Plans for the 200-BC-1/200-WA-1 Operable Units, 200 West Inner Area, by June 2013.
- M-015-93B, Submit RCRA Facility Investigation/Corrective Measures Study and Remedial Investigation/Feasibility Study Work Plan for the 200-SW-2 Operable Unit by December 2016.

Tri-Party Agreement significant milestones for the Central Plateau Cleanup

- M-015-00, Complete 200 Area Remedial Investigation/Feasibility Study Process for All Non-Tank Farm Operable Units by December 2016.
- M-016-200A, Complete U Plant Canyon (221U Facility) Demolition by September 2017.
- M-016-200B, Complete U Plant Facility (221U Facility) barrier construction by September 2021.
- M-016-00, Complete Remedial Actions for all Non-Tank Farm Operable Units by September 2024.

**Program Accomplishments**

The Richland Operations Office has implemented a strategy to reduce the Hanford footprint 90 percent by FY 2015, which will significantly reduce EM costs for infrastructure, surveillance, and maintenance. The primary accomplishments for FY 2012 involve significant cleanup activities, including decontamination and decommissioning along the River Corridor and on the Central Plateau, soil and groundwater remediation across the entire site, and retrieval of transuranic waste.

During FY 2012 it is expected that the Richland Site will complete the following major accomplishments:

- Complete Knock-Out Pot Disposition Subproject in the K-West Basins, which includes processing Knock-Out Pot material in Multiple Canister Overpacks and shipping to the Canister Storage Building for storage.
- Complete Acceptance Test Plan, Operations Test Plan, and operational startup for new 100-HX Pump and Treat Facility and operational testing of the groundwater system for treating Tc-99 at S-SX tank farm.
- Begin Phase 1 operations of 200 W pump and treat system.
- Complete interim remedial actions for 100-IU-2 and 100-IU-6.

**Environmental Management/  
Richland**

- Complete interim remediation for all 300 Area "inside the fence" waste sites north of Apple Street.
- Complete 105-N reactor interim safe storage.
- Complete the selected removal and/or remedial actions for 11 of the high priority facilities in the 300 Area.

The current estimated life-cycle cost range is \$55,572,275 to \$59,957,034; current projected closure dates are FY 2050 to FY 2062.

<u>Milestones</u>	<u>Date</u>
Removal and packaging of site found fuels and K-West Basin debris.	September 2012
Start operations of the 200 West pump and treat system.	September 2012
Complete Comprehensive Environmental Response, Compensation, and Liability Act proposed plan for the 100 and 300 Areas soil and groundwater operable units.	December 2012
Initiate decontamination and decommissioning of the Plutonium Finishing Plant.	September 2013
Complete removal and remedial actions for 13 high risk facilities.	September 2013

**Explanation of Changes**

The Department requests \$966,027,000 in FY 2013 for the Richland site, which is a 1.42 percent increase from the FY 2012 enacted appropriation level. This request reflects the use of \$2,000,000 in Closure Site uncosted balances from prior years to offset on-going mission work at the Hanford Site. This strategy is consistent with the Department of Energy's (CFO) guidance to utilize old, prior year uncosted balances to clear them off DOE's financial records. The balances were originally appropriated in support of Fernald settlement/closeout charges, ongoing litigation support and contract close-out balances remaining from work with Kaiser-Hill.

The FY 2013 request increases the levels for deactivation and decontamination activities at the Plutonium Finishing Plant (+\$22,554,000), supports increased K-West Basin activities for the Spent Nuclear Fuel-Stabilization and Disposition Project (+\$3,078,000), and

supports mission critical infrastructure upgrades, replacements and repairs (+\$12,541,000).

This request decreases the Nuclear Facility Deactivation and Decommissioning Projects due to the completion of interim remedial actions in the 100 and 300 Areas (-\$8,363,000) and completion of new groundwater pump and treatment systems (-\$4,405,000). In addition, the request decreases the levels for Community and Regulatory Support for emergency preparedness grants, environmental oversight activities and County payments in lieu of taxes (-\$4,384,000) and reduces support for solid waste management operations (-\$7,741,000).

For more information, please see the PBS level of detail located in the Explanation of Changes section later in this chapter.

**Program Planning and Management**

Program planning and management at Hanford is conducted through the issuance and execution of contracts to large and small businesses. Hanford develops near- and long- term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. Current contracts at Hanford include:

- Washington Closure Hanford , LLC, for cleanup and closure of the River Corridor, with a base period of performance from 2005 through 9/30/2015;
- CH2M Hill Plateau Remediation Company, for cleanup of the Hanford Central Plateau with a base period of performance from 10/1/2008 through

9/30/2013, with contract option through 9/30/2018; and the

- Mission Support Alliance, LLC, contract with a base period of performance from 5/26/2009 through 5/25/2014, with one 3-year option plus one 2-year option.

**Strategic Management**

The strategy of the Richland site is to shrink the active footprint of cleanup from 586 square miles to less than 75 square miles by completing the cleanup of the Hanford’s Columbia River Corridor by 2015. The next focus is on cleanup of the Central Plateau by demolishing the Plutonium Finishing Plant by 2016 and deactivating and demolishing over 80 facilities/structures; eliminating the highest risk nuclear facility on the Hanford Site.

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

- Availability of off-site disposal for spent fuel and high-level waste.
- The acceptance of cleanup levels in Records of Decision by regulators to support deletion of the Hanford Site from the National Priority List.
- Records of Decision for the Central Plateau that will define cleanup actions of Central Plateau waste sites.
- Unexpected contamination at some waste sites or facilities.
- The final disposition of the cesium and strontium capsules (including any needed treatment and repackaging).

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Richland Site Measure 1: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	49,974	N/A
Current Year(Cumulative to date)	49,440	N/A

Prior Year(Cumulative to date)	48,896	48,896/Met
Analysis	<p>Management and removal of legacy and newly generated low-level waste and mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint at the Richland site. It should be noted that the Richland site is dependent upon the Nevada National Security Site and commercial waste disposal sites for low-level, and mixed low-level waste disposal.</p> <p>For FY 2011 the EM program targeted a cumulative total of 48,896 cubic meters of legacy and newly generated low-level waste and mixed low-level waste to be disposed. At the end of FY 2011, the Richland site disposed a cumulative total of 48,896 cubic meters of low-level waste and mixed low-level waste, meeting its target.</p>	

<b>Richland Site Measure 2: Nuclear Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	35	N/A
Current Year(Cumulative to date)	32	N/A
Prior Year(Cumulative to date)	28	29/Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the Richland site had targeted a cumulative total of 28 nuclear facilities to be completed by the end of FY 2011. At the end of FY 2011 the Richland site had completed a cumulative total of 29 nuclear facilities, exceeding its target by one facility.</p>	

<b>Richland Site Measure 3: Radioactive Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	85	N/A
Current Year(Cumulative to date)	79	N/A
Prior Year(Cumulative to date)	75	70/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing the number of facilities that have reached their end state within the EM program. The endpoint corresponds to one of the following:</p>	

	<p>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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Richland site targeted a cumulative total of 75 radioactive facilities to be completed. At the end of FY 2011, the Richland site completed a cumulative total of 70 radioactive facilities falling short by five facilities.</p>
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<b>Richland Site Measure 4: Industrial Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	515	N/A
Current Year(Cumulative to date)	481	N/A
Prior Year(Cumulative to date)	469	450/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Richland site targeted a cumulative total of 469 industrial facilities. At the end of FY 2011, the Richland site completed a cumulative total of 450 industrial facilities, falling short of its target for FY 2011 by 19 industrial facilities by the end of FY 2011.</p>	

<b>Richland Site Measure 5: Remediation Complete (Number of Release Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	687	N/A
Current Year(Cumulative to date)	669	N/A
Prior Year(Cumulative to date)	612	611/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as</p>	

	<p>well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Richland site targeted a cumulative total of 612 release sites. At the end of FY 2011, the Richland site completed a cumulative total of 611 release sites, falling short of its target for FY 2011 by one site.</p>
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\* The targets and actuals listed for this table are only cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

**Explanation of Funding Changes**

(Dollars In Thousands)

FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
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**Defense Environmental Cleanup**

**Hanford Site**

**Central Plateau Remediation**

**RL-0011 / NM Stabilization and Disposition-PFP**

- Increase supports deactivation and decontamination activities for 242-A Waste Treatment Facility and 236-Z Plutonium Reclamation Facility (+\$17,354,000). Also supports deactivation and preparation for dismantlement of the above grade portions of the 234-5Z, 243-Z and other facilities in the Plutonium Finishing Plant complex (+\$5,200,000). 99,195      121,749      +22,554

**RL-0012 / SNF Stabilization and Disposition**

- Increase supports K-West basin debris removal and beginning construction of the Sludge Treatment Storage Containers Annex for the sludge retrieval and packaging prior to transport to an interim storage location on the Central Plateau. 111,952      115,030      +3,078

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

- Decrease reflects a reduction in K-Basins sludge storage support activities, base operations for solid waste activities, and waste management program support for Hanford projects. 143,482      135,741      -7,741

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

- Decrease reflects completion of installation and testing of new 100-HX and 200 West groundwater pump and treatment systems. 190,705      186,300      -4,405

**Richland Community and Regulatory Support**

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

- The decrease reflects reduced support for emergency preparedness grants, environmental oversight grants and reduced payments-in-lieu of taxes to Grant, Benton, and Franklin Counties. 19,540      15,156      -4,384

**River Corridor and Other Cleanup Operations**

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

- Increase provides critical infrastructure upgrades, replacement and repairs for fire response units, HVAC systems, water systems, and roadway repairs. 56,121      68,662      +12,541

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

- The decrease reflects completion of the following: interim remedial actions and decontamination and decommissioning activities in the 300 Area, 105 interim reactor safe storage, completion of interim remedial actions for the 100-IU-2 and 100-IU-6, Interim Safe Storage of the 100 N Reactor, and other miscellaneous interim remedial actions in the 100 Area. 329,048      320,685      -8,363

**Non-Defense Environmental Cleanup**

**Fast Flux Test Reactor Facility D&D**

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

- No significant change. 2,703      2,704      +1

**Total, Richland**

<b>952,746</b>	<b>966,027</b>	<b>13,281</b>
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**Environmental Management/  
Richland**

FY 2013 Congressional Budget

## NM Stabilization and Disposition-PFP (PBS: RL-0011)

### Overview

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 were stored in vaults. This PBS implements actions to package and ship special nuclear materials and fuels to storage facilities; cleanout facilities and demolish them to slab-on-grade; and transition the below grade structures to PBS RL-0040, Nuclear Facility Decommissioning & Decontamination - Remainder of Hanford. These actions can be grouped in the following key categories: 1) stabilization, packaging and shipment of the special nuclear materials and residues from the Plutonium Finishing Plant complex; 2) interim storage of special nuclear materials; 3) maintaining the facilities in a safe and secure manner until the completion of demolition; and 4) cleanout and demolition of facilities.

### Sequence



### Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)



FY 2011	<ul style="list-style-type: none"> <li>▪ Provided for site-wide services for day-to-day operations of general utilities, fire department, and analytical services. Site-wide services were prorated across the PBS's.</li> <li>▪ Provided safe and essential services for over forty radiological and nuclear Plutonium Finishing Plant facilities and systems, and surveillance of residual radioactive and chemical contamination to ensure a safe and compliant condition.</li> <li>▪ Provided program management, quality assurance; management assessments and corrective action development; regulatory compliance monitoring; performance assessment support; and records management.</li> </ul>	<b>69,266</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide for site-wide services for day-to-day operations of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> <li>▪ Maintain Plutonium Finishing Plant nuclear safety; maintain, manage and administer radiological control, fire protection, occupational safety and health, and the training program.</li> <li>▪ Provide administration and direction of Plutonium Finishing Plant support, baseline and project control, conduct of operations, facility property administration, maintenance of policies and procedures, occurrence reporting, quality assurance support, management assessment and corrective action development, regulatory compliance monitoring; performance assessment support; and records management.</li> <li>▪ Continue deactivation activities including removal of gloveboxes from 234-5Z, 243-Z and other facilities in the Plutonium Finishing Plant complex.</li> </ul>	<b>99,195</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide for site-wide services for day-to-day operations of general utilities, fire department, and analytical services.</li> <li>▪ Maintain Plutonium Finishing Plant nuclear safety; maintain, manage and administer radiological control, fire protection, occupational safety and health, and the training program.</li> <li>▪ Provide administration and direction of Plutonium Finishing Plant support, baseline and project control, conduct of operations, facility property administration, maintenance of policies and procedures, occurrence reporting, quality assurance support, management assessment and corrective action development, regulatory compliance monitoring; performance assessment support; and records management.</li> <li>▪ Decontaminate and decommission the 242-A Waste Treatment Facility and 236-Z Plutonium Reclamation Facility.</li> <li>▪ Deactivate and prepare for dismantlement the above grade portions of the 234-5Z, 243-Z and other facilities in the Plutonium Finishing Plant complex.</li> </ul>	<b>121,749</b>

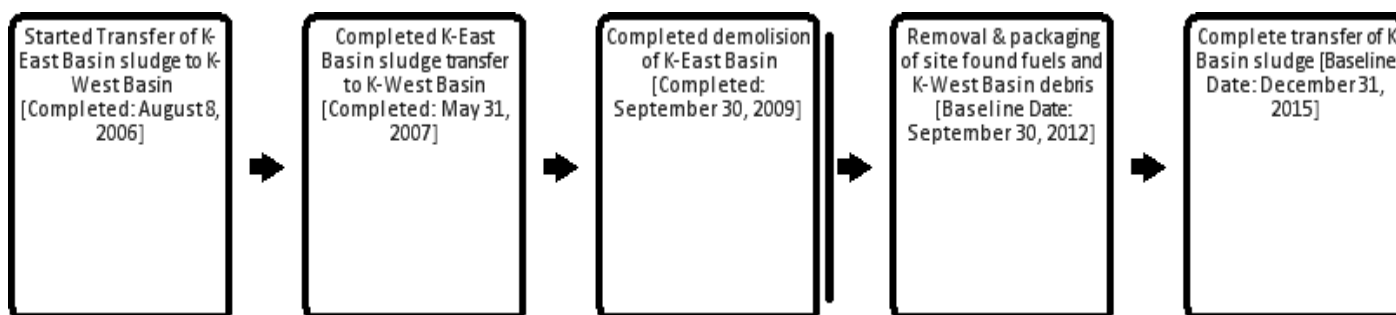
## SNF Stabilization and Disposition (PBS: RL-0012)

### Overview

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

This PBS scope includes: 1) the stabilization, removal, and shipment of nuclear materials including spent (used) nuclear fuel, radioactively contaminated sludge, water and debris from the K Basins; and 2) deactivation, decontamination, decommissioning, and demolition of the K Basins and other used fuel project-related facilities. Wastes to be removed include the 2,100 metric tons of degrading spent (used) fuel from the K-East and K-West Basins and 29 cubic meters of radioactively contaminated sludge that currently resides in engineered containers in the K-West basin. This PBS currently supports the removal of the sludge from the K-West Basin for interim storage on the Central Plateau. After removal of sludge from the K-West Basin, PBS RL-0041 will disposition the K-West Basin and other K Basin Closure Project-related facilities, to achieve footprint reduction.

### Sequence



### Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>

### Funding and Activity Schedule

Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided site-wide services of day-to-day operations of general utilities, fire department, and analytical services. Site-wide services were prorated across the PBS's.</li> <li>▪ Operated and maintained K-West Basin and associated structures in a safe and compliant manner and support required surveillance and maintenance activities.</li> </ul>	<b>94,235</b>

	<ul style="list-style-type: none"> <li>▪ Sampled and characterized the Settler Tube sludge and K-West Basin floor sludge in Engineer Container 210).</li> <li>▪ Placed K-West Basin in a “fuel free” condition allowing it to be demolished upon completion of sludge removal.</li> <li>▪ Procured Multiple Canister Overpacks, Sludge Treatment Storage Containers, and Knock-Out Pot Disposition and supported the Engineer Container/Settler Tube Phase 1 Project reaching Critical Decision 2/3 and related Tri-Party Agreement M-16 milestones.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide site-wide services of day-to-day operations of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS’s.</li> <li>▪ Operate and maintain K-West Basin and associated structures in a safe and compliant manner and support required surveillance and maintenance activities.</li> <li>▪ Sample and characterize the Settler Tube sludge and K-West Basin floor sludge in Engineer Container 210).</li> <li>▪ Place K-West Basin in a “fuel free” condition allowing it to be demolished upon completion of sludge removal.</li> <li>▪ Continue procurement of Multiple Canister Overpacks, Sludge Treatment Storage Containers, and Knock-Out Pot Disposition and support the Engineer Container/Settler Tube Phase 1 Project reaching Critical Decision 2/3 and related Tri-Party Agreement M-16 milestones.</li> </ul>	<b>111,952</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide site-wide services of day-to-day operations of general utilities, fire department, and analytical services.</li> <li>▪ Operate and maintain K-West Basin and associated structures in a safe and compliant manner and support required surveillance and maintenance activities.</li> <li>▪ Process the last Multi Canister Over pack of found spent nuclear fuel and ship to the Canister Storage Building for storage.</li> <li>▪ Complete Knock-Out Pot Disposition Subproject, which includes processing Knock-Out Pot material in Multiple Canister Overpacks and shipping to the Canister Storage Building for storage.</li> <li>▪ Provide engineering, design, procurement to support continued work towards Critical Decision 2/3 for the Engineered Container/Settler Tube Sludge Disposition Subproject.</li> <li>▪ Begin construction of the sludge transfer and storage container annex at the K West Basin.</li> </ul>	<b>115,030</b>

## Solid Waste Stabilization and Disposition- 2035 (PBS: RL-0013C)

### Overview

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

The scope of this PBS includes storage of irradiated nuclear fuel, transuranic waste, mixed low-level waste, and low-level waste generated at the Hanford Site and other DOE and Department of Defense facilities. This PBS also includes packaging of EM legacy and non-legacy irradiated nuclear fuel and storage in the Canister Storage Building or 200 Area Interim Storage Area. In addition, wet storage of 1,936 cesium and strontium capsules in the Waste Encapsulation and Storage Facility, will be transferred to dry storage, and retrieval of contact- and remote-handled suspect transuranic waste in the low-level burial grounds will also be performed. About 24,000 cubic meters of suspect transuranic waste is to be processed and an estimated 10,000 cubic meters shipped to the Waste Isolation Pilot Plant. About 51,000 cubic meters of mixed low-level waste will be treated and disposed in the mixed waste trenches or other facilities. Over 200 de-fueled naval reactor compartments will be disposed of in a dedicated trench and about 130,000 cubic meters of low-level waste will be disposed through site closure.

### Sequence



### Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
Waste Disposition and Disposal	<ul style="list-style-type: none"> <li>▪ Transuranic waste and low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>

### Funding and Activity Schedule

Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided site-wide services for day-to-day operations of general utilities, fire department, and analytical services and operations and upgrades to treat Hanford site effluents. Site-wide services wee prorated across the PBS's.</li> </ul>	<b>128,477</b>

	<ul style="list-style-type: none"> <li>▪ Provided safe and compliant operations to treat mixed low-level waste, to perform transuranic waste repackaging activities under the American Recovery and Reinvestment Act, and to ship transuranic waste to the Waste Isolation Pilot Plant.</li> <li>▪ Provided core management and expertise to ensure compliance with Tri-Party Agreement M-91 and scope performed under the American Recovery and Reinvestment Act.</li> <li>▪ Provided base operations of the Integrated Disposal Facility and solid waste activities; safe operations to store low-level waste, mixed low-level waste, and transuranic waste at the Central Waste Complex and the Low Level Burial Grounds.</li> <li>▪ Provided base operations to support safe and compliant interim storage of Irradiated Nuclear Fuel.</li> <li>▪ Operated and maintained the Waste Encapsulation and Storage Facility and associated structures, operating systems, equipment, and monitoring systems.</li> <li>▪ Supported transuranic waste retrieval capability under the American Recovery and Reinvestment Act in order to meet Tri-Party Agreement M-91-40.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services; operations necessary to support safe and compliant interim storage of Irradiated Nuclear Fuel, which include operating and maintaining the Canister Storage Building and the 200 Area Interim Storage Area facilities, associated structures, operating systems, equipment and monitoring systems. Site-wide services are prorated across the PBS's.</li> <li>▪ Support interim storage of cesium and strontium capsules at the Waste Encapsulation and Storage Facility.</li> <li>▪ Maintain and upgrade T-Plant, maintain the Integrated Disposal Facility, the Waste Receiving and Processing Facility, and the Central Waste Complex in safe and compliant conditions.</li> <li>▪ Treat and dispose liquid wastes from the generators and dispose of treated liquid effluents from the 200 Area Liquid Effluent Treatment Facility.</li> <li>▪ Provide waste acceptance services, interface with regulators, and project management, risk management, planning, and baseline performance reporting. Also, provide administration and coordination of essential programs such as Transportation &amp; Packaging, Emergency Preparedness, Quality Assurance, Corrective Action Management, Safety Basis development and implementation, and Criticality and Nuclear Safety programs.</li> <li>▪ Maintain a viable waste management program to support all Hanford projects and operations and provided base operations for solid waste activities.</li> <li>▪ Provide operations to support K-Basin sludge storage.</li> </ul>	<b>143,482</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services; operations necessary to support safe and compliant interim storage of Irradiated Nuclear Fuel, which include operating and maintaining the Canister Storage Building and the 200 Area Interim Storage Area facilities, associated structures, operating systems, equipment and monitoring systems.</li> <li>▪ Support interim storage of cesium and strontium capsules at the Waste Encapsulation and Storage Facility.</li> <li>▪ Maintain and upgrade T-Plant, maintain the Integrated Disposal Facility, the Waste Receiving and Processing Facility, and the Central Waste Complex in safe and compliant conditions.</li> <li>▪ Treat and dispose liquid wastes from the generators and dispose of treated liquid effluents from the 200 Area Liquid Effluent Facility.</li> </ul>	<b>135,741</b>

	<ul style="list-style-type: none"><li>▪ Provide waste acceptance services, interface with regulators, and project management, risk management, planning, and baseline performance reporting. Also, provide administration and coordination of essential programs such as Transportation and Packaging, Emergency Preparedness, Quality Assurance, Corrective Action Management, Safety Basis development and implementation, and Criticality and Nuclear Safety programs.</li><li>▪ Maintain a viable waste management program to support all Hanford projects and operations and provided base operations for solid waste activities.</li></ul>	
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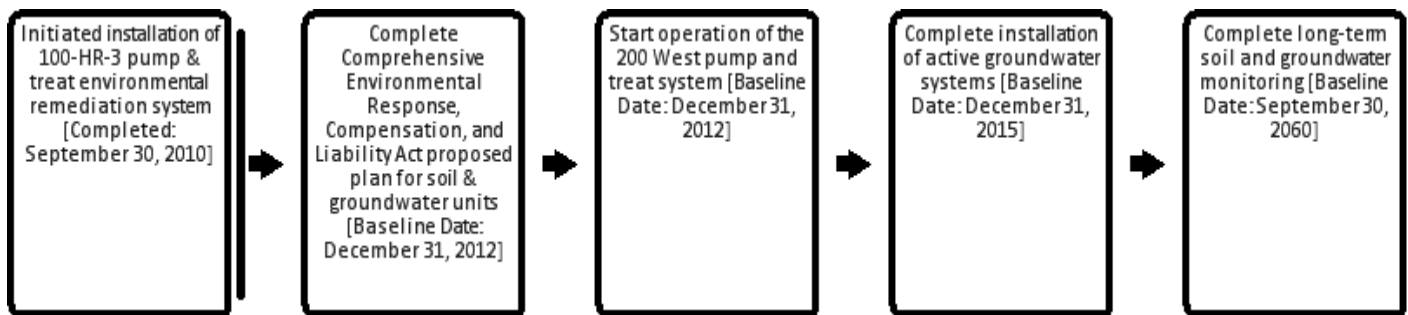
## Soil and Water Remediation-Groundwater/Vadose Zone - 2035 (PBS: RL-0030)

### Overview

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

This PBS scope includes groundwater/vadose zone remediation activities that address groundwater contamination and protection of the groundwater resources on the Hanford Site. The principal activities for this PBS include: 1) field characterization to assess the extent of radiological/chemical contamination and contaminant for movement in the vadose zone and groundwater; 2) vadose zone, groundwater and risk assessment modeling and evaluating cumulative impacts to the Hanford groundwater and Columbia River; 3) operation of groundwater remediation systems and implementation of alternative methods; 4) installation of wells to maintain an integrated Comprehensive Environmental Response, Compensation, and Liability Act and Resource Conservation and Recovery Act compliant network for monitoring groundwater plumes and for implementing groundwater/vadose zone remedies; 5) groundwater well drilling, maintenance, decommissioning; and 6) complete final restoration of groundwater on the Hanford Site. This PBS supports the regulatory decision-making process for and remediation of all of the groundwater operable units on the Hanford site. It also supports the regulatory processes for waste sites along the River Corridor and on the Central Plateau, as well as the regulatory processes for and remediation of soil contamination in the Central Plateau deep vadose zone.

### Sequence



### Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided site-wide services for day-to-day operations of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> </ul>	<b>164,861</b>

	<ul style="list-style-type: none"> <li>▪ Continued integration of site-wide groundwater and vadose zone cleanup activities, groundwater contamination monitoring, as well as, operations, maintenance, and necessary modifications of existing remediation systems and deployment of chemical and biological treatment to select areas in support of final remedies.</li> <li>▪ Progressed towards the completion of characterization and supporting decision documentation that are needed to complete the Comprehensive Environmental Response, Compensation and Liability Act Remedial Investigation/Feasibility Study process and obtain the final Record of Decision for the 300-FF-5 Operable Unit located in the River Corridor.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> <li>▪ Continue integration of site-wide groundwater and vadose zone cleanup activities, groundwater contamination monitoring, and partial operations, maintenance, and necessary modifications of existing remediation systems, and deployment of chemical and biological treatment to select areas in support of final remedies.</li> <li>▪ Complete Acceptance Test Plan, Operations Test Plan, and operational startup for new 100-HX Pump and Treat Facility and operational testing of the groundwater system for treating Tc-99 at S-SX tank farm.</li> <li>▪ Complete installation and testing of new groundwater 200W pump and treatment systems.</li> <li>▪ Begin Phase 1 operations of 200W pump and treat system.</li> </ul>	<b>190,705</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> <li>▪ Continue integration of site-wide groundwater and vadose zone cleanup activities, groundwater contamination monitoring, and operations, maintenance, and necessary modifications of existing remediation systems, and deployment of chemical and biological treatment to select areas in support of final remedies.</li> <li>▪ Progress towards the completion of characterization and supporting decision documentation needed to complete the Comprehensive Environmental Response, Compensation and Liability Act Remedial Investigation/Feasibility Study process and obtain the final Record of Decision for the 100 Area located in the River Corridor and the 200 Area located in the Central Plateau.</li> </ul>	<b>186,300</b>



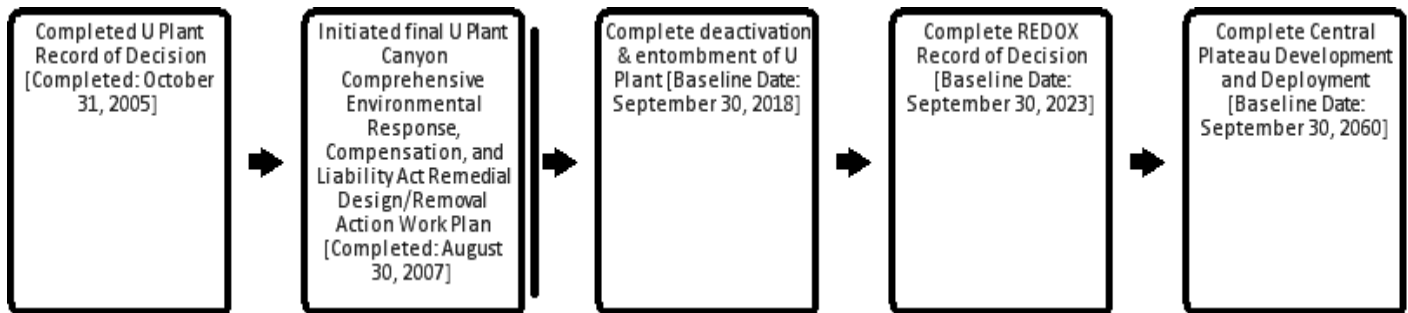
**Nuclear Facility D&D-Remainder of Hanford - 2035 (PBS: RL-0040)**

**Overview**

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

This PBS scope includes implementation of various Hanford Site cleanup initiatives: cleanup of radioactivity and chemical contamination in about 900 waste sites with potential impact to groundwater and approximately 1,000 facilities primarily on the Central Plateau; continuing litigation support; and infrastructure operations. Life-cycle work scope includes: decontamination, decommissioning, dismantlement, and disposition of surplus facilities (including canyon facilities); remediation of all 200 Area waste sites containing large inventories of mobile contaminants that may migrate into groundwater plumes (includes removal of contaminants or construction of surface barrier caps over waste sites); deactivation and disposition of contaminated equipment; final disposition of Cold War legacy wastes; site occupational medicine program; safe operation of facilities awaiting deactivation and demolition; and maintenance and repair of system infrastructure. Following the assessment activities through the remedial decision process under PBS RL-0030, remedial design and implementation will be performed under PBS RL-0040. This PBS workscope includes the physical cleanup of these waste sites and facilities.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>

**Funding and Activity Schedule**

Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided site-wide services for day-to-day operations of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> <li>▪ Maintained Richland Operation Office integrated baseline.</li> </ul>	<b>139,791</b>

	<ul style="list-style-type: none"> <li>▪ Provided site infrastructure upgrades, replacements and repairs such as cranes, general plant facility HVAC replacements, fire truck and mobile response unit replacement, Hanford Local Area Network upgrades, roadway repair and sealing, and water line replacement/refurbishment.</li> <li>▪ Managed and provided surveillance and maintenance for surplus facilities and waste sites, and waste site remediation activities. This includes Environmental Safety and Health oversight, quality management, safety and job hazards analysis, technical support and integration of site activities.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operation of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> <li>▪ Maintain Richland Operation Office integrated baseline.</li> <li>▪ Manage and provide surveillance and maintenance for surplus facilities and waste sites, and waste site remediation activities. This includes Environmental Safety and Health oversight, quality management, safety and job hazards analysis, technical support and integration of site activities.</li> <li>▪ Provide funding for Richland direct contracts that provide steam for critical site heating systems, occupational medicine, Bonneville Power Administration electricity, litigation support and General Services Administration office space rent.</li> </ul>	<b>56,121</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operation of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> <li>▪ Maintain Richland Operation Office integrated baseline.</li> <li>▪ Provide site infrastructure upgrades, replacements and repairs such as cranes, general plant facility heating, ventilation and air conditioning replacements, natural gas pipeline, fire truck and mobile response unit replacement, roadway repair and sealing, and water line replacement/refurbishment.</li> <li>▪ Manage and provide surveillance and maintenance for surplus facilities and waste sites, and waste site remediation activities. This includes Environmental Safety and Health oversight, quality management, safety and job hazards analysis, technical support and integration of site activities.</li> <li>▪ Provide funding for Richland direct contracts that provide steam for critical site heating systems, occupational medicine, Bonneville Power Administration electricity, litigation support and General Services Administration office space rent.</li> </ul>	<b>68,662</b>

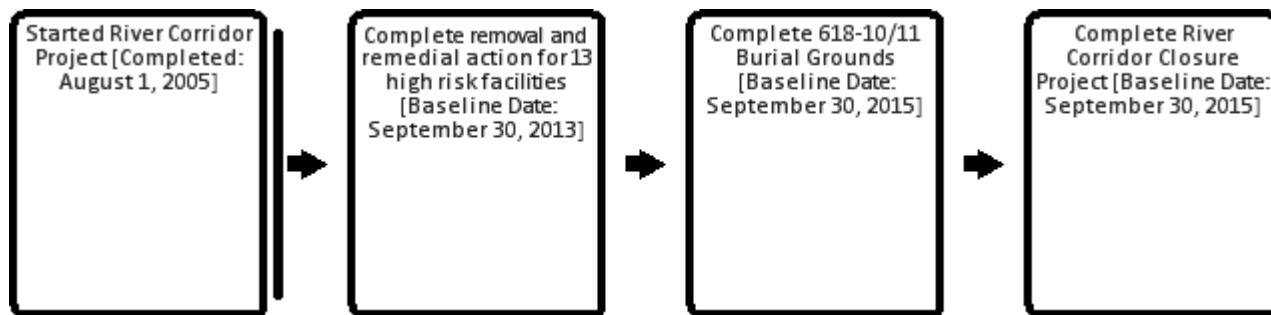
## Nuclear Facility D&D-River Corridor Closure Project (PBS: RL-0041)

### Overview

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

The River Corridor Closure Project addresses the remediation of contaminated soils and facilities adjacent to the Columbia River. This project will remediate waste sites; deactivate, decontaminate, decommission, and demolish associated facilities; and place the production reactors in an interim safe storage condition until a final decision is made addressing reactor disposition and remediation activities are being conducted in accordance with Comprehensive Environmental Response, Compensation, and Liability Act Interim Action Records of Decision. The River Corridor is divided into four major sub-areas: (1) 100 Area, comprised of shutdown plutonium production reactors, support facilities, and burial grounds; (2) 300 Area, comprised of former reactor fuel fabrication, research and development, and support facilities; (3) the support complex in the 400 Area, comprised of a small number of former maintenance and storage facilities and waste sites located outside of the Fast Flux Test Facility reactor protected area; and (4) 600 Area, which includes two major burial grounds (618-10 and 618-11) located between the 100 and 300 Areas, and vacant land extending from the Columbia River to the Central Plateau in the middle of the Site. This PBS also operates the Environmental Restoration Disposal Facility (ERDF) to support the disposal of wastes generated during the cleanup of the Hanford site.

### Sequence



### Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>

### Funding and Activity Schedule

Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided site-wide services for day-to-day operations of general utilities, fire</li> </ul>	<b>351,027</b>

	<p>department, and analytical services; surveillance and maintenance of nuclear and support facilities in the 100, 300, and 400 Areas of the River Corridor; and continued operations of specific key utilities (water, sewer electrical) in those same areas. Site-wide services are prorated across the PBS's.</p> <ul style="list-style-type: none"> <li>▪ Completed excavation, loadout, and backfill of 47 waste sites and burial grounds in the 100, 300, and 600 Areas.</li> <li>▪ Completed deactivation, decontamination, decommissioning and demolition of 54 facilities in the 100, 300, 400, and 600 Areas of the Hanford site.</li> <li>▪ Initiated interim safe storage of the 105-KE Reactor. Continued to deactivate, decontaminate, decommission, and demolish 100K Area facilities not supporting PBS RL-0012's Sludge Treatment Project.</li> <li>▪ Disposed of up to 1,500,000 tons of waste at the Environmental Restoration Disposal Facility during the Hanford Site demolition and remediation activities.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services; surveillance and maintenance of nuclear and support facilities in the 100, 300, and 400 Areas of the River Corridor; and continued operations of specific key utilities (water, sewer electrical) in those same areas. Site-wide services are prorated across the PBS's.</li> <li>▪ Operate the Environmental Restoration Disposal Facility in support of Hanford Site demolition and remediation activities.</li> <li>▪ Complete interim remedial actions for 100-IU-2 and 100-IU-6.</li> <li>▪ Continue remediation of the deep chromium contamination waste site 100-C-7.</li> <li>▪ Complete interim remediation for all 300 area "inside the fence" waste sites north of Apple Street.</li> <li>▪ Complete 105-N reactor interim safe storage.</li> <li>▪ Complete the selected removal and/or remedial actions for 11 of the high priority facilities in the 300 Area.</li> <li>▪ Continue field remediation and facility disposition other areas along the Columbia River Corridor.</li> <li>▪ Continue remediation of the 618-10 burial grounds.</li> <li>▪ Complete deactivation and decommissioning of two buildings and removal of one soil site in the 100 K Area.</li> <li>▪ Continue Interim Safe Storage of the K-East Reactor.</li> </ul>	<b>329,048</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services; surveillance and maintenance of nuclear and support facilities in the 100, 300, and 400 Areas of the River Corridor; and continued operations of specific key utilities (water, sewer electrical) in those same areas.</li> <li>▪ Operate the Environmental Restoration Disposal Facility in support of Hanford Site demolition and remediation activities.</li> <li>▪ Complete the interim response actions for the 100 N Area.</li> <li>▪ Complete the interim remedial actions for the 300-FF-2 Waste Sites.</li> <li>▪ Continue field remediation and facility disposition other areas along the Columbia River Corridor.</li> <li>▪ Continue Interim Safe Storage of the K-East Reactor.</li> <li>▪ Complete the selected removal and/or remedial actions for 13 high priority facilities in the 300 Area.</li> <li>▪ Continue remediation of the 618-10 and 618-11 burial grounds.</li> </ul>	<b>320,685</b>

**Nuclear Facility D&D-Fast Flux Test Facility Project (PBS: RL-0042)**

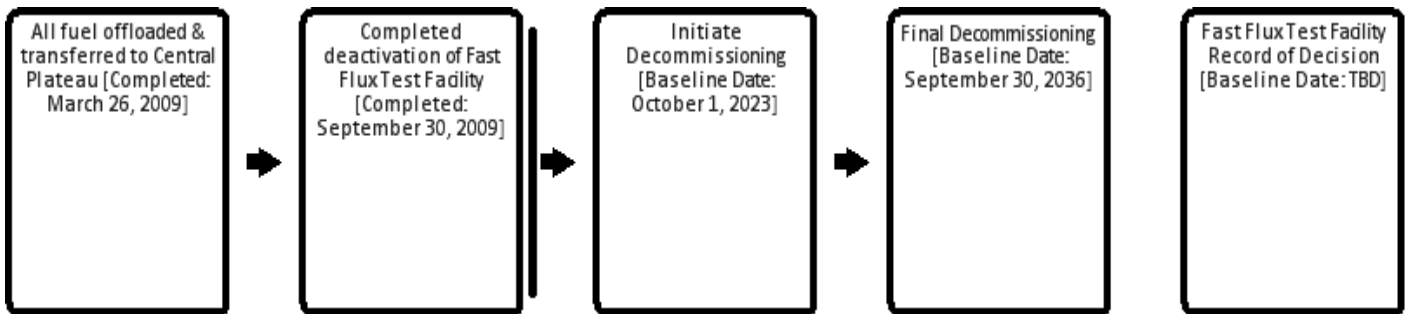
**Overview**

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

This PBS scope includes deactivation and decommissioning of the Fast Flux Test Facility, a 400-megawatt (thermal) liquid metal (sodium) cooled fast neutron flux nuclear test reactor, and 44 support buildings and structures. The deactivation activities consist of: reactor de-fueling; disposition of 376 reactor fuel assemblies by washing, drying, loading in storage casks and transferring to appropriate storage locations; draining 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 260,000 gallons of bulk sodium by conversion to sodium hydroxide for use by the Waste Treatment Plant; and the shutdown of Fast Flux Test Facility auxiliary systems.

The Fast Flux Test Facility Project has completed the sodium drain from the Fast Flux Test Facility to the Sodium Storage Facility, stored the reactor nuclear fuel and placed the facility in long-term surveillance and maintenance.

**Sequence**



**Benefits**

Cleanup Benefits	<ul style="list-style-type: none"> <li>Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Provided site-wide services for day-to-day operations of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> <li>Provided surveillance and maintenance activities necessary to ensure safety for Fast Flux Test Facility and support facilities.</li> </ul>	<b>3,652</b>
FY 2012	<ul style="list-style-type: none"> <li>Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services. Site-wide services are prorated across the PBS's.</li> </ul>	<b>2,703</b>

	<ul style="list-style-type: none"> <li>▪ Provide surveillance and maintenance activities necessary to ensure safety for Fast Flux Test Facility and support facilities.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services.</li> <li>▪ Provide surveillance and maintenance activities necessary to ensure safety for Fast Flux Test Facility and support facilities.</li> </ul>	<b>2,704</b>

**Richland Community and Regulatory Support (PBS: RL-0100)**

**Overview**

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

The scope of this PBS includes regulatory and stakeholder support and assistance payments. The activities included in this PBS are: 1) regulatory costs as required by Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, Tri-Party Agreement, Clean Air Act, and other State and local laws and regulations; 2) grants to Washington State and Oregon State; 3) payments in lieu of taxes made to the three host counties where the Hanford reservation is located; 4) funding to support the Hanford Advisory Board and related activities; and 5) Hanford Natural Resources Trustee activities. This PBS scope will end upon completion of the Hanford EM mission.

**Sequence**

Reimburse the Department of Ecology & Health; provide for Resource Conservation and Recovery Act Mixed Waste Fee & Payment in Lieu of Taxes [Baseline Date: September 30, 2060]

**Benefits**

Improve Contract and Project Management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Supported Washington and Oregon States' emergency preparedness, environmental oversight, and other related activities.</li> <li>▪ Provided funding for Washington State Department of Ecology Resource Conservation and Recovery Act mixed waste fee; Washington State Department of Health's air emissions monitoring invoice; and the Payment in Lieu of Taxes for Grant, Benton, and Franklin Counties.</li> </ul>	<b>19,540</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Support Washington and Oregon States' emergency preparedness, environmental oversight, Hanford Advisory Board and other related activities.</li> <li>▪ Support Washington State Department of Ecology Resource Conservation and</li> </ul>	<b>19,540</b>

	Recovery Act mixed waste fee; Washington State Department of Health's air emissions monitoring invoice; and the Payment in Lieu of Taxes for Grant, Benton, and Franklin Counties.	
FY 2013	<ul style="list-style-type: none"> <li>▪ Support Washington and Oregon States' emergency preparedness, environmental oversight, Hanford Advisory Board and other related activities.</li> <li>▪ Support Washington State Department of Ecology's Resource Conservation and Recovery Act mixed waste fee and Washington State Department of Health's air emissions monitoring invoice and payments-in-lieu of taxes to Grant, Benton, and Franklin Counties.</li> </ul>	<b>15,156</b>



**River Protection**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup Office of River Protection Tank Farm Activities ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition	395,500	441,800	482,113
Waste Treatment and Immobilization Plant ORP-0060 / Major Construction-Waste Treatment Plant	738,697	740,000	690,000
<b>Total, Office of River Protection</b>	<b>1,134,197</b>	<b>1,181,800</b>	<b>1,172,113</b>

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The River Protection Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. The Office of River Protection is responsible for the storage, retrieval, treatment, immobilization, and disposal of liquid tank waste and operation, maintenance, engineering, and construction activities in the Tank Farms. A multi-year construction project to build a Waste Treatment and Immobilization Plant to process and immobilize the tank waste is ongoing. The processed high-radioactivity fraction of the waste is being prepared for on-site storage awaiting final disposal. The lower-hazard waste will be disposed in buried waste facilities on the Hanford site. The River Protection Project end state is to clean up the tank waste and tank farms in a compliant manner;

immobilize and facilitate safe disposal of associated radioactive and chemical wastes; and protect human health, the environment, and Columbia River resources.

The lifecycle planning estimate range is 2042 to 2050 and a total cost of \$66,808,479,000 to \$74,481,142,000.

Direct maintenance and repair at the Office of River Protection is estimated to be \$69,290,000.

In meeting the Department’s strategic goal, “Enhance nuclear security through defense, nonproliferation, and environmental efforts,” the department will work aggressively to reduce the footprint at the Office of River Protection. This involves a number of activities: treating, storing and disposing of a radioactive and hazardous liquid waste, cleaning up the environment, and protecting the Columbia River.

**Regulatory Framework**

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. In October 2010, the Department of Energy and the Washington State Department of Ecology reached an agreement on revised timetables under the Tri-party Agreement and a new Consent Decree was filed in federal district court for cleanup of the Hanford Site.

<u>Milestones</u>	<u>Date</u>
Complete construction of 1 of 4 new Interim Barrier.	9/30/12
D-00B-01 Complete retrieval of C Farm single-shell tanks.	9/30/14
M-045-81 Implement and complete remaining activities for C Farm Closure Demonstration Plan.	9/30/14
M-045-82 Submit complete permit modification requests for C Farm Closure.	9/30/15
D-00B-03 Initiate retrieval of tank wastes in at least 5 of 9 additional single-shell tanks.	12/31/17
M-045-83 Complete the Closure of Waste Management Area C.	6/30/19
D-00B-004 complete retrieval of tank wastes from the 9 single-shell tanks.	9/30/22

**Program Accomplishments**

The Office of River Protection’s cleanup strategy focuses on achieving significant environmental risk reduction due to retrievals and treatment of Hanford’s tank waste and closure of the tank farms to protect the Columbia River. The primary accomplishments for FY 2012 involve continuing preparation of the Tank Farms to provide waste streams to the Waste Treatment and Immobilization Plant upon hot commissioning. Work also continues on construction of the Waste Treatment and Immobilization Plant. Completion and commissioning is driven by the Tri Party Agreement milestones.

During FY 2012 it is expected that the Office of River Protection will complete the following major accomplishments:

- Continue Single Shell Tank retrievals and heel removals.
- Continue preparation of the Tank Farms to provide waste stream upon hot commissioning of the Waste Treatment Plant.
- Continue construction of the Waste Treatment Plant’s 5 facilities.
- Obtain Critical Decision-1 Interim Hanford Storage Facility and Secondary Waste.

**Explanation of Changes**

The Department requests \$1,172,113,000 in FY 2013 for the Office of River Protection which is a 0.8 percent decrease below the FY 2012 enacted appropriation level.

The FY 2013 request increases the levels for Tank Farms (+\$40,313,000) to support Waste Feed Delivery Projects and reduces levels for the Waste Treatment Plant (-\$50,000,000) due to the projects current re-baselining efforts. The decrease reflects the project's opportunity to resolve technical issues in pretreatment while maintaining progress in the low activity, analytical lab high level waste facilities, and balance of facilities.

**Program Planning and Management**

Program planning and management at the Office of River Protection is conducted through the issuance and execution of contracts to large and small businesses. The Office of River Protection develops near- and long- term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. Current contracts at the site include:

- Bechtel National, Inc. for coordinating the construction of Hanford’s Waste Treatment Plant for the period 2000 through 2019.
- Washington River Protections Solutions, LLC, for safely managing the 56 million gallons of radioactive tank waste until it is prepared for disposal. The contract covers the period from 2008 through 2013, with 2012 and 2013 being one-year extension options.
- Advanced Technologies and Laboratories International, Inc. to operate the laboratory complex for analysis of highly radioactive samples in support of all Hanford projects from 2009 through 2015.

**Strategic Management**

Office of River Protection’s cleanup strategy is a risk-based approach that focuses on contamination sources that are the greatest contributors to risk.

The River Protection Project is currently addressing a number of significant uncertainties that are impacting the ability of the Hanford Site to disposition waste and complete the cleanup mission and achievement of the program’s strategic goal, including:

- 1) Delays in off-site disposal will require increased interim storage capacity for the vitrified canisters of high-level waste on site.
- 2) Addressing tank waste determination decisions because the State of Washington is not a “covered State” under Section 3116 of the National Defense Authorization Act of FY 2005. This could impact overall site tank closures, costs, and schedules because alternative approaches for tank closure may need to be developed.
- 3) Availability of a supplemental technology to immobilize a portion of the low-activity waste.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>River Protection Site Measure 1: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	36,332	N/A
Current Year(Cumulative to date)	35,186	N/A
Prior Year(Cumulative to date)	24,511	29,778/Met
Analysis	Management and removal of legacy and newly generated low-level waste and	

	<p>mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint at the Richland site. It should be noted that the Richland site is dependent upon the Nevada National Security Site and commercial waste disposal sites for low-level, and mixed low-level waste disposal.</p> <p>For FY 2011, the Office of River Protection had targeted 24,511 cubic meters of low-level waste and mixed low-level waste to be disposed. At the end of FY 2011, the Office of River Protection had disposed of a cumulative total of 29,778 cubic meters of low-level waste and mixed low-level waste, exceeding its target by 5,267 cubic meters.</p>
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\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

**Explanation of Funding Changes**

(Dollars In Thousands)

FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
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**Defense Environmental Cleanup  
Office of River Protection**

**Waste Treatment and Immobilization Plant**

**ORP-0060 / Major Construction-Waste Treatment Plant**

- The WTP is currently undergoing a re-baselining effort. The decrease reflects the project's opportunity to resolve technical issues in pretreatment while maintaining progress in the low activity, analytical lab, high level waste facilities and balance of facilities.

740,000                      690,000                      -50,000

**ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition**

- The increase in funding supports tank farm infrastructure upgrades, waste feed delivery projects and large scale integrated testing to provide required systems for start-up and commissioning of the Waste Treatment and Immobilization Plant hot operations. Activities to meet the revised timetables under the Consent Decree and Tri-Party Agreement include retrieval of C Farm single-shell tanks and construction of interim barriers.

441,800                      482,113                      +40,313

**Total, River Protection**

<b>1,181,800</b>	<b>1,172,113</b>	<b>-9,687</b>
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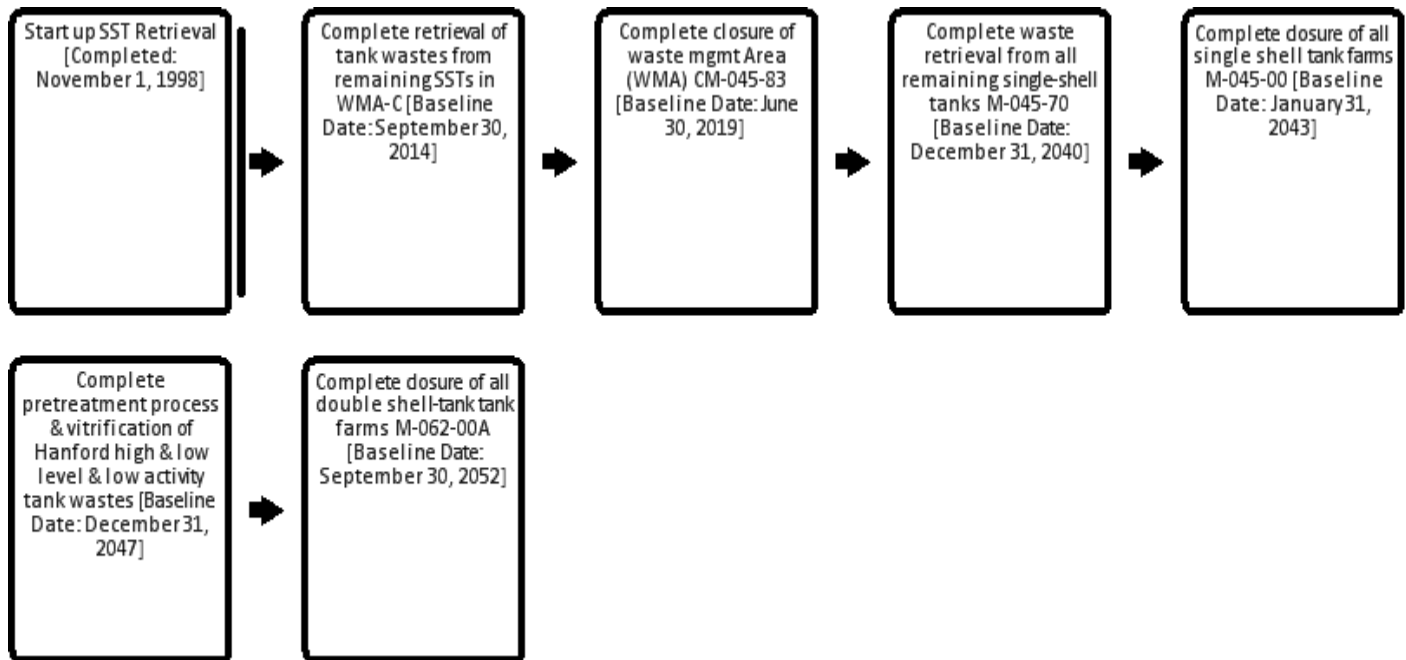
## Radioactive Liquid Tank Waste Stabilization and Disposition (PBS: ORP-0014)

### Overview

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

This project includes activities required to stabilize over 50 million gallons of radioactive waste stored underground in 177 tanks, including retrieval, treatment, disposal and closure of the facilities. Due to the age of the tanks, up to sixty-seven tanks are suspected of leaking a total of about one million gallons of waste into the soil. Continued leakage could threaten the Columbia River. In order to protect the river, the waste must be removed and processed to a form suitable for disposal, and the tanks stabilized.

### Sequence



### Benefits

<p>Benefits to the Department for Tank waste stabilization and disposition</p>	<ul style="list-style-type: none"> <li>▪ Close 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.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Completed one 242-A Evaporator Campaign for space management.</li> <li>▪ Completed retrieval of two C-Farm Single-Shell Tanks.</li> <li>▪ Initiated design and procurement activities to retrieve the next two C Farm Single-Shell Tanks.</li> <li>▪ Continued to perform single-shell tank integrity evaluations and implement expert panel recommendations.</li> <li>▪ Operated the 222-S laboratory and 242-A evaporator.</li> <li>▪ Continued removal of hose-in-hose transfer lines.</li> <li>▪ Initiated design of Interim Surface Barrier SX Farm.</li> <li>▪ Initiated C Farm Closure Demonstration Project.</li> <li>▪ Initiated C-301 Catch Tank Remediation.</li> <li>▪ Continued Immobilized Low-Activity Waste Glass Testing.</li> <li>▪ Initiated pre-conceptual design for Interim Hanford Storage Facility, Secondary Waste Treatment and Supplemental Treatment.</li> <li>▪ Conducted supplemental treatment alternative studies.</li> <li>▪ Conducted scientific applied research and technology development activities to advance solutions for the treatment of radioactive waste including pre-treatment processes, tank structural integrity, and advanced retrieval technologies.</li> </ul>	<b>395,500</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Complete Report of the Visual Inspection of 12 Single Shell Tanks.</li> <li>▪ Complete Bulk Retrieval from two C Farm Single-Shell Tanks.</li> <li>▪ Complete Hard Heel Removal from four C Farm Single-Shell Tanks.</li> <li>▪ Complete design and procurement activities for the next three C Farm Single-Shell Tanks.</li> <li>▪ Complete Installation of MARS Vacuum technology in Tank C-105.</li> <li>▪ Initiate AY and AZ Farm Feed Delivery System including design and procurement.</li> <li>▪ Obtain Critical Decision-1 for the Interim Hanford Storage Facility.</li> <li>▪ Obtain Critical Decision-1 for the Secondary Waste Treatment/Effluent Treatment Facility.</li> <li>▪ Continue Immobilized Low-Activity Waste glass testing.</li> <li>▪ Conduct scientific applied research and technology development activities to advance solutions for the pre-treatment of radioactive waste (i.e. Large Scale Integrated Testing).</li> </ul>	<b>441,800</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain Tank Farms in a safe and compliant manner.</li> <li>▪ Complete Report on Testing for Ionic Conductivity of Single Shell Tanks.</li> <li>▪ Complete Bulk Retrieval of one C Farm Single Shell Tank.</li> <li>▪ Initiate Hard Heel design/construction in one C Farm Single Shell Tank.</li> <li>▪ Initiate MARS Vacuum retrieval operations in C-105.</li> <li>▪ Complete Hard Heel Removal of two C Farm Single Shell Tanks.</li> <li>▪ Continue AY and AZ Farm Feed Delivery System activities including design and procurement.</li> <li>▪ Operate the 222-S laboratory and 242-A evaporator.</li> <li>▪ Continue activities for tank waste mixing.</li> </ul>	<b>482,113</b>

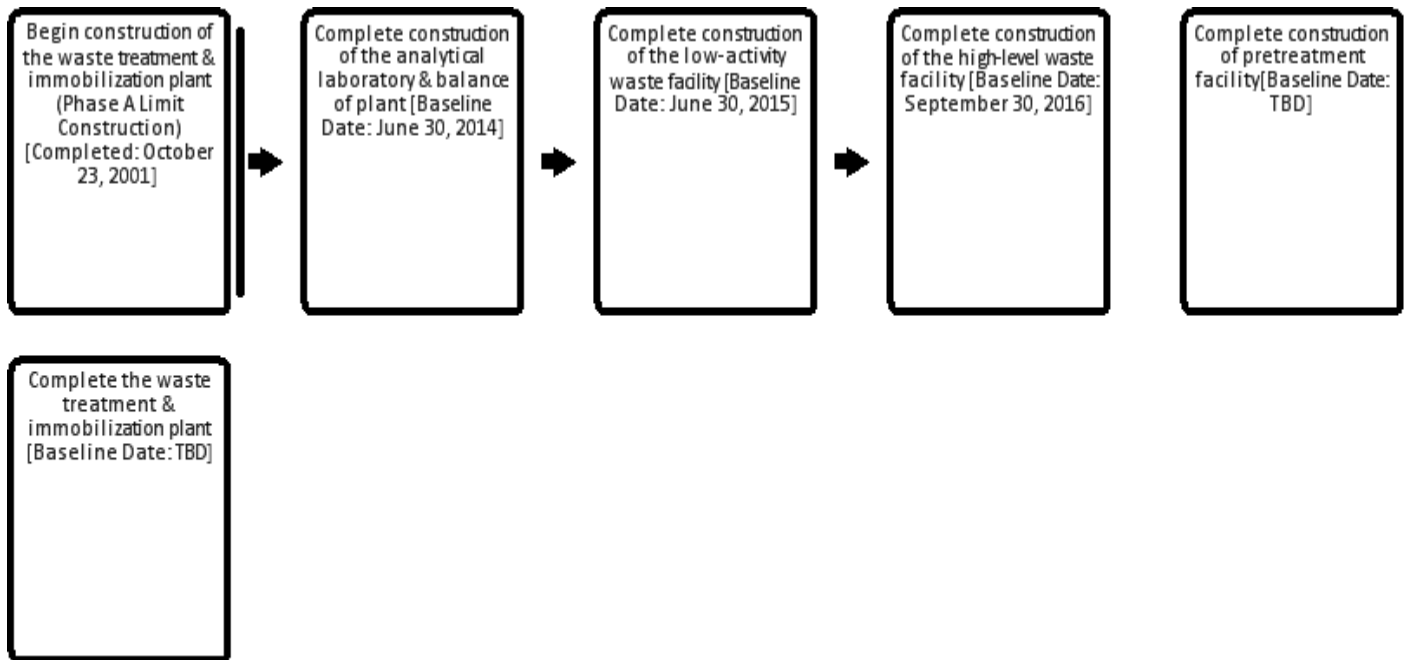
**Major Construction-Waste Treatment Plant (PBS: ORP-0060)**

**Overview**

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

The Waste Treatment and Immobilization Plant is critical to the completion of the Hanford tank waste program by providing the primary treatment capability to immobilize (vitrify) the radioactive tank waste at the Hanford Site. The Waste Treatment and Immobilization Plant complex includes five major facilities: Pretreatment Facility, High-Level Waste Facility, Low-Activity 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 transferred to the High-Level Waste Facility for immobilization, ready for disposal. Approximately 50 percent of the low-activity waste fraction will be transferred and immobilized in the Low-Activity Waste Facility, with the balance immobilized using an alternative, supplemental treatment being developed on the Hanford Site. The Analytical Laboratory will provide real-time analytical support for plant operations. The Balance of Facilities includes office facilities, chemical storage, site utilities, and infrastructure.

**Sequence**



(\* Re-planning effort underway; new baseline date for complete construction of pretreatment Facility and the waste treatment & immobilization plant under revision.

**Benefits**

Benefits to the Department of construction	<ul style="list-style-type: none"> <li>Stabilize over 50 million gallons of radioactive liquid waste suspected of leaking a total of about one million gallons of waste into the soil. Continued leakage could threaten the Columbia River. In order to protect the river, the waste must be removed and processed to a form suitable for disposal.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<p><b>Low Activity Waste, Analytical Laboratory, and Balance of Facilities –</b></p> <p>Design Activities:</p> <ul style="list-style-type: none"> <li>▪ Completed Low Activity Waste facility mechanical system confirmed (design assumption verification) calculations and piping and isometric drawings.</li> <li>▪ Issued design for construction slab and wall foundation for the Balance of Facilities Wet Chemical Storage facility.</li> <li>▪ Completed Analytical Lab pipe confirmed (design assumption verification) stress/ support final calculations.</li> </ul> <p>Procurement Activities:</p> <ul style="list-style-type: none"> <li>▪ Received Low Activity Waste Facility melter #1 and #2, the off gas mercury absorber, the safe change of the High-Efficiency Particulate Air filter housings and the liquid CO2 storage horizontal vessel.</li> <li>▪ Received two Balance of Facilities anhydrous ammonia vessels along with the ammonia vaporizer skid.</li> <li>▪ Awarded the Analytical Lab Architectural Specialties subcontract.</li> </ul> <p>Construction Activities:</p> <ul style="list-style-type: none"> <li>▪ Completed approximately 80percent of Low Activity Waste facility bulk heating, ventilation, and air conditioning duct installation.</li> <li>▪ Installed the Analytical Lab Auto-sample Equipment above the Hot Cell.</li> <li>▪ Completed construction of the Balance of Facilities Water Treatment Building which supplies de-mineralized water to plant processes.</li> </ul> <p>Startup Activities:</p> <ul style="list-style-type: none"> <li>▪ Mobilized Facilities completion and Start-up team (27 employees) at the site to facilitate efficient Startup activities.</li> <li>▪ Implemented Phased Operational Readiness Reviews for the Waste Treatment and Immobilization Plant in order to minimize Startup risk.</li> <li>▪ Completed Commissioning Strategy Document.</li> <li>▪ Completed Operational Readiness Reviews Strategy Document.</li> <li>▪ Setup the DOE Integration team to oversee Startup and commissioning activities.</li> <li>▪ Completed detailed planning for Startup of the Balance of Facilities Switchgear building.</li> </ul> <p><b>High-Level Waste Facility –</b></p> <p>Design Activities:</p> <ul style="list-style-type: none"> <li>▪ Completed civil engineering design (Title II) issue for construction design for all piping and supports at all facility elevations.</li> </ul> <p>Procurement Activities:</p> <ul style="list-style-type: none"> <li>▪ Received High-Level Waste Facility remote change air filter housings and dampers for the Filter Cave.</li> <li>▪ Received High-Level Waste Facility Plant Wash Vessel RLD-VSL-8.</li> <li>▪ Received High-Level Waste Facility Rinse Vessel and Canister Decontamination Vessels.</li> </ul> <p>Construction Activities:</p>	738,697



	<ul style="list-style-type: none"> <li>▪ Completed placement of concrete for 48 High-Level Waste Facility walls and slabs on the second to third stories for a total of 7,900 cubic yards of concrete (elevation +14 to +37).</li> </ul> <p>Startup Activities:</p> <ul style="list-style-type: none"> <li>▪ Commissioning and startup procedural development and staffing analysis.</li> <li>▪ Training procedure development.</li> </ul> <p><b>Pretreatment Facility –</b></p> <p>Design Activities:</p> <ul style="list-style-type: none"> <li>▪ Completed design of Cesium Ion Exchange Process systems.</li> <li>▪ Completed re-analysis and design of seven process vessels.</li> </ul> <p>Procurement Activities:</p> <ul style="list-style-type: none"> <li>▪ Completed fabrication of four major process vessels.</li> <li>▪ Issued material requisitions for 16 major jumper frames in hot cells.</li> </ul> <p>Construction Activities:</p> <ul style="list-style-type: none"> <li>▪ Installed horizontal and vertical shield doors in the hot cell.</li> <li>▪ Installed 30-ton and 5-ton hot cell operations cranes.</li> <li>▪ Set two pipe modules in black cell.</li> <li>▪ Placed 7,200 cubic yards of concrete, 85 percent complete.</li> <li>▪ Installed 1,300 tons of structural steel, 47 percent complete.</li> <li>▪ Installed 90,000 linear feet of piping, 25 percent complete.</li> <li>▪ Installed 92,000 pounds of ventilation duct, 14 percent complete.</li> </ul> <p>Startup Activities:</p> <ul style="list-style-type: none"> <li>▪ Commissioning and startup procedural development and staffing analysis.</li> <li>▪ Training procedure development.</li> </ul>	
FY 2012	<p><b>Low Activity Waste, Analytical Laboratory, and Balance of Facilities –</b></p> <p>Design Activities:</p> <ul style="list-style-type: none"> <li>▪ Complete Low Activity Waste Facility pipe confirmed (design assumption verification) stress/support final calculations.</li> <li>▪ Issue design for construction the Balance of Facilities Emergency Diesel Generator facility base mat foundation.</li> <li>▪ Complete Low Activity Waste Facility Control and Instrumentation Design.</li> <li>▪ Complete Low Activity Waste Facility Heating, Ventilation and Air-Conditioning Design.</li> <li>▪ Complete Analytical Laboratory Electrical Design.</li> <li>▪ Complete detailed piping design for Balance of Facilities Emergency Diesel Generator.</li> </ul> <p>Procurement Activities:</p> <ul style="list-style-type: none"> <li>▪ Receive the Low Activity Waste Facility off gas caustic scrubber.</li> <li>▪ Receive the Low Activity Waste Facility exhausters.</li> <li>▪ Receive the Low Activity Waste Facility thermal catalytic oxidizer.</li> <li>▪ Receive Analytical Laboratory High-Efficiency Particulate Air filter housings.</li> <li>▪ Receive Balance of Facilities Pressure Regulators.</li> </ul> <p>Construction Activities:</p> <ul style="list-style-type: none"> <li>▪ Complete approximately 90percent of the Low Activity Waste Facility bulk process pipe installation.</li> <li>▪ Complete rough setting the Low Activity Waste Facility off gas caustic scrubber and the catalytic oxidizer.</li> <li>▪ Analytical Laboratory – Set C5 Main Crane.</li> <li>▪ Complete construction of the Balance of Facilities Glass Former Storage Facility.</li> <li>▪ Complete construction of the Balance of Facilities Steam Plant.</li> </ul>	740,000

	<ul style="list-style-type: none"> <li>▪ Complete construction of the Chiller Compressor Plant.</li> </ul> <p>Startup Activities:</p> <ul style="list-style-type: none"> <li>▪ Startup and introduce power to the Waste Treatment and Immobilization Plant via the main switchgear building.</li> <li>▪ Complete all detailed planning for the Balance of Facilities (Water, Steam and Air group).</li> </ul> <p><b>For the High-Level Waste Facility –</b></p> <p>Design Activities:</p> <ul style="list-style-type: none"> <li>▪ Complete High-Level Waste Facility architectural design.</li> </ul> <p>Procurement Activities:</p> <ul style="list-style-type: none"> <li>▪ Receive Feed &amp; Feed Preparation Vessels for Melter Caves 1 and 2.</li> <li>▪ Receive Melter 1 and 2 Feed &amp; Feed Preparation Vessel mechanical agitators.</li> </ul> <p>Construction Activities:</p> <ul style="list-style-type: none"> <li>▪ Complete forming, rebar, and placement of concrete for 64 High-Level Waste Facility walls and slabs on the third to fourth stories for a total of 7,300 cubic yards of concrete.</li> <li>▪ Install the High-Level Waste Facility remote change air filter housings in the filter cave.</li> <li>▪ Complete High-Level Waste Facility slab placements for the third story.</li> <li>▪ Complete Annex Building weathering.</li> <li>▪ Complete Structural Steel to the third floor (El. +37').</li> <li>▪ Set Offgas Catalytic Oxidizers and Offgas Carbon Absorber.</li> </ul> <p>Startup Activities:</p> <ul style="list-style-type: none"> <li>▪ Commissioning and startup procedural development.</li> <li>▪ Training procedure development.</li> </ul> <p><b>For the Pretreatment Facility –</b></p> <p>Re-planning of schedule activities is in progress. The following list of activities is subject to change based on the results of the re-planning effort.</p> <p>Design Activities:</p> <ul style="list-style-type: none"> <li>▪ Continue re-analysis and design of Pretreatment process vessels.</li> <li>▪ Substantially complete quantitative risk analysis for Hydrogen in Piping and Ancillary Vessels.</li> </ul> <p>Procurement Activities:</p> <ul style="list-style-type: none"> <li>▪ Continue or complete fabrication of process vessels.</li> </ul> <p>Construction Activities:</p> <ul style="list-style-type: none"> <li>▪ Continue to install two pipe modules and two process vessels. Continue with limited civil construction activities, which include completion of placement of fourth story concrete walls and installation of structural steel (77-foot to 98-foot elevation), piping installation in two black cells, and ventilation ducting installation.</li> </ul> <p>Startup Activities:</p> <ul style="list-style-type: none"> <li>▪ Commissioning and startup procedural development.</li> <li>▪ Training procedure development.</li> </ul>	
FY 2013	<p>The following list of activities is subject to change based on the results of the re-planning effort.</p> <p><b>Low Activity Waste, Analytical Laboratory, and Balance of Facilities -</b></p> <p>Design Activities:</p> <ul style="list-style-type: none"> <li>▪ Complete Balance of Facilities Plant Design Engineering.</li> </ul> <p>Procurement Activities:</p> <ul style="list-style-type: none"> <li>▪ Complete shipment of Low Activity Waste Facility steel discharge monitor.</li> </ul>	690,000

	<ul style="list-style-type: none"> <li>▪ Complete Analytical Laboratory mechanical systems procurement.</li> </ul> <p>Construction Activities:</p> <ul style="list-style-type: none"> <li>▪ Low Activity Waste Facility Start-Up: Final System Scoping of Multi System.</li> <li>▪ Install Low Activity Waste Facility instrumentation EL +48.</li> <li>▪ Complete Analytical Laboratory Electrical Terminations.</li> <li>▪ Pull all Analytical Laboratory Scheduled Bulk Cable.</li> <li>▪ Install balance of Analytical Laboratory Auto sampling Systems – Instrumentation.</li> <li>▪ Complete construction of the Balance of Facilities Anhydrous Ammonia system vessel structure.</li> <li>▪ Complete and turnover Balance of Facilities steam plant facility systems.</li> </ul> <p>Startup Activities:</p> <ul style="list-style-type: none"> <li>▪ Startup and turnover to Plant Operations the Fire Water Pump House; Glass Former Storage Facility; Fuel Oil Facility; Chiller/Compressor Plant; Water Treatment Building; Cooling Tower; Balance of Facilities Switchgear; Ammonia Facility and the Standby Diesel Generators.</li> </ul> <p><b>For the High-Level Waste Facility –</b></p> <p>Design Activities:</p> <ul style="list-style-type: none"> <li>▪ Complete issuance of High-Level Waste Facility plant design isometrics drawings.</li> </ul> <p>Procurement Activities:</p> <ul style="list-style-type: none"> <li>▪ Receive and set High Efficiency Mist Eliminator Vessels.</li> <li>▪ Receive Submerged Bed Scrubber Vessels.</li> </ul> <p>Construction Activities:</p> <ul style="list-style-type: none"> <li>▪ Complete forming, rebar, and placement of concrete for 35 High-Level Waste Facility walls and slabs on the third to fourth stories for a total of 6,000 cubic yards of concrete.</li> <li>▪ Complete High-Level Waste Facility wall placement to the fourth story.</li> <li>▪ Commence Installation of High-Level Waste Facility piping, Heating, Ventilation, and Air Conditioning and electrical tray at full production rates.</li> </ul> <p>Startup Activities:</p> <ul style="list-style-type: none"> <li>▪ Commissioning and startup procedural development.</li> <li>▪ Training plan development.</li> <li>▪ Initiate activities to transition to and implement an approved Documented Safety Analysis.</li> </ul> <p><b>For the Pretreatment Facility –</b></p> <p>The preliminary approach for rescheduling Pretreatment Facility activities is to maintain the current pace for engineering, design and testing activities, and adjust the procurement, construction and startup activities.</p>	
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**01-D-416 Waste Treatment and Immobilization Plant, Hanford, WA  
Project Data Sheet is for Construction**

**1. Significant Changes**

The most recent DOE O 413.3B approved Critical Decision is Critical Decision -3C, approved on 4/21/2003, with a Total Project Cost of \$5,781,000,000 and Critical Decision -4 of July 2011. The latest approved Baseline Change was on December 22, 2006, with a Total Project Cost of \$12,263,000,000 and Critical Decision-4 of November 2019.

This Project Data Sheet is an update to the FY 2012 Project Data Sheet for FY 2013. The FY 2012 enacted appropriation provides \$740,000,000 in funding for the Waste Treatment and Immobilization Plant under two Congressional control points. The FY 2013 budget request reflected in this data sheet is \$690,000,000 and proposes one control point in order to effectively manage changing conditions and mitigate financial risks.

A project re-baselining effort will commence in the second quarter FY 2012. Once complete, the new baseline will be available for an External Independent Review and then be presented for approval to the Acquisition Executive. Upon completion of the re-baseline effort this project data sheet will be formally revised and submitted to Congress.

The Department is continuing to focus on strategies and key actions that optimize the approach to startup, commissioning and turnover of the Waste Treatment and Immobilization Plant facilities.

A Federal Project Director at the appropriate level has been assigned to this project.

**Status of Major Technical and Performance Issues**

Key issues with the Waste Treatment and Immobilization Plant that are currently being worked on are in the areas of 1) improvements to Safety Culture, 2) mixing in process vessels, 3) hydrogen in piping and ancillary vessels, 4) the project-specific methodology for evaluating the consequences of spray leak accidents, 5) instrumentation and control, 6) use of low order accumulation model and 7) heat transfer analysis for process vessels.

**2. Design, Construction, and D&D Schedule**

*(fiscal quarter or date)*

	CD-0	CD-1	PED Complete	CD-2	CD-3	CD-4	D&D Start	D&D Complete
FY 2001 Budget Request	SEP 1995	SEP 1996	4Q FY2005	AUG 1998	OCT 2001	1Q FY2007	N/A	N/A
FY 2002 Budget Request	SEP 1995	SEP 1996	4Q FY2005	4Q FY1998	MAY 2002	1Q FY2007	N/A	N/A
FY 2003 Budget Request	SEP 1995	SEP 1996	4Q FY2005	4Q FY1998	MAY 2002	1Q FY2007	N/A	N/A
FY 2004 Budget Request	SEP 1995	SEP 1996	4Q FY2005	4Q FY1998	MAY 2002	1Q FY2007	N/A	N/A
FY 2003 Congressional Notification	SEP 1995	SEP 1996	4Q FY2005	04/21/2003	04/21/2003	3Q FY2008	N/A	N/A
FY 2005 Budget Request	SEP 1995	SEP 1996	4Q FY2005	04/21/2003	04/21/2003	3Q FY2008	N/A	N/A
FY 2004 Reprogramming	SEP 1995	SEP 1996	4Q FY2005	04/21/2003	04/21/2003	3Q FY2008	N/A	N/A
FY 2006 Budget Request	SEP 1995	SEP 1996	4Q FY2007	04/21/2003	04/21/2003	3Q FY2008	N/A	N/A
FY 2007 Budget	SEP 1995	SEP 1996	4Q FY2007	04/21/2003	04/21/2003	3Q FY2008	N/A	N/A

(fiscal quarter or date)

	CD-0	CD-1	PED Complete	CD-2	CD-3	CD-4	D&D Start	D&D Complete
Request								
FY 2008 Budget Request	SEP 1995	SEP 1996	4Q FY2010	04/21/2003	04/21/2003	2Q FY2017	N/A	N/A
FY 2009 Budget Request	SEP 1995	SEP 1996	4Q FY2013	04/21/2003	04/21/2003	1Q FY2020	N/A	N/A
FY 2010 Budget Request	SEP 1995	SEP 1996	1Q FY2016	04/21/2003	04/21/2003	1Q FY2020	N/A	N/A
FY 2011 Budget Request	SEP 1995	SEP 1996	1Q FY2016	04/21/2003	04/21/2003	1Q FY2020	N/A	N/A
FY 2012 Budget Request	SEP 1995	SEP 1996	1Q FY2016	04/21/2003	04/21/2003	1Q FY2020	N/A	N/A
FY 2013 Budget Request	SEP 1995	SEP 1996	1Q FY2016	04/21/2003	04/21/2003	1Q FY2020	N/A	N/A

- CD-0 – Approve Mission Need
- CD-1 – Approve Alternative Selection and Cost Range
- CD-2 – Approve Performance Baseline
- CD-3 – Approve Start of Construction
- CD-4 – Approve Start of Operations or Project Closeout

Notes:

- 1) The FY 2009 Budget Request 'PED Complete' date was based on the June 2007 Execution Revision schedule.
- 2) The FY 2004 Budget Request 'CD-3' date of 4Q FY 2002 represented the start of physical construction. The FY 2003 Congressional Notification 'CD-3' represents the date approval was granted to begin full construction (CD-3c).
- 3) The FY 2008 Budget Request 'CD-4' date of 2Q FY 2017 represented the completion of physical construction of the WTP facilities. In the FY 2009 Budget Request, the 'CD-4' completion date represents the completion of construction, start-up, commissioning and transfer of the Waste Treatment Plant to the operations contractor.
- 4) In the FY 2010 Budget Request, the 'PED Complete' date reflects contract dates from the revised January 2009 contract.
- 5) The 'CD-4' date will be modified after completion of the re-baseline activity initiated in FY 2012.

**3. Baseline and Validation Status**

(Fiscal Quarter)

	TEC, PED	TEC, Construction	TEC, Total	OPC Except D&D	OPC, D&D	OPC, Total	Total Project Cost
FY 2001	0	5,466,000	5,466,000	7,022,000	0	7,022,000	12,488,000
FY 2002	0	4,350,000	4,350,000	0	0	0	4,350,000
FY 2003	0	4,350,000	4,350,000	0	0	0	4,350,000
FY 2004	0	4,350,000	4,350,000	0	0	0	4,350,000
FY 2003 Cong. Notification	0	5,781,000	5,781,000	0	0	0	5,781,000
FY 2005	0	5,781,000	5,781,000	0	0	0	5,781,000
FY 2006	0	5,781,000	5,781,000	0	0	0	5,781,000
FY 2007	0	5,781,000	5,781,000	0	0	0	5,781,000
FY 2008	0	12,263,000	12,263,000	0	0	0	12,263,000

**Defense Environmental Cleanup/01-D-416/  
Waste Treatment and Immobilization Plant/  
River Protection**

**FY 2013 Congressional Budget**

(Fiscal Quarter)

	TEC, PED	TEC, Construction	TEC, Total	OPC Except D&D	OPC, D&D	OPC, Total	Total Project Cost
FY 2009	0	12,263,000	12,263,000	0	0	0	12,263,000
FY 2010	0	12,263,000	12,263,000	0	0	0	12,263,000
FY 2011	0	12,263,000	12,263,000	0	0	0	12,263,000
FY 2012	0	12,263,000	12,263,000	0	0	0	12,263,000
FY 2013 <sup>1</sup>	0	12,263,000	12,263,000	0	0	0	12,263,000

1) The project baseline will be validated upon completion of the re-baseline activity initiated in FY 2012.

The FY 2001 Budget Request presented the contract value using a privatization approach for this project. The contract included design, construction, and commissioning (at a Total Estimated Cost of \$5,466,000,000), and ten years of initial operations, which would treat approximately 10 percent of waste by volume, and 25 percent of the waste, by radioactivity, for a Total Project Cost of \$12,488,000,000. The plant was designed to have a 40 year operational life, during which time it would process a total of 40 percent of the waste by volume. In May 2000, the Secretary of Energy terminated the privatization contract, because of the dramatic cost increase submitted by the contractor to complete the project.

In December 2000, the Department awarded a Cost-Plus Incentive-Fee contract estimated at \$4,350,000,000 to design, construct and commission the Waste Treatment and Immobilization Plant. In April 2003, a contract modification was negotiated with the principal change of increasing the through-put capacity of the Pretreatment and High-Level Waste Facilities, with the goal of pretreating all of the waste during the 40 year life of the facility, immobilizing all high-level fraction and at least 40 percent of the low-activity fraction. A second plant (not part of the current project contract) would be necessary to treat and immobilize the balance of the low-activity waste. The Department approved a Performance Baseline for this scope with a Total Project Cost of \$5,781,000,000. In December 2006, due to over-optimistic cost estimates, and seismic and technical issues, the Department approved a new Performance Baseline with a revised Total Project Cost of \$12,263,000,000.

A project rebaselining effort will commence in the second quarter fiscal year 2012." Once complete, the new baseline will be available for an External Independent Review and then be presented for approval to the Acquisition Executive. Upon completion of the re-baseline effort this Project Data Sheet will be formally revised and submitted to Congress.

#### 4. Project Description, Justification, and Scope

The Waste Treatment and Immobilization Plant is the cornerstone of the River Protection Project's mission to clean up hazardous and radioactive waste contained in underground storage tanks at the Hanford Site in southeastern Washington State. Approximately 53,000,000 gallons of waste containing approximately 240,000 metric tons of processed chemicals and less than 170,000,000 curies of radionuclides are currently stored in 170 tanks (seven tanks have been emptied). These caustic wastes are in the form of liquids, slurries, saltcakes, and sludge, and are the result of more than four decades, starting in 1944, of reactor operations and plutonium production for national defense. The infrastructure that supports storage of this waste is aging. The construction of the Waste Treatment and Immobilization Plant and its operations, once completed, will treat and stabilize these waste-forms.

The Waste Treatment and Immobilization Plant, the world's largest most complex nuclear waste treatment plant, covers 65 acres and includes three major nuclear facilities - Pretreatment Facility, High-Level Waste Facility, and Low-Activity Waste Facility - along with a large Analytical Laboratory, and supporting buildings and utilities collectively known as the Balance of Facilities. The Pretreatment Facility accomplishes the separation of the wastes. The High-Level Waste Facility will immobilize, through vitrification, the entire high-level fraction. The Low-Activity Waste Facility will immobilize, through vitrification, a substantial portion of the low-activity fraction. The Waste Treatment Plant Key Project Performance Parameters for the Low Activity Waste facility are 18-metric tons of glass per day and the High Level Waste facility are 3.6 metric tons. The Analytical Laboratory Facility will provide the necessary sample analysis needed throughout the processing

facilities. The Balance of Facilities includes the plant infrastructure and support facilities (steam plant, electrical switch yards, chiller plant, etc.)

The Department's Waste Treatment and Immobilization Plant Project is responsible for managing the critically important effort to design, build, and commissioning the waste treatment plant. The Waste Treatment and Immobilization Plant is an unprecedented engineering and construction challenge equivalent to simultaneously building two nuclear power plants. Through a process known as vitrification, most of Hanford's tank waste volume will be transformed into a sturdy, durable form by blending the waste with molten glass and pouring it into stainless steel canisters. In that form, the waste will remain stable and impervious to the environment while its radioactivity dissipates over hundreds to thousands of years.

The Department's Office of River Protection is implementing cleanup under two contract vehicles:

- The Tank Operations 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 scope of work for this contract also includes providing the infrastructure to support hot commissioning.
- The Waste Treatment and Immobilization Plant Project Contractor is to design, construct, commission, and support transition of the plant into full operation.

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

When operating, the Waste Treatment and Immobilization Plant will pretreat tank waste through separation into a high-level fraction and a low-activity fraction. Both fractions will be immobilized through vitrification into glass. The immobilized high-level fraction will be temporarily stored on the Hanford site in a canister storage building. The immobilized low-activity fraction will be placed in a disposal facility on the Hanford site.

Risk Management is an integral part of project management and not a separate function. Risk Management is used as a management tool to identify and manage risks to avoid/minimize negative impacts and maximize positive impacts. The risk management process and its integration and execution throughout the project areas and organizations is overseen by a Joint Risk Management Team chaired by the Waste Treatment Plant Project Manager and comprised of DOE's Area Federal Project Managers and key Waste Treatment Plant Senior Project and Functional Managers.

The status of risks is reviewed monthly as a minimum including a dashboard assessment. The Engineering, Procurement, Construction, and Commissioning and DOE Risk Handling Strategies include developing Risk Response Plans, establishing risk handling actions including identifying individual responsibilities, documenting completion dates, determining residual risk levels, establishing impacts, and developing a time phased residual impact profile.

Remaining risks are primarily associated with construction and commissioning activities, and completion of large scale testing to demonstrate pulse jet mixing in Pretreatment process vessels.

The River Protection Project regulatory pathway for cleanup has been provided in the past primarily by the Hanford Federal Facility Agreement and Consent Order, commonly known as the Tri-Party Agreement. In October 2010, the Department of Energy and the Washington State Department of Ecology agreed on revised timetables under the Tri-Party Agreement and a new Consent Decree has been filed in federal district court for cleanup of the Hanford Site. Major milestones include beginning treatment of waste at the Waste Treatment Plant in 2019 (from 2011), emptying single-shell tanks of waste by 2040 (from 2018), and completion of treatment of all tank waste by 2047 (from 2028).

The project is being conducted in accordance with the project management requirements in DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, and all appropriate project management requirements have been met.



5. Financial Schedule

01-D-416 Waste Treatment and Immobilization Plant

(dollars in thousands)

	Appropriations	Obligations	Costs
Total Estimated Cost (TEC)			
Construction			
FY 2001 <sup>a</sup>	401,171	401,171	226,311
FY 2002	665,000	665,000	488,469
FY 2003 <sup>bc</sup>	671,898	671,898	621,574
FY 2004 <sup>d</sup>	697,530	682,402	725,246
FY 2005 <sup>e</sup>	684,480	695,552	812,811
FY 2006	521,180	525,236	516,003
FY 2007 <sup>fgh</sup>	690,000	621,000	551,013
FY 2008 <sup>i</sup>	683,721	752,721	727,766
FY 2009	690,000	690,000	716,613
FY 2010	690,000	690,000	790,485
FY 2011 <sup>j</sup>	738,699	738,699	794,734
FY 2012 <sup>k</sup>	740,000	740,000	820,000
FY 2013	690,000	690,000	690,000
Outyears	3,699,321	3,699,321	3,781,975
Total, Construction	12,263,000	12,263,000	12,263,000

(a) FY 2001 Appropriations reflect a FY 2001 Rescission of \$829,000 and FY 2001 Supplemental Appropriation of \$25,000,000. The original appropriation was \$377,000,000.

(b) FY 2003 Appropriations reflect approved FY 2003 reprogramming of \$83,981,567 to increase the project from \$606,018,433 to \$690,000,000 to meet project requirements.

(c) FY 2003 Appropriations and Obligations reflect a reduction of \$18,102,000 as part of the FY 2004 Energy and Water Development Appropriation Act prior year reduction.

(d) FY 2004 Appropriations reflect a reduction of \$3,964,000 due to FY 2004 Government-wide Rescission of 0.59 percent and increase of \$11,494,000 due to a reprogramming.

(e) FY 2005 Appropriations reflect a reduction of \$5,520,000 due to FY 2005 Government-wide Rescission of 0.8 percent.

(f) New WTP Project Performance Baseline as approved on December 22, 2006.

(g) The FY 2007 National Defense Authorization Act states that only 90 percent of funds may be obligated until the Secretary of Energy certifies the WTP Earned Value Management System. In March of 2008 the WTP Earned Value Management System received certification.

(h) The Prior Year Appropriations, Obligations, and Costs have been updated to reflect a more current estimate of the anticipated utilization of the non-facility specific carryover funding remaining in the WTP line-item, 01-D-416.

(i) FY 2008 Enacted Appropriations reflect a reduction of \$6,278,000 due to the FY 2008 rescission of 0.91 percent.

(j) FY 2011 Continuing Appropriations reflect a reduction of \$1,302,356 due to the FY 2011 rescission of 0.2 percent.

(k) A project re-baselining effort will commence in the second quarter fiscal year 2012. Once complete, the new baseline will be available for an External Independent Review and then be presented for approval to the Acquisition Executive. Upon completion of the re-baseline effort this Project Data Sheet will be formally revised and submitted to Congress.

## 6. Details of Project Cost Estimate

### 01-D-416 Waste Treatment and Immobilization Plant

(dollars in thousands)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total Estimated Cost (TEC)			
Design (PED)			
Total, PED	N/A	N/A	N/A
Construction			
Site Preparation	N/A	N/A	N/A
Engineering/Design	2,547,977	2,547,977	1,475,000
Equipment/Procurement <sup>a</sup>	2,380,748	2,380,748	1,125,000
Facility Construction <sup>b</sup>	3,720,637	3,720,637	2,155,000
Commissioning <sup>c</sup>	1,409,428	1,409,428	876,000
Technical Support/Transition <sup>d</sup>	185,000	185,000	50,000
Contingency/Fee <sup>e</sup>	2,019,210	2,019,210	100,000
Total, Construction	12,263,000	12,263,000	5,781,000
Total, TEC	12,263,000	12,263,000	5,781,000
Contingency, TEC	[2,019,210]	[2,019,210]	[100,000]
Other Project Cost (OPC)	N/A	N/A	N/A
Contingency, OPC			
Total, Total Project Cost	12,263,000	12,263,000	5,781,000
Total, Contingency	[2,019,210]	[2,019,210]	[100,000]

a) Equipment/Procurement dollars represent costs of plant equipment, bulk plant material, and acquisition services.

b) Facility Construction dollars represent construction costs through system turnover.

c) Commissioning dollars represent the cost of Start-up and Commissioning.

d) Technical Support/Transition represents the cost of Federal Assurance oversight support to the Federal Project Director and project transition costs.

e) Contingency/Fee dollars represent the contractor's Management Reserve, Fee, and DOE Project Contingency.

Note: A project re-baselining effort will commence in the second quarter FY 2012.

**7. Schedule of Appropriation Requests**

**01-D-416 Waste Treatment and Immobilization Plant**

Request		(\$K)								
		Prior Years	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY2017	Outyears	Total
FY 2002	TEC	4,350,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,350,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	4,350,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,350,000
FY 2003	TEC	4,350,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,350,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	4,350,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,350,000
FY 2004	TEC	4,350,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,350,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	4,350,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,350,000
FY 2005	TEC	5,781,000	0	0	0	0	0	0	0	5,871,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	5,781,000	0	0	0	0	0	0	0	5,871,000
FY 2006	TEC	5,781,000	0	0	0	0	0	0	0	5,781,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	5,781,000	0	0	0	0	0	0	0	5,781,000
FY 2007	TEC	5,781,000	0	0	0	0	0	0	0	5,781,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	5,781,000	0	0	0	0	0	0	0	5,781,000
FY 2008 Performance Baseline	TEC	7,129,520	690,000	690,000	690,000	690,000	690,000	690,000	993,480	12,263,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	7,129,520	690,000	690,000	690,000	690,000	690,000	690,000	993,480	12,263,000
FY 2009	TEC	7,090,838	690,000	690,000	690,000	690,000	690,000	690,000	1,032,162	12,263,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	7,090,838	690,000	690,000	690,000	690,000	690,000	690,000	1,032,162	12,263,000
FY 2010	TEC	7,084,559	690,000	690,000	690,000	690,000	692,000	690,000	1,036,441	12,263,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	7,084,559	690,000	690,000	690,000	690,000	692,000	690,000	1,036,441	12,263,000
FY 2011	TEC	7,135,158	690,000	690,000	690,000	690,000	690,000	690,000	987,842	12,263,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	7,135,158	690,000	690,000	690,000	690,000	690,000	690,000	987,842	12,263,000
FY 2012	TEC	7,133,678	840,000	970,000	890,000	790,000	600,000	380,000	659,322	12,263,000
	OPC	0	0	0	0	0	0	0	0	0
	TPC	7,133,678	840,000	970,000	890,000	790,000	600,000	380,000	659,322	12,263,000
FY 2013	TEC	7,133,678	740,000	690,000					3,699,322	12,263,000
	OPC	0	0	0					0	0
	TPC	7,133,678	740,000	690,000					3,699,322	12,263,000

(a) A project rebaselining effort will commence in the second quarter fiscal year 2012. Once complete, the new baseline will be available for an External Independent Review and then be presented for approval to the Acquisition Executive. Upon completion of the re-baseline effort this Project Data Sheet will be formally revised and submitted to Congress.

**8. Related Operations and Maintenance Funding Requirements**

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	1Q FY 2020
Expected Useful Life (number of years)	40
Expected Future Start of D&D of this capital asset (fiscal quarter)	TBD

(Related Funding requirements)

(Dollars in Thousands)

Annual Costs		Life Cycle Costs	
Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
N/A	N/A	N/A	N/A

Operations will start after the project is completed. 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 Project Data Sheet.

### 9. Required D&D Information

Area	Square Feet
N/A	N/A

This project is providing new capability for the Hanford site, and is not replacing a current capability. Thus, this project was not justified on the basis of replacing current facilities. Therefore, no existing facilities will be demolished in conjunction with this project.

### 10. Acquisition Approach

The acquisition of a waste treatment facility to treat Hanford waste was initially planned as a privatized procurement and the project was referred to as the Tank Waste Remediation System. The strategy was for the contractor to design, build, finance, and operate the facility for 10 years and the Department would pay for waste processed. Two privatization contracts were signed in September 1996 for the preparation of conceptual designs: (1) a subsidiary of BNFL plc, with Bechtel National, Incorporated as a subcontractor, and (2) Lockheed-Martin. In May 1998, BNFL, Incorporated was authorized to proceed with preliminary design. Construction was scheduled to commence in December 2000 and hot operations were to start in December 2007, to treat approximately 10 percent of the tank waste (by mass) and 25 percent of the tank waste radioactivity inventory. This plant was expected to have a 40 year operational life and would process a total of 40 percent of the waste by volume. A second plant would be necessary to treat and immobilize the balance of the waste. 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

The project is being executed in accordance with the project management requirements in DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*. The following critical decisions were approved after the December 2000 award:

- Critical Decision - 3A: Approved Limited Construction - October 2001
- Critical Decision - 3B: Approved Preliminary Construction - May 2002
- Critical Decision - 3C: Approved Full Construction - April 2003
- Approval of Revised Cost and Schedule Baseline - December 2006

The following critical decision is planned for the future:

Critical Decision - 4: Approved Start of Operation – 4Q FY 2020. A project rebaselining effort will commence in the second quarter fiscal year 2012. Once complete, the new baseline will be available for an External Independent Review and then be presented for approval to the Acquisition Executive. Upon completion of the re-baseline effort this Project Data Sheet will be formally revised and submitted to Congress.

**Savannah River**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Savannah River Site			
Cleanup and Waste Disposition			
SR-0100 / Savannah River Community and Regulatory Support	17,230	0	0
Radioactive Liquid Tank Waste Stabilization and Disposition			
SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035	0	838,552	720,843
Site Risk Management Operations			
SR-0011C / NM Stabilization and Disposition	261,302	233,008	273,594
SR-0012 / SNF Stabilization and Disposition	28,327	39,771	44,101
SR-0013 / Solid Waste Stabilization and Disposition	0	29,163	67,421
SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035	865,525	0	0
SR-0030 / Soil and Water Remediation	0	37,704	58,973
Subtotal, Site Risk Management Operations	1,155,154	339,646	444,089
SR Community and Regulatory Support			
SR-0100 / Savannah River Community and Regulatory Support	0	9,584	16,584
Total, Savannah River Site	1,172,384	1,187,782	1,181,516

In FY 2012, the P.L. 112-74, Consolidated Appropriations Act, 2012 established new control points within the Defense Environmental Cleanup Appropriation.

The funding table below provides a comparable display of the impacted activities and a comparable display will be continued throughout this budget chapter to aid in budget review.

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Savannah River Site			
Radioactive Liquid Tank Waste Stabilization and Disposition			
SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035	865,525	838,552	720,843
Site Risk Management Operations			
SR-0011C / NM Stabilization and Disposition	261,302	233,008	273,594
SR-0012 / SNF Stabilization and Disposition	28,327	39,771	44,101
SR-0030 / Soil and Water Remediation	0	37,704	58,973
SR-0013 / Solid Waste Stabilization and Disposition	0	29,163	67,421
Subtotal, Site Risk Management Operations	289,629	339,646	444,089
SR Community and Regulatory Support			
SR-0100 / Savannah River Community and Regulatory Support	17,230	9,584	16,584
Total, Savannah River Site	1,172,384	1,187,782	1,181,516

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The Savannah River Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. In supporting the Department’s Strategic Plan “Complete Environmental Remediation of Our Legacy and Active Sites, Protect Human Health and the Environment,” the Savannah River Site Cleanup Project includes treating, storing and disposing of a variety of radioactive and hazardous waste streams, cleaning up the environment, deactivating and decommissioning unneeded

facilities, and disposition of high level waste, and the secured storage of foreign and domestic research reactors spent (used) nuclear fuel. The end-state of the Savannah River Site will be the elimination or minimization of nuclear materials, spent (used) nuclear fuel, and waste through safe stabilization, treatment, and/or disposition. All EM-owned facilities will be decommissioned, except those identified for transfer to another Program Secretarial Office, inactive waste units will be remediated and contaminated groundwater will either be remediated or be under remediation. Units at which residual materials are left in place will be under institutional controls, comprised of access restrictions, inspections, maintenance and monitoring.

The Savannah River Site’s active footprint will shrink by 85% by the end of FY 2012; completing cleanup of 262 of the 310 square miles through the remediation of waste units and the deactivation and decommissioning of excess facilities. By the end of FY 2015 SRS plans to close 8 of the 24 non-compliant

**Environmental Management/  
Savannah River**

**FY 2013 Congressional Budget**

high-level waste tanks; to complete 4,532 of 7,557 glass waste canisters in the Defense Waste Processing Facility; and to disposition 14,000 cubic meters of legacy TRU Waste.

Direct maintenance and repair at the Savannah River Site is estimated to be \$146,068,000.

The Savannah River Site supports the Department’s strategic goal “Enhance nuclear security through defense, nonproliferation, and environmental efforts.” The Department will work aggressively to reduce the footprint at the Savannah River Site. To accomplish this goal the site will stabilize, treat, and/or disposition a variety of radioactive and hazardous waste streams; will remediate contaminated soil and groundwater; will deactivate and decommission excess facilities; and will dispose of the inventory of nuclear materials, spent (used) nuclear fuel, and high level waste.

**Regulatory Framework**

The DOE-Savannah River Operations Office and its contractors will continue to work proactively with the South Carolina Department of Health and Environmental Control, the Environmental Protection Agency-Region 4, 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 and enacted legislation that facilitate the cleanup of the Site. Subsequent to State-initiated enforcement actions, several key settlement agreements were entered into with the State of South Carolina.

- The Federal Facility Agreement for the Savannah River Site
- The Savannah River Site Area Completion Strategy
- Public Law 107-107, Section 3155, Disposition of Surplus Defense Plutonium at the Savannah River Site, Aiken, South Carolina
- Section 3137 of the National Defense Authorization Act for Fiscal Year 2001 (Public Law 106-398) as amended by Section 3115, of the National Defense Authorization Act for Fiscal Year 2004 (Public Law 108-136)
- The Savannah River Site Treatment Plan
- FY 2005 Saltstone Disposal Facility Industrial Solid Waste Landfill Permit
- Section 3116 of the Ronald W. Reagan National Defense Authorization Act
- Nuclear Cooperation Agreements

**Program Accomplishments and Milestones**

The Savannah River Site has implemented a strategy to accelerate the cleanup of legacy nuclear materials, waste and

**Environmental Management/  
Savannah River**

waste units and facilities. By the end of FY 2012 the active footprint of the Site will be reduced by 85 percent and all of the Legacy transuranic waste will be dispositioned.

In FY 2012 the primary accomplishments are:

- Close two non-compliant tanks in FY 2012 completing two FY 2013 Federal Facility Agreement tank closure commitments ahead of schedule.
- Complete construction of Saltstone Disposal Unit #2.
- Complete the Tennessee Valley Authority (TVA) contract commitments in the H Canyon.

The current estimated Life-Cycle cost range for the Savannah River Site is \$49,981,000,000 - \$54,370,000,000. The current projected closure date is 2038 to 2040.

<u>Milestones</u>	<u>Date</u>
Complete disposition of 12 drums of Legacy Low Assay Pu from Hanford	October 2010
Initiate C-, K-, L-, and R-Reactor Complexes early action RA start Issue Record of Decision (ROD) for P-Area OU	January 2011
Dissolve and disposition 24 kgs of Pu in HB-Line from destructive examinations preformed in K-Area and SRNL Process 3,790K gallons of Salt by Interim Salt Processes	January 2011
Complete upgrade of 85/30 ton crane in L-Area	February 2011
Develop a listing of “Vulnerable Fuels” stored in L Basin and develop appropriate contingency plans	May 2011
Initiate disposition of any Vulnerable Spent (Used) Nuclear Fuel in H Canyon not suitable for extended storage	July 2011
Complete disposition of contact-handled legacy transuranic waste	December 2011
	April 2012
	September 2013

**Explanation of Changes**

The Department requests \$1,181,516,000 in Fiscal Year 2013 for the Savannah River Site, which is a 0.53 percent decrease from the FY 2012 enacted appropriation level. This request reflects the use of \$2,000,000 in Closure Site uncosted balances from prior years to offset on-going mission work at the Savannah River Site. This strategy is consistent with the Department of Energy’s (CFO) guidance to utilize old, prior

year uncosted balances to clear them off DOE's financial records. The balances were originally appropriated in support of Fernald settlement/closeout charges, ongoing litigation support and contract close-out balances remaining from work with Kaiser-Hill.

**Program Planning and Management**

Program planning and management at Savannah River is conducted through the issuance and execution of contracts to large and small businesses. Savannah River develops near- and long- term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. Current contracts at Savannah River include:

- Savannah River Nuclear Solutions LLC - a management and operations contract. This contract covers remediation and decommissioning work at the site for the period August 2008 - July 2013 with options through July 2018.
- Savannah River Remediation LLC. This contract covers liquid high-level waste vitrification and storage at the site for the period July 2009 - June 2015 with options through June 2017.

**Strategic Management**

The Savannah River Site maintains the following site cleanup strategy:

- Eliminate or minimize nuclear materials, spent (used) nuclear fuel, and waste through safe stabilization, treatment, and/or disposition.
- Reduce the costs of continuing operations and surveillance and maintenance.
- Decommission all EM-owned facilities, except those identified for transfer to another Program Secretarial Office,
- Remediate groundwater and contaminated soils consistent with the Area Completion Strategy, and the Groundwater Management Strategy and Implementation Plan.

The following factors present the strongest impacts to the overall achievement of the program’s strategic goal:

- Current disposal pathways and schedules for spent (used) nuclear fuel are dependent on the new strategy for nuclear waste management and disposal. In the interim, the spent (used) nuclear fuel is being stored safely.
- Availability of shipping assets (containers, tractors, trailers and drivers) for the shipment of transuranic waste to the Waste Isolation Pilot Plant;
- Delivery of the remote-handled transuranic waste acceptance criteria;
- Availability of spent (used) nuclear fuel data, and inter-site coordination for foreign and domestic research reactor receipts; and
- Off-site disposition of the high-level waste and spent (used) nuclear fuel is required.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Develop novel methods for addressing high-level waste that can accelerate progress and reduce costs of this multidecadal program.</b>		
<b>Savannah River Site Measure 1: Liquid Waste in Inventory eliminated (Thousands of Gallons)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	5,279	N/A
Current Year(Cumulative to date)	4,270	N/A
Prior Year(Cumulative to date)	3,499	3,661/Met
Analysis	Through the elimination of the tank wastes at the Savannah River Site, the EM program is demonstrating tangible evidence of the program's goal to reduce the highest risks in the complex. The Department and its predecessor agencies	



	<p>generated radioactive liquid waste as a by-product of the production of nuclear weapons. The EM Program has an estimated 88 million gallons of highly radioactive waste from the legacy of the Cold War.</p> <p>Through the elimination of the tank wastes the EM program is demonstrating tangible evidence of the program's goal to reduce the highest risks in the complex. The Department and its predecessor agencies generated radioactive liquid waste as a by-product of the production of nuclear weapons. The Savannah River Site has an estimated 33 million gallons of highly radioactive waste remaining from the legacy of the Cold War stored in 51 tanks (discussed below).</p> <p>By reducing and disposing of the liquid waste tank wastes, EM is demonstrating tangible evidence of the program's goal to reduce the highest risks in the complex. By eliminating high-risk material, corresponding life-cycle cost reductions are achieved for an activity that is a major cost driver to the EM program. Through the development of new technologies in the targeted outcome, these metrics should be accelerated and completed at a lower cost without any increased environmental risk or worker safety. Through the use of the Environmental Management Engineering and Technology Roadmap, we will leverage our national laboratories' capabilities to provide technical solutions where none exist, improved solutions that enhance safety and operating efficiency, or technical alternatives that reduce cost, schedule, or performance risks. Deployment of the new technologies will reduce the life cycle and accelerate completion across the EM complex.</p> <p>For FY 2011, the Savannah River Site targeted a cumulative total of 3,499 thousand (3.49 million) gallons of liquid waste to be eliminated. As of the end of FY 2011, the SRS had eliminated 3,661 thousand (3.66 million) gallons of liquid waste, exceeding its target for FY 2011 by 162 thousand (0.162 million) gallons.</p>
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<b>Savannah River Site Measure 2: Liquid Waste Tanks closed (Number of Tanks)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	6	N/A
Current Year(Cumulative to date)	4	N/A
Prior Year(Cumulative to date)	2	2/Met
Analysis	<p>The Savannah River Site has 49 remaining underground tanks (two tanks have already been closed through activities).</p> <p>It should be noted that the non-compliant radioactive liquid waste tanks are the highest environmental and human health risks in the State of South Carolina according to the South Carolina Department of Health and Environmental Control. To comply with state and federal regulatory agreements, all storage tanks must be empty by 2028.</p> <p>For FY 2011 the Savannah River Site had set no targets for this metric; the site had closed 2 tanks in prior years.</p>	

**Savannah River Site Measure 3: High-Level Waste packaged for final disposition (Number of Containers)**

	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	3,838	N/A
Current Year(Cumulative to date)	3,526	N/A
Prior Year(Cumulative to date)	3,296	3,251/Not Met
Analysis	<p>Sludge and high curie/high actinide high-level wastes are processed and transformed into a glass form at the Defense Waste Processing Facility into canisters. This helps to ensure that risks to the environment and human health and safety from tank waste operations are eliminated or reduced to acceptable levels.</p> <p>For FY 2011 the Savannah River Site targeted a cumulative total of 3,269 containers of High Level Waste to be completed. By the end of FY 2011 the SRS has packaged for disposition a cumulative total of 3,251 containers of High Level Waste, falling short of its target by 45 canisters.</p>	

**Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.**

**Savannah River Site Measure 4: Enriched Uranium packaged for disposition (Number of Containers)**

	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	3,472	N/A
Current Year(Cumulative to date)	3,472	N/A
Prior Year(Cumulative to date)	3,409	3,463/Met
Analysis	<p>The United States has declared a total of 174.3 metric tons of highly enriched uranium surplus to future weapons needs. Savannah River Site processes and blends highly enriched uranium fuel and other material to low enriched uranium for shipment to the Tennessee Valley Authority vendor for processing and fabrication into commercial reactor fuel assemblies. The receipt, storage, and disposition of enriched uranium at the Savannah River Site allows for de-inventory and shutdown of other facilities, providing substantial risk reduction and significant mortgage reduction savings to the Department.</p> <p>For FY 2011 the Savannah River Site targeted to package a cumulative total 3,409 canisters of enriched uranium for disposition. At the end of FY 2011 the site completed a cumulative total of 3,463 canisters, exceeding its target by 54 canisters.</p>	

**Savannah River Site Measure 5: Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal)**

	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	8	N/A
Current Year(Cumulative to date)	3	N/A
Prior Year(Cumulative to date)	3	3/Met

Analysis	<p>The legacy spent (used) nuclear fuel originating from Atomic Energy Commission and DOE activities, and non-legacy spent nuclear fuel, originating in both Foreign and Domestic Research Reactors (including Gap Material) which is being transferred to the Savannah River Site for safe, secure storage pending disposition.</p> <p>For FY 2011 the SRS has set no targets for this metric; all targeted work for this metric was completed in prior years.</p>
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<b>Savannah River Site Measure 6: Material Access Areas eliminated (Number of Material Access Areas)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	3	N/A
Current Year(Cumulative to date)	3	N/A
Prior Year(Cumulative to date)	2	2/Met
Analysis	<p>The elimination of a material access area indicates the completion of a segment of work that removes the need for safeguards and security in the area. This is an obvious indicator of a site's progress towards reducing risk to workers, the public, and the environment.</p> <p>For FY 2011 the SRS has set no targets for this metric; all targeted work for this metric was completed in prior years.</p>	

<b>Savannah River Site Measure 7: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	117,768	N/A
Current Year(Cumulative to date)	114,810	N/A
Prior Year(Cumulative to date)	103,171	103,171/Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contaminated soils also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the SRS has set no targets for this metric; all targeted work for this metric was completed in prior years.</p>	

<b>Savannah River Site Measure 8: Remediation Complete (Number of Release Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	372	N/A
Current Year(Cumulative to date)	368	N/A
Prior Year(Cumulative to date)	367	367/Met

Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contaminated soils also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the SRS has set no targets for this metric; all targeted work for this metric was completed in prior years.</p>
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\* The targets and actuals listed for this table are only cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

### Explanation of Funding Changes

(Dollars In Thousands)

FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
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**Defense Environmental Cleanup**

**Savannah River Site**

**Radioactive Liquid Tank Waste Stabilization and Disposition  
SR-0014C / Radioactive Liquid Tank Waste Stabilization and  
Disposition-2035**

- The decrease is attributable to reduced construction funding requirements for completion of the Salt Waste Processing Facility.

838,552	720,843	-117,709
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**Site Risk Management Operations**

**SR-0011C / NM Stabilization and Disposition**

- The increase reflects the initiation of disposal of vulnerable spent (used) nuclear fuel and the support for the production of plutonium oxide suitable for use in the Mixed Oxide Fuel Fabrication Facility.

233,008	273,594	+40,586
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**SR-0012 / SNF Stabilization and Disposition**

- The increase is attributed to preparatory activities associated with the processing in H Canyon of the vulnerable spent (used) fuel assemblies.

39,771	44,101	+4,330
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**SR-0013 / Solid Waste Stabilization and Disposition**

- The increase will support the disposal of up to 800 m<sup>3</sup> of TRU waste and the shipment of non-MOXable plutonium to the Waste Isolation Pilot Plant.

29,163	67,421	+38,258
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**SR-0030 / Soil and Water Remediation**

- The increase is attributed to additional laboratory sampling to support the groundwater remedial systems, to additional environmental compliance requirements, and to an increase in maintenance requirements to maintain the condition of the facilities.

37,704	58,973	+21,269
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**SR Community and Regulatory Support**

**SR-0100 / Savannah River Community and Regulatory Support**

- The increase will provide support to state regulatory agency for oversight of site regulatory commitments and for the review of site regulatory documentation and to support natural resource management.

9,584	16,584	+7,000
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**Total, Savannah River**

<b>1,187,782</b>	<b>1,181,516</b>	<b>-6,266</b>
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**Environmental Management/  
Savannah River**

**FY 2013 Congressional Budget**

## NM Stabilization and Disposition (PBS: SR-0011C)

### Overview

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

H Canyon/HB-Line will be placed in a modified operational mode performing missions differently than previously accomplished. Although the Department has not made a decision on the processing of spent (used) nuclear fuel at H Canyon, the Department is preparing to transition H Canyon/HB-Line facilities into modified operations.

The FY 2012 and 2013 scope of work for H Canyon/HB-Line includes:

- Complete the Tennessee Valley Authority (TVA) contract commitments in early FY 2012. After completing the TVA contract commitments, the majority of the process lines in H Canyon/HB-Line will be flushed, some processes will continue to operate to support other operations at SRS.
- Perform proficiency runs to maintain operator qualification and exercise process equipment;
- Continue receipt and processing of sample return materials from both the Savannah River National Laboratory and the F/H Process laboratory;
- Continue to remediate large boxes of legacy TRU waste (through the end of FY 2012).
- HB-Line will also continue the research and development activities associated with the vacuum salt distillation process.
- HB-Line will package non-MOXable plutonium for disposition to the Waste Isolation Pilot Plant.

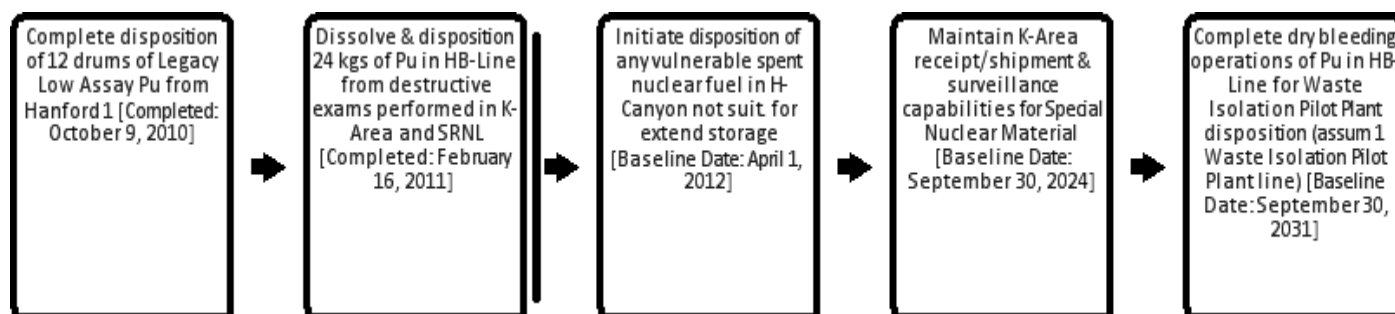
This PBS scope also includes the Receiving Basin for Off-Site Fuels facility which has been de-inventoried, deactivated and placed in long-term surveillance.

Additional scope in this PBS is the operation of K-Area as a storage and surveillance facility for stabilized special nuclear materials. These Savannah River Site facilities will be operated in compliance with applicable laws, regulations, and DOE Orders. 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-Area will continue to serve as a material storage facility for stabilized surplus non-pit plutonium materials. The K-Area Material Storage Facility will also continue to serve as an International Atomic Energy Agency control protocol facility for plutonium oxide.

The K-Area Interim Surveillance capability performs any necessary surveillance in accordance with DOE Standard-3013. Plutonium that meets the criteria for disposition via the DOE mixed-oxide fuel program will be transferred to the Mixed Oxide Fuel Fabrication Facility for disposition.

### Sequence



**Benefits**

Enhance nuclear security through environmental efforts	<ul style="list-style-type: none"> <li>▪ Continue the safe storage and final disposition of nuclear materials, as well as the cleanup of our Cold War legacy.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Continued to receive weapons grade surplus non-pit plutonium from the Los Alamos National Laboratory, and Lawrence Livermore National Laboratory.</li> <li>▪ Performed surveillance of special nuclear materials in storage by non-destructive means only in accordance with DOE-STD-3013 and the surveillance and monitoring plan.</li> <li>▪ Continued surveillance and maintenance of the F Area Complex Facilities (F-Canyon, FB-Line, and 235-F) as well as for the Receiving Basin for Off-Site Fuels Facility.</li> <li>▪ Operated H-Canyon to process unirradiated highly enriched uranium, blend down the resultant solution to low enriched uranium, and ship to Tennessee Valley Authority.</li> </ul>	<b>261,302</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue surveillance and maintenance of the F Areas Complex Facilities (F Canyon, FB-Line, and 235-F) as well as for the Receiving Basin for Off-Site Fuels Facility.</li> <li>▪ Perform surveillance of special nuclear materials in storage by destructive means in accordance with DOE-STD-3013 and the surveillance and monitoring plan.</li> <li>▪ Complete the Tennessee Valley Authority (TVA) contract commitments. After completing the TVA contract commitments, the majority of the process lines in H Canyon/HB-Line will be flushed, some processes will continue to operate to support other operations at SRS.</li> <li>▪ Perform proficiency runs in H Canyon/HB-Line to maintain operator qualification and exercise process equipment.</li> <li>▪ Continue receipt and processing of sample return materials from both the Savannah River National Laboratory and the F/H Process laboratory.</li> <li>▪ Continue to remediate large boxes of legacy TRU waste in H Canyon.</li> <li>▪ HB-Line will also continue the research and development activities associated with the vacuum salt distillation process.</li> <li>▪ HB-Line will package non-MOXable plutonium for disposition to the Waste Isolation Pilot Plant.</li> </ul>	<b>233,008</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue surveillance and maintenance of the F Area Complex Facilities (F Canyon, FB-Line, and 235-F) as well as for the Receiving Basin for Off-Site Fuels Facility.</li> <li>▪ Perform surveillance of special nuclear materials in storage by destructive means in accordance with DOE-STD-3013 and the surveillance and monitoring plan.</li> <li>▪ Perform proficiency runs in H Canyon/HB-Line to maintain operator qualification and exercise process equipment.</li> <li>▪ Continue receipt and processing of sample return materials from both the Savannah River National Laboratory and the F/H Process laboratory.</li> <li>▪ HB-Line will package non-MOXable plutonium for disposition to the Waste Isolation Pilot Plant.</li> <li>▪ Initiate program to reduce the risk to personnel and the environment by reducing</li> </ul>	<b>273,594</b>

	<p>the residual plutonium-238 contamination in the F Area Materials Storage Facility (235-F).</p> <ul style="list-style-type: none"><li>▪ Initiate disposition of any vulnerable spent (used) nuclear fuel in H Canyon that is not suitable for extended storage in L-Basin based on the decision made to process this material.</li><li>▪ Initiate processing of non-pit plutonium to produce plutonium oxide suitable for use in the Mixed Oxide Fuel Fabrication Facility.</li></ul>	
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## SNF Stabilization and Disposition (PBS: SR-0012)

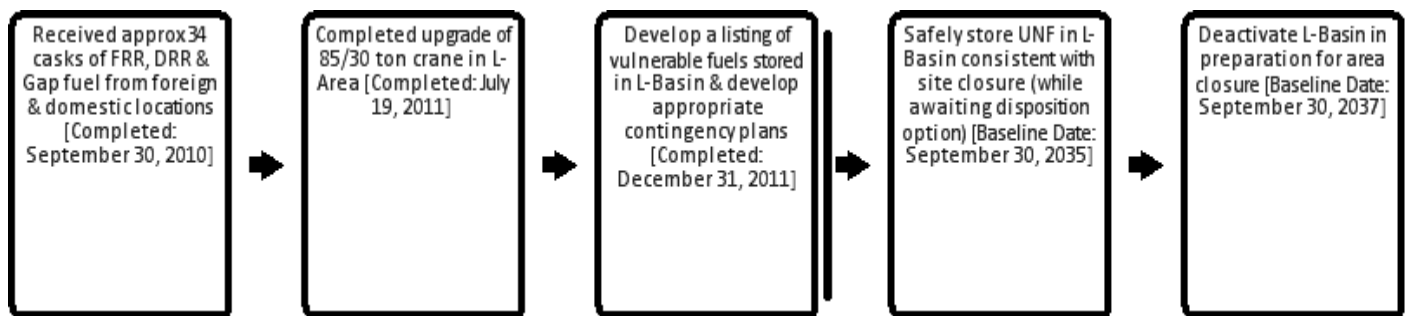
### Overview

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

This PBS covers the scope and funding for the spent (used) nuclear fuel originating from Atomic Energy Commission and DOE activities, and spent (used) nuclear fuel originating in both foreign and domestic research reactors which is being transferred to the Savannah River Site for safe, secure storage pending disposition. All spent (used) nuclear fuel activities at Savannah River are conducted in a single area and consolidated for storage in a single basin.

The end-state will be accomplished when all remaining Savannah River Site inventories of spent (used) nuclear fuel have been disposed, and when the spent (used) nuclear fuel facilities have been deactivated and turned over for final disposition. Activities include: receipt of spent (used) nuclear fuel in L-Disassembly Basin; cask unloading and preparation for underwater storage; cask loading; and shipments of irradiated and non-irradiated spent (used) nuclear fuel and miscellaneous legacy materials for disposition. A basin de-ionization system will be operated in support of fuel storage and water chemistry control requirements.

### Sequence



### Benefits

Enhance nuclear security through environmental efforts	<ul style="list-style-type: none"> <li>▪ Continue the safe storage and final disposition of nuclear fuels, as well as the cleanup of our Cold War legacy.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided safe storage for all spent (used) nuclear fuel stored in L Area.</li> <li>▪ Continued facility surveillance and maintenance activities, including maintenance of equipment, facility, grounds, instrumentation, and infrastructure.</li> <li>▪ Prepared to ship aluminum-clad spent (used) nuclear fuel to H-Canyon for disposition.</li> </ul>	<b>28,327</b>



	<ul style="list-style-type: none"> <li>▪ Continued receipt of foreign and domestic research reactor spent (used) fuel.</li> <li>▪ Conducted scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel and stabilization of degraded fuel.</li> <li>▪ Completed upgrade of 85/30 ton crane to support reliable operations for the long term.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide safe storage for all spent (used) nuclear fuel stored in L Area.</li> <li>▪ Continue facility surveillance and maintenance activities, including maintenance of equipment, facility, grounds, instrumentation, and infrastructure.</li> <li>▪ Maintain ability to ship aluminum-clad spent (used) nuclear fuel to H-Canyon for disposition</li> <li>▪ Continue receipt of foreign and domestic research reactor spent (used) fuel except for HFIR fuel.</li> <li>▪ Conduct scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel and stabilization of degraded fuel.</li> <li>▪ Begin storage capacity expansion to support expected spent (used) nuclear fuel receipts.</li> </ul>	<b>39,771</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide safe storage for all spent (used) nuclear fuel stored in L Area.</li> <li>▪ Continue facility surveillance and maintenance activities, including maintenance of equipment, facility, grounds, instrumentation, and infrastructure.</li> <li>▪ Continue receipt of foreign and domestic research reactor spent (used) fuel except for HFIR fuel.</li> <li>▪ Conduct scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel and stabilization of degraded fuel.</li> <li>▪ Continue expansion of spent (used) nuclear fuel storage areas for Spent (Used) Nuclear Fuel Program.</li> </ul>	<b>44,101</b>

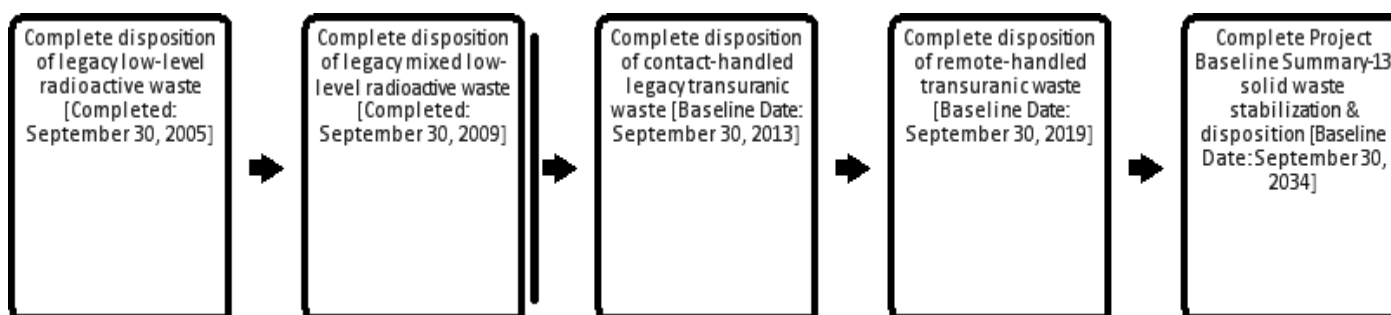
## Solid Waste Stabilization and Disposition (PBS: SR-0013)

### Overview

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

This PBS scope covers the storage, treatment and disposal functions for transuranic, low-level, mixed low-level, hazardous, and sanitary waste, as well as pollution prevention, waste minimization, waste certification, and other waste management support functions. In addition, this project covers surveillance and maintenance for the Consolidated Incinerator Facility and general “landlord” scope. The scope of this PBS will continue in support of all other Savannah River PBSs and will not conclude until after all area closures. The scope of this PBS also covers site-wide critical infrastructure needs to support site mission priorities.

### Sequence



### Benefits

Waste Disposition and Disposal	<ul style="list-style-type: none"> <li>Transuranic waste and low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
Critical Infrastructure Needs	<ul style="list-style-type: none"> <li>Completion of critical infrastructure projects to support site mission priorities.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>No planned activities in FY 2011; the scope of work typically covered in this PBS is being executed with ARRA funding.</li> </ul>	<b>0</b>
FY 2012	<ul style="list-style-type: none"> <li>Disposal of up to 2,517 m<sup>3</sup> of newly generated low-level waste.</li> <li>Disposal of 50 m<sup>3</sup> of mixed low-level waste inventory.</li> <li>Disposal of up to 150 m<sup>3</sup> of hazardous waste inventory.</li> <li>Disposal of sanitary waste.</li> </ul>	<b>29,163</b>

	<ul style="list-style-type: none"> <li>▪ Management of waste certification program.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain Solid Waste management facilities to support site operations.</li> <li>▪ Disposal of up to 7,100 m<sup>3</sup> of newly generated low-level waste.</li> <li>▪ Ship up to 300 kilograms of non-MOXable plutonium to WIPP.</li> <li>▪ Disposal of up to 30 m<sup>3</sup> of mixed low-level waste inventory.</li> <li>▪ Disposal of up to 85 m<sup>3</sup> of hazardous waste inventory.</li> <li>▪ Disposal of sanitary waste.</li> <li>▪ Management of waste certification program.</li> <li>▪ Disposal of up to 800 m<sup>3</sup> of legacy TRU waste not shipped with ARRA funding due to delay in TRUPACT-III delivery.</li> <li>▪ Complete critical infrastructure projects.</li> </ul>	<b>67,421</b>

## Radioactive Liquid Tank Waste Stabilization and Disposition-2035 (PBS: SR-0014C)

### Overview

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.

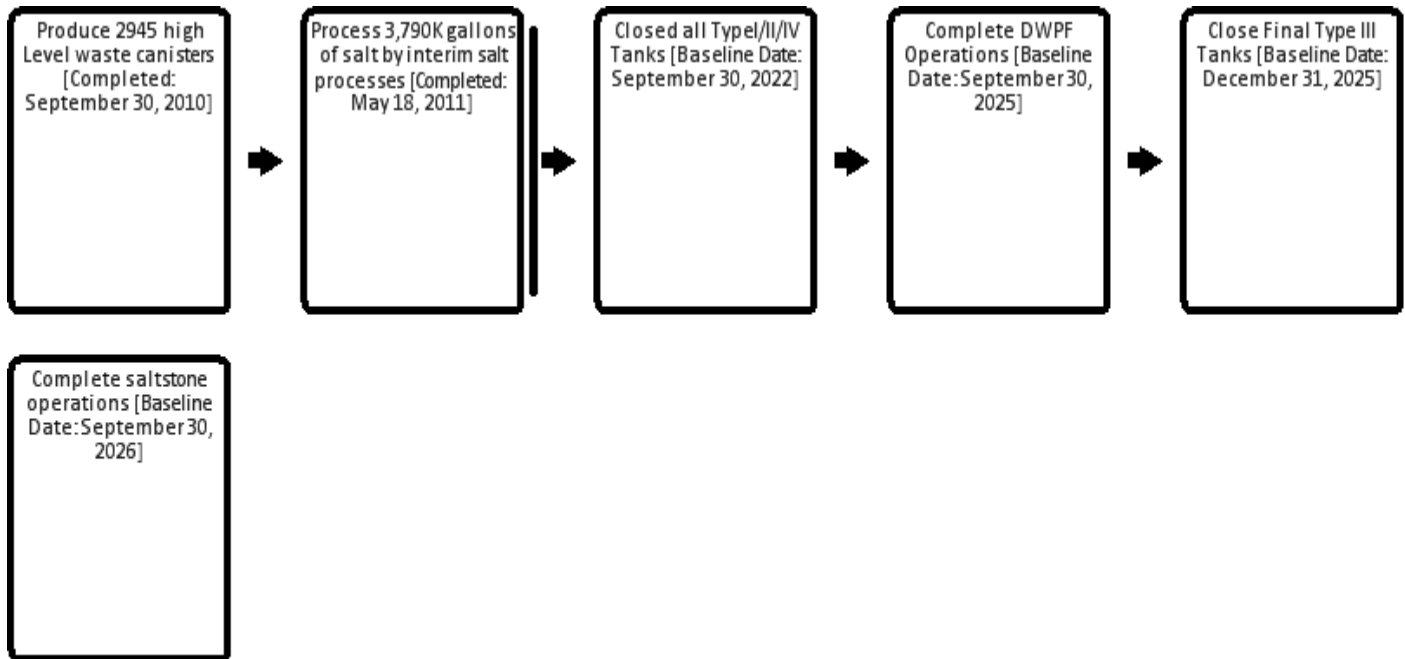
The Savannah River Site plans to: reduce the volume of tank waste by evaporation to ensure that storage tank space is available to receive additional legacy waste from ongoing nuclear material stabilization and waste processing activities; pre-treat the radioactive waste as sludge and salt waste; vitrify sludge and high curie/high actinide radioactive waste at the Defense Waste Processing Facility into canisters and then store the canisters; treat and dispose of 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.

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 off-site disposal. 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 liquid radioactive waste disposal. In order to relieve tank space shortages and assure that vitrification in the Defense Waste Processing Facility of the high-activity fraction of liquid waste will continue uninterrupted, the Actinide Removal Process and Modular Caustic Side Solvent Extraction Unit started up in the third quarter of FY 2008. This provides an interim processing capability to remove and treat salt waste from the tank farms to create additional tank space before the start up of the Salt Waste Processing Facility. It also provides Savannah River the opportunity to develop operating experience on a production-scale actinide and cesium removal processes which will be used to optimize the start up and initial operations of the Salt Waste Processing Facility. PBS SR-0014C also includes the design, construction, and operation of the Salt Waste Processing Facility to safely separate the high-activity fraction from the low-activity fraction of the salt waste stored in underground tanks at Savannah River. Processing salt waste through the Salt Waste Processing Facility is needed 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 that the site meets its Federal Facilities Agreement commitments for tank waste disposition.

For the Salt Waste Processing Facility, a total of \$234,403,254 for construction was appropriated in FY 2011, a total of \$170,071,000 is requested in FY 2012 for construction and \$22,549,000 is requested in FY 2013 to complete construction (05-D-405).

PBS SR-0014C includes the design of a Glass Waste Storage Building #3. Preliminary Engineering and Design funds were appropriated in FY 2012 to site adapt an existing design of the facility which stores vitrified canisters of high level waste glass produced by the Defense Waste Processing Facility. Suitable storage will be needed by September 2016 based on projected Defense Waste Processing Facility production rates. During FY 2013, further development and implementation of interim storage capability for vitrified waste will occur.

**Sequence**



**Benefits**

<p>Develop novel methods for addressing high-level waste that can accelerate progress and reduce cost</p>	<ul style="list-style-type: none"> <li>▪ Improved solutions in waste disposal and modular tank waste treatment to enhance safety and operating efficiency, and/or technical alternatives that reduce cost, schedule, or performance risks.               <ul style="list-style-type: none"> <li>o Successful deployment of melter bubblers will increase Defense Waste Processing Facility production from 200 canisters per year to a rate of 325 canisters per year.</li> <li>o Suspension of Tank 48 Waste Treatment Project for the evaluation of alternatives that may result in a more cost-effective solution.</li> </ul> </li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Operated the Defense Waste Processing Facility and produce 250 canisters.</li> <li>▪ Continued the Effluent Treatment Facility operations.</li> <li>▪ Continued operation of F and H Tank Farms.</li> <li>▪ Continued construction of the Salt Waste Processing Facility.</li> <li>▪ Continued modifications to liquid waste facilities, systems, and waste transfer lines in support of the Salt Waste Processing Facility project.</li> <li>▪ Operated Actinide Removal Process and Modular Caustic Side Extraction at planned rates to enable feed preparation for the Salt Waste Processing Facility.</li> <li>▪ Operated the Saltstone Facility at planned rates.</li> <li>▪ Continued construction of Saltstone Disposal Units as planned.</li> </ul>	<b>865,525</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue operation of F and H Tank Farms.</li> </ul>	<b>838,552</b>

	<ul style="list-style-type: none"> <li>▪ Continue construction of Salt Waste Processing Facility (05-D-405).</li> <li>▪ Operate the Defense Waste Processing Facility and produce 230 canisters.</li> <li>▪ Continue the Effluent Treatment Facility operations.</li> <li>▪ Operation of Actinide Removal Process and Modular Caustic Side Extraction at planned rates.</li> <li>▪ Operate the Saltstone Facility at planned rates.</li> <li>▪ Complete the Defense Waste Processing Facility Melter #3.</li> <li>▪ Continue fabrication of Defense Waste Processing Facility Melter #4.</li> <li>▪ Complete construction of Saltstone Disposal Unit #2.</li> <li>▪ Continue construction of Saltstone Disposal Units 3-5 as planned.</li> <li>▪ Continue Actinide Removal Process and Modular Caustic Side Solvent Extraction life extension modifications to improve reliability.</li> <li>▪ Finalize for closure two non-compliant tanks in FY 2012 meeting two Federal Facility Agreement tank closure commitments with due dates in the first quarter FY 2013.</li> <li>▪ Continue waste removal activities in support of sludge and salt batch preparation to feed Defense Waste Processing Facility, Actinide Removal Process and Modular Caustic Side Solvent Extraction.</li> <li>▪ Continue tank farm modifications to support Salt Waste Processing Facility startup.</li> <li>▪ Develop interim storage capability for vitrified waste.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue operation of F and H Tank Farms.</li> <li>▪ Continue construction of Salt Waste Processing Facility (05-D-405).</li> <li>▪ Operate the Defense Waste Processing Facility and produce 312 canisters.</li> <li>▪ Continue the Effluent Treatment Facility operations.</li> <li>▪ Operate Actinide Removal Process and Modular Caustic Side Solvent Extraction at planned rates.</li> <li>▪ Operate the Saltstone Facility at planned rates.</li> <li>▪ Complete fabrication of Defense Waste Processing Facility Melter #4.</li> <li>▪ Continue construction of Saltstone Disposal Units 3-5.</li> <li>▪ Continue work on Saltstone Disposal Unit 6 based on the new SDU design.</li> <li>▪ Continue limited waste removal infrastructure implementation activities in support of sludge and salt batch preparation to feed Defense Waste Processing Facility, Actinide Removal Process and Modular Caustic Side Solvent Extraction.</li> <li>▪ Continue tank farm modifications to support Salt Waste Processing Facility startup.</li> <li>▪ Continue development and implementation interim storage capability for vitrified waste.</li> </ul>	<b>720,843</b>

## Soil and Water Remediation (PBS: SR-0030)

### Overview

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

The Soil and Water Remediation PBS scope includes the remediation of Savannah River Site contaminated soils and waste sites to reduce risk and to protect groundwater aquifers and surface waters for the spread of contamination by addressing the sources of contamination using an Area Completion Approach.

An integral part of the cleanup mission for the Office of Environmental Management is the decommissioning of facilities constructed in support of nuclear materials production. This work was initially under PBS SR-0040C, Nuclear Facility D&D – 2035, but has been combined with the work scope in PBS SR-0030, Soil and Water Remediation.

### Sequence



### Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ No planned activities in FY 2011; the scope of work typically covered in this PBS is being executed with ARRA funding.</li> </ul>	<b>0</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Maintain safe and stable facility conditions by performing surveillance and maintenance.</li> <li>▪ Provide sound management of and support to the project (safety and health, coordination, environmental compliance, waste management, quality assurance, project controls, estimating, finance, and engineering).</li> <li>▪ Operate and maintain regulatory required soil and groundwater remedial systems to protect human health and the environment.</li> <li>▪ Monitor groundwater and streams to demonstrate to the regulators remedial</li> </ul>	<b>37,704</b>

	<p>systems' effectiveness and improvement of groundwater quality.</p> <ul style="list-style-type: none"> <li>▪ Attainment of 88 enforceable Federal Facility Agreement milestones (major and minor) and Resource Conservation and Recovery Act commitments.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain safe and stable facility conditions by performing surveillance and maintenance.</li> <li>▪ Provide sound management of and support to the project (safety and health, coordination, environmental compliance, waste management, quality assurance, project controls, estimating, finance, and engineering).</li> <li>▪ Operate and maintain regulatory required soil and groundwater remedial systems to protect human health and the environment.</li> <li>▪ Monitor groundwater and streams to demonstrate to the regulators remedial systems' effectiveness and improvement of groundwater quality.</li> <li>▪ Attainment of 75 enforceable Federal Facility Agreement milestones (major and minor) and Resource Conservation and Recovery Act commitments.</li> </ul>	<b>58,973</b>



## Savannah River Community and Regulatory Support (PBS: SR-0100)

### Overview

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

The scope of this project is to provide support that enables the Savannah River Site to perform its missions and cleanup objectives. Support activities include archaeological research, geological surveys, ecological research, natural resource management, forestry management, and project management. This project scope also includes Payments-In-Lieu-Of-Taxes for three South Carolina counties (Aiken, Allendale, and Barnwell); support to the Citizens Advisory Board (includes facilitators, technical advisors, meeting rooms, and other expenses); support to the States of South Carolina and Georgia for independent environmental monitoring and emergency management activities; and support for the South Carolina Department of Health and Environmental Control for oversight and implementation of the Federal Facility Agreement.

### Sequence

There are no milestones associated with this PBS.

### Benefits

Improve Transparency	<ul style="list-style-type: none"> <li>▪ We are committed to making the Department more open and more accessible to the American people.</li> <li>▪ Increase transparency of operations and performance to educate external stakeholders.</li> </ul>
Improve Contract and Project Management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship.</li> <li>▪ We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Conducted forest management activities to sustain the Savannah River Sites natural resources.</li> <li>▪ Provided technical expertise in the conduct of geological surveys and natural resource management.</li> <li>▪ Executed grant programs with Historically Black Colleges and Universities focusing on scientific research related to environmental issues; and DOE Scholars Program.</li> </ul>	<b>17,230</b>

	<ul style="list-style-type: none"> <li>▪ Provided grant to South Carolina Department of Health Environmental Control for oversight of environmental monitoring, Federal Facility Agreement, Agreement in Principle, and Site Treatment Plan.</li> <li>▪ Supported Payments-in-Lieu-of-Taxes to Aiken, Allendale, and Barnwell counties.</li> <li>▪ Provided grants for Georgia and South Carolina Emergency Management Support.</li> <li>▪ Supported Site Specific Advisory Board (SR Citizens Advisory Board); and public reading room.</li> <li>▪ Supported Interagency Agreement for EPA Region 4 oversight of the Federal Facility Agreement.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Support Payments-in-Lieu-of-Taxes to Aiken, Allendale, and Barnwell counties.</li> <li>▪ Conduct forest management activities to sustain the Savannah River Sites natural resources.</li> <li>▪ Support Interagency Agreement for EPA Region 4 oversight of the Federal Facility Agreement.</li> </ul>	<b>9,584</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Support Payments-in-Lieu-of-Taxes to Aiken, Allendale, and Barnwell counties.</li> <li>▪ Conduct forest management activities to sustain the Savannah River Sites natural resources.</li> <li>▪ Provide technical expertise in the conduct of geological surveys and natural resource management.</li> <li>▪ Provide support to South Carolina Department of Health Environmental Control for oversight of environmental monitoring, Federal Facility Agreement, Agreement in Principle, and Site Treatment Plan.</li> <li>▪ Provide support for Georgia and South Carolina Emergency Management Support.</li> <li>▪ Support Interagency Agreement for EPA Region 4 oversight of the Federal Facility Agreement.</li> <li>▪ Support the Site Specific Advisory Board (SR Citizen’s Advisory Board), and the public reading room.</li> <li>▪ Execute the DOE Scholars Program.</li> </ul>	<b>16,584</b>

**Salt Waste Processing Facility, Savannah River Site, Aiken, South Carolina  
(Construction 05-D-405) - (SR-0014C)**

**1. Significant Changes**

The most recent DOE O 413.3B approved Critical Decision (CD) is CD-3 which was approved on December 8, 2008, with a TPC of \$1,339,548,000 and a CD-4 of FY 2016.

**2. Design, Construction, and D&D Schedule**

*(fiscal quarter or date)*

	CD-0	CD-1	PED Complete	CD-2	CD-3	CD-4	D&D Start	D&D Complete
	06/25/20							
FY 2005	01	4Q FY2004	4Q FY2005	4Q FY2005	4Q FY2005	4Q FY2008	N/A	N/A
	06/25/20							
FY 2006	01	4Q FY2004	3Q FY2006	3Q FY2006	3Q FY2006	4Q FY2009	N/A	N/A
	06/25/20							
FY 2007	01	4Q FY2004	1Q FY2008	3Q FY2007	3Q FY2007	1Q FY2011	N/A	N/A
	06/25/20							
FY 2008	01	4Q FY2004	1Q FY2008	3Q FY2007	3Q FY2007	1Q FY2011	N/A	N/A
FY 2007	06/25/20							
Notification	01	4Q FY2004	4Q FY2008	4Q FY2007	4Q FY2008	1Q FY2014	N/A	N/A
	06/25/20							
FY 2009	01	4Q FY2004	4Q FY2008	4Q FY2007	4Q FY2008	1Q FY2014	N/A	N/A
FY 2008	06/25/20							
Reprogramming	01	4Q FY2004	4Q FY2008	4Q FY2007	1Q FY2009	1Q FY2014	N/A	N/A
	06/25/20							
FY 2010	01	4Q FY2004	4Q FY2008	4Q FY2007	1Q FY2009	1Q FY2016	N/A	N/A
	06/25/20							
FY 2011	01	4Q FY2004	4Q FY2008	4Q FY2007	1Q FY2009	1Q FY2016	N/A	N/A
	06/25/20							
FY 2012	01	4Q FY2004	4Q FY2008	4Q FY2007	1Q FY2009	1Q FY2016	N/A	N/A
	06/25/20							
FY 2013	01	4Q FY2004	4Q FY2008	4Q FY2007	1Q FY2009	1Q FY2016	N/A	N/A

CD-0 – Approve Mission Need

CD-1 – Approve Alternative Selection and Cost Range

CD-2 – Approve Performance Baseline

CD-3 – Approve Start of Construction

CD-4 – Approve Start of Operations or Project Closeout

D&D Start – Start of Demolition & Decontamination (D&D) work

D&D Complete – Completion of D&D work

	(Fiscal Quarter or Date)							
	Performance Baseline Validation	CD-2/3A	CD-3B	CD-3				
FY 2005	N/A	N/A	N/A	N/A				
FY 2006	N/A	N/A	N/A	N/A				
FY 2007	N/A	N/A	N/A	N/A				
FY 2008	N/A	N/A	N/A	N/A				
FY 2007 Notification	4Q2007	4Q2007	2Q2008	N/A				
FY 2009	4Q2007	4Q2007	3Q2008	N/A				
FY 2008 Reprogramming	4Q2007	4Q2007	4Q2008	N/A				
FY 2010	4Q2007	4Q2007	4Q2008	1Q2009				
FY 2010	4Q2007	4Q2007	4Q2008	1Q2009				
FY 2012	4Q2007	4Q2007	4Q2008	1Q2009				
FY 2013	4Q2007	4Q2007	4Q2008	1Q2009				

CD-2/3A - Site Preparation, Early Construction and Long Lead Procurement

CD-3B - Early Construction and Long Lead Procurement

### 3. Baseline and Validation Status

(Fiscal Quarter)

	TEC, PED	TEC, Construction	TEC, Total	OPC Except D&D	OPC, D&D	OPC, Total	TPC
FY 2005	TBD	TBD	TBD or N/A	TBD	N/A	TBD or N/A	TBD or N/A
FY 2006	78,917	252,014	330,931	107,207	0	107,207	438,138
FY 2007	228,600	331,000	559,600	120,400	0	120,400	680,000
FY 2008	228,705	497,199	725,904	173,433	0	173,433	899,337
FY 2007 Notification	228,797	497,199	725,996	173,341	0	173,341	899,337
FY 2009	228,705	497,199	725,904	173,433	0	173,433	899,337
FY 2008 Reprogramming	243,705	482,199	725,904	173,433	0	173,433	899,337
FY 2010	243,705	895,151	1,138,856	200,692	0	200,692	1,339,548
FY 2011	243,705	895,151	1,138,856	200,692	0	200,692	1,339,548
FY 2012	243,705	895,151	1,138,856	200,692	0	200,692	1,339,548
FY 2013	243,705	895,151	1,138,856	200,692	0	200,692	1,339,548

### 4. Project Description, Justification, and Scope

#### Mission Need

This project scope includes construction of 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 radioactive liquid waste tanks. In addition, water required for salt cake removal from the tanks and

**Defense Environmental Cleanup/05-D-405/  
Salt Waste Processing Facility (SWPF)/  
Savannah River Site, Aiken, South Carolina**

**FY 2013 Congressional Budget**

processing is presently expected to result in approximately 84 million gallons of salt and supernate solution to be processed. Continued, long-term storage of this liquid waste in underground tanks poses an environmental risk.

#### Scope and Justification (Salt Waste Processing Facility, 05-D-405)

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 radioactive liquid waste into a stable form and store it for eventual disposal in a geologic repository. The ability to safely process the salt component of the radioactive liquid waste stored in underground storage tanks at the Savannah River Site is a crucial prerequisite for completing radioactive liquid waste disposal. Without a suitable method for salt management, the Department would not be able to place the radioactive liquid waste in a configuration acceptable for safe disposal.

This project scope includes design, construction, and cold commissioning of the Salt Waste Processing Facility, to safely separate the high-activity fraction from the low-activity fraction of the radioactive liquid 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 radioactive 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 Salt Waste Processing Facility presently has a waste processing nameplate capacity of a nominal 7.3 million gallons per year. The Salt Waste Processing Facility will consist of all buildings, equipment, and services required to provide a fully functioning 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.

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 on the critical path for establishing the coupled feed.

In response to Defense Nuclear Facility Safety Board concerns on radiological materials, the Department of Energy Savannah River Operations Office directed development of an Enhanced Preliminary Design that implemented a Performance Category 3 confinement approach on November 23, 2005.

In May 2007, development of a bottom-up cost estimate was completed to support the Critical Decision-2 package, and further adjusted based on comments received from an External Independent Review, which resulted in a project cost estimate of \$899,337,000. The primary drivers for this \$220 million increase over the rough order of magnitude estimate were increased technical requirements resulting from the implementation of National Quality Assurance Standard 1 in lieu of International Standards Organization Standard 9001, resolution of structural/geotechnical issues, and additional Performance Category 3 requirements not identified during the initial rough order of magnitude estimate process. In addition, changes in how the project interpreted guidance on classification of Operating Funds as either Other Project Costs or Operating Costs accounted for approximately \$53,000,000 of the \$220,000,000 increase.

Early in the execution of Critical Decision 2/3A activities, design issues surrounding inability to secure sufficient critical design resources began to impact completion of design activities. This situation was further exacerbated by the volatility of the market, which began affecting the Critical Decision 3A procurements. Mitigation strategies were developed to deal with

these issues. The revised Critical Decision 3 baseline was developed using the 90 percent design drawings, which estimated additional material and associated labor to install, and incorporating the cost of realized risk of material cost increases and design delays. The resulting baseline total project cost was \$1,339,548,586, an increase of \$440,211,586 over the Critical Decision 2 baseline estimate.

The cost and schedule confidence levels established at Critical Decision 3 in 2009 were a cost of \$1,339,548,586 at a 95 percent confidence level and a completion date of October 2015, which includes 126 weeks of schedule contingency, at an 80 percent confidence level.

- Critical Decision - 0: Approve Mission Need - June 2001
- Critical Decision - 1: Approve Preliminary Baseline Range - August 2004
- Independent Review of Contractors Earned Value Management System - June 2005 (with a follow-up review in January 2008)
- Critical Decision - 2/3a: Approve Performance Baseline/ Start of Construction (Long Lead Procurement/Site Preparation/Limited Construction) - September 2007
- Critical Decision - 3b: Start of Construction (Long Lead Procurement/Limited Construction) - September 2008
- Critical Decision - 3: Approve Start of Construction - December 2008
- Critical Decision - 4: Approve Start of Operations - October 2015 (includes 126 weeks of contingency)

The project is being conducted in accordance with the project management requirements in DOE O 413.3B, Program and Project Management for the Acquisition of Capital Assets, and all appropriate project management requirements have been met.

#### 5. Financial Schedule

(dollars in thousands)

Appropriations	Obligations	Costs
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#### Total Estimated Cost (TEC)

##### PED

FY 2003	4,842	4,842	0
FY 2004	51,198	51,198	11,539
FY 2005	23,469	23,469	30,204
FY 2006	34,990	34,990	48,195
FY 2007	104,296	104,296	75,600
FY 2008	24,910	24,910	57,863
FY 2009	0	0	16,588
FY 2010	0	0	3,716
<b>Total, PED</b>	<b>243,705</b>	<b>243,705</b>	<b>243,705</b>

##### Construction

FY 2005	5,792	5,792	0
FY 2006	495	495	0
FY 2007	0	0	1,907
FY 2008	72,199	72,199	63,640
FY 2009	155,524	155,524	93,367
FY 2010	234,118	234,118	151,743
FY 2011	234,403	234,403	216,091
FY 2012	170,071	170,071	311,132
FY 2013	22,549	22,549	57,271

(dollars in thousands)

	Appropriations	Obligations	Costs
Total, Construction	895,151	895,151	895,151
TEC			
FY 2003	4,842	4,842	0
FY 2004	51,198	51,198	11,539
FY 2005	29,261	29,261	30,204
FY 2006	35,485	35,485	48,195
FY 2007	104,296	104,296	77,507
FY 2008	97,109	97,109	121,503
FY 2009	155,524	155,524	109,955
FY 2010	234,118	234,118	155,459
FY 2011	234,403	234,403	216,091
FY 2012	170,071	170,071	311,132
FY 2013	22,549	22,549	57,271
Total, TEC	1,138,856	1,138,856	1,138,856
Other Project Cost (OPC)			
OPC except D&D			
FY 2006	22,447	22,447	22,447
FY 2007	9,048	9,048	9,048
FY 2008	9,715	9,715	7,715
FY 2009	13,133	13,133	9,729
FY 2010	25,202	25,202	12,672
FY 2011	25,202	25,202	15,361
FY 2012	32,579	32,579	43,076
FY 2013	57,963	57,963	68,793
FY 2014	5,403	5,403	11,851
Total, OPC except D&D	200,692	200,692	200,692
OPC			
FY 2006	22,447	22,447	22,447
FY 2007	9,048	9,048	9,048
FY 2008	9,715	9,715	7,715
FY 2009	13,133	13,133	9,729
FY 2010	25,202	25,202	12,672
FY 2011	25,202	25,202	15,361
FY 2012	32,579	32,579	43,076
FY 2013	57,963	57,963	68,793
FY 2014	5,403	5,403	11,851
Total, OPC	200,692	200,692	200,692
Total Project Cost (TPC)			
FY 2003	4,842	4,842	0
FY 2004	51,198	51,198	11,539
FY 2005	29,261	29,261	30,204
FY 2006	57,932	57,932	70,642
FY 2007	113,344	113,344	86,555
FY 2008 <sup>a</sup>	106,824	106,824	129,218
FY 2009	168,657	168,657	119,684

Defense Environmental Cleanup/05-D-405/  
Salt Waste Processing Facility (SWPF)/  
Savannah River Site, Aiken, South Carolina

FY 2013 Congressional Budget

(dollars in thousands)

	Appropriations	Obligations	Costs
FY 2010	259,320	259,320	168,131
FY 2011	259,605	259,605	231,452
FY 2012	202,650	202,650	354,208
FY 2013	80,512	80,512	126,064
FY 2014 <sup>b</sup>	5,403	5,403	11,851
Total, TPC	1,339,548	1,339,548	1,339,548

(a) Includes a Congressional Reprogramming of \$15,000,000 from the construction project (05-D-405) to Project Engineering and Design (03-D-414)

(b) Budget figures shown for years after FY 2013 are notional and do not represent policy. Funding decisions will be made on a year-by-year basis.

## 6. Details of Project Cost Estimate

(dollars in thousands)

Current Total Estimate	Previous Total Estimate	Original Validated Baseline
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### Total Estimated Cost (TEC)

#### Design (PED)

Design	234,085	234,085	206,705
Contingency	9,620	9,620	37,000
Total, PED	243,705	243,705	243,705

#### Construction

Site Preparation	27,263	27,263	27,263
Equipment	141,000	141,000	89,508
Other Construction	492,128	492,128	316,428
Contingency	234,760	234,760	49,000
Total, Construction	895,151	895,151	482,199

### Total, TEC

Total, TEC	1,138,856	1,138,856	725,904
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#### Contingency, TEC

Contingency, TEC	244,380	244,380	86,000
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### Other Project Cost (OPC)

#### OPC except D&D

Conceptual Planning	0	0	0
Conceptual Design	14,133	14,133	14,445
Start-Up	117,724	117,724	96,940
Contingency	30,450	30,450	22,000
Other OPC	38,385	38,385	40,048
Total, OPC except D&D	200,692	200,692	173,433

#### D&D

D&D	0	0	0
Contingency	0	0	0



(dollars in thousands)

	Current Total Estimate	Previous Total Estimate	Original Validated Baseline
Total, OPC	200,692	200,692	173,433
Contingency, OPC	30,450	30,450	22,000
Total, TPC	1,339,548	1,339,548	899,337
Total, Contingency	274,830	274,830	108,000

**7. Funding Profile History**

Request	Prior Years	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Outyears	Total
FY 2004	TEC	69,000	N/A	N/A	N/A	N/A	N/A	TBD	69,000
	OPC	11,967	N/A	N/A	N/A	N/A	N/A	TBD	11,967
	TPC	80,967	N/A	N/A	N/A	N/A	N/A	TBD	80,967
FY 2005	TEC	69,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	OPC	11,967	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	TPC	80,967	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FY 2006	TEC	336,040	0	0	0	0	0	0	336,040
	OPC	103,960	0	0	0	0	0	0	103,960
	TPC	440,000	0	0	0	0	0	0	440,000
FY 2007 Performance Baseline	TEC	559,600	0	0	0	0	0	0	559,600
	OPC	120,400	0	0	0	0	0	0	120,400
	TPC	680,000	0	0	0	0	0	0	680,000
FY 2008	TEC	559,600	0	0	0	0	0	0	559,600
	OPC	120,400	0	0	0	0	0	0	120,400
	TPC	680,000	0	0	0	0	0	0	680,000
FY 2007 Congressional Notification	TEC	688,908	28,532	8,556	0	0	0	0	725,996
	OPC	101,439	56,887	11,960	3,055	0	0	0	173,341
	TPC	790,347	85,419	20,516	3,055	0	0	0	899,337
FY 2009	TEC	688,816	28,532	8,556	0	0	0	0	725,904
	OPC	101,439	56,887	11,960	3,147	0	0	0	173,433
	TPC	790,255	85,419	20,516	3,147	0	0	0	899,337
FY 2010	TEC	968,784	170,071	1	0	0	0	0	1,138,856
	OPC	110,150	32,579	57,963	0	0	0	0	200,692
	TPC	1,078,934	202,650	57,964	0	0	0	0	1,339,548
FY 2011	TEC	946,236	170,071	22,549	0	0	0	0	1,138,856
	OPC	104,747	32,579	57,963	5,403	0	0	0	200,692
	TPC	1,050,983	202,650	80,512	5,403	0	0	0	1,339,548
FY 2012	TEC	946,236	170,071	22,549	0	0	0	0	1,138,856
	OPC	104,747	32,579	57,963	5,403	0	0	0	200,692
	TPC	1,050,983	202,650	80,512	5,403	0	0	0	1,339,548
FY 2013	TEC	946,236	170,071	22,549	0	0	0	0	1,138,856
	OPC	104,747	32,579	57,963	5,403	0	0	0	200,692
	TPC	1,050,983	202,650	80,512	5,403	0	0	0	1,339,548

### 8. Related Operations and Maintenance Funding Requirements

Start of Operation or Beneficial Occupancy (fiscal quarter or date)	1Q FY2016
Expected Useful Life (number of years)	17
Expected Future Start of D&D	N/A

(Related Funding requirements)

(Dollars in Thousands)

	Annual Costs		Life Cycle Costs	
	Current Total Estimate	Previous Total Estimate	Current Total Estimate	Previous Total Estimate
Operations	63,443	63,443	1,083,957	1,083,957
Maintenance	10,785	10,785	184,273	184,273
Total, Operations & Maintenance	74,228	74,228	1,268,230	1,268,230

Start of Operation or Beneficial Occupancy (fiscal quarter or date): The operational start date above is based on data used to support the \$1,339.5 million total project cost estimate and associated performance measurement baseline (early finish) completion date. Should the projected schedule contingency of 126 weeks be fully realized, then the start of operation milestone would move out to the first quarter of fiscal year 2016.

### 9. Required D&D Information

Area	Square Feet
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This project is new construction which does not replace an existing facility. As part of the Office of Environmental Managements cleanup efforts, sites have established unique projects to perform Decontamination and Decommissioning. An estimated 2,108,087 square feet of buildings will have been removed from the Savannah River Sites inventory from Fiscal Year 2002 through Fiscal Year 2011. The square footage of this project will be offset against the Savannah River Site Decontamination and Decommissioning program's banked excess.

### 10. Acquisition Approach

The project acquisition strategy included the use of two separate contractors to perform conceptual design, which reduced project risk. 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 specifications, etc.



**Lawrence Livermore National Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
NNSA Sites			
Lawrence Livermore National Laboratory			
VL-FOO-0013B-D / Solid Waste Stabilization and Disposition Support - Lawrence Livermore National Laboratory (Defense)	222	238	186
VL-LLNL-0031 / Soil and Water Remediation- Lawrence Livermore National Laboratory - Site 300	600	635	1,298
<hr/>			
Subtotal, Lawrence Livermore National Laboratory	822	873	1,484

Defense Environmental Cleanup

  NNSA Sites

    Lawrence Livermore National Laboratory

      VL-FOO-0013B-D / Solid Waste Stabilization and Disposition Support - Lawrence Livermore National Laboratory (Defense)

      VL-LLNL-0031 / Soil and Water Remediation- Lawrence Livermore National Laboratory - Site 300

    Subtotal, Lawrence Livermore National Laboratory

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

“The Lawrence Livermore National Laboratory Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active Sites, while protecting human health and the environment.”

The 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. Cleanup of the Lawrence Livermore National Laboratory site has led to the final disposition of legacy waste inventories and the build-out of the Lawrence Livermore National Laboratory Livermore Site Environmental Restoration Project. The Lawrence Livermore National Laboratory Hazardous Waste Management Program and Long Term Stewardship associated with the Lawrence Livermore National Laboratory Site Environmental Restoration Project

transferred from EM to National Nuclear Security Administration under Long Term Stewardship at the end of FY 2006.

Site 300 is a remote experimental testing facility where the Department conducts research, development, and testing of high explosives and integrated non-nuclear weapons components. The site was placed on the U.S. Environmental Protection Agency’s National Priority List in 1990 due to legacy contamination from past operations. Remedial action selection and buildout is complete for Operable Units 1 through 8, with the exception of perchlorate ground water contamination at Building 850 (which is part of Operable Unit 5). The responsibility for Long Term Stewardship for the implemented cleanup remedies in Operable Units 1-8 has been transferred to the National Nuclear Security Administration. The remaining characterization and/or remedy selection and implementation for Building 812/Operable Unit 9, Building 865 (part of Operable Unit 8), and perchlorate contamination in Building 850/Operable Unit 5 ground water is the responsibility of Environmental Management. Within the nine Operable Units, there are 73 contaminant release sites at Site 300, of which 69 have been completed.

Twenty-one groundwater and soil vapor extraction and treatment facilities at Lawrence Livermore National Laboratory Site 300 have been constructed and are operational. The soil removal action at the Building 850 Firing Table was completed in FY 2010. The remaining characterization and/or remedy selection and implementation for soil and ground water for Building 812/Operable Unit 9, Building 865/Operable Unit 8, and perchlorate contamination in Building 850/Operable Unit 5 ground water are currently scheduled for completion by the end of FY 2019. Other activities associated with this cleanup work at Lawrence Livermore National Laboratory Site 300 are support for site investigations, hydrogeologic studies, and stakeholder liaisons; and payment of state grants.

The remaining EM investigations and actions at Lawrence Livermore National Laboratory Site 300 are required by the Lawrence Livermore National Laboratory Site 300 Federal Facility Agreement, Comprehensive Environmental Response; Compensation and Liability Act and the National Contingency Plan. The Federal Facility Agreement describes remedial investigations and action requirements primarily by establishing schedules and deliverables. The Comprehensive Environmental Response; Compensation and Liability Act and the National Contingency Plan provide the federal statutory and regulatory requirements for cleanup of legacy contamination.

The benefits of completing the remaining EM restoration work at Lawrence Livermore National Laboratory Site 300 include the overall reduction of potential human health and ecological risk by focusing on 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.

The Environmental Restoration activities at Lawrence Livermore National Laboratory Site 300 are governed by site-specific agreements.

#### **Regulatory Framework**

- Federal Facility Agreement (1992)
- Comprehensive Environmental Response Compensation and Liability Act

**Environmental Management/  
Lawrence Livermore National Laboratory**

#### **Program Accomplishments**

During FY 2012 it is expected that the Lawrence Livermore National Laboratory will complete the following major accomplishments:

- Finalize Building 812/Operable Unit 9 Baseline Risk Assessment Work Plan.
- Continue the Treatability Study for Enhanced In Situ Bioremediation of Perchlorate in Ground Water at Building 850.

Current estimated Life-Cycle cost of \$389,000,000 - \$399,000,000; current projected closure date is 2019.

#### **Explanation of Changes**

The Department requests \$1,484,000 in FY 2013 for the Lawrence Livermore National Laboratory, which is a 70 percent increase over the FY 2012 enacted appropriation level. The FY 2013 request increase is due to current compliance requirements associated with Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300.

#### **Program Planning and Management**

Program planning and management at Lawrence Livermore National Laboratory is conducted through the issuance and execution of contracts to large and small businesses. Lawrence Livermore National Laboratory develops near- and long- term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. Current contract at Lawrence Livermore National Laboratory is a Management and Operations contract. The contract's performance period runs from 2007 to 2014.

#### **Strategic Management**

The Lawrence Livermore National Laboratory Site 300 remediation strategy meets the identified strategic goals of the Department of Energy by effectively and efficiently managing the project and ensuring the most efficient use of taxpayer funds.

The remediation strategy for Lawrence Livermore National Laboratory Site 300 employs a prioritized approach with an emphasis on risk reduction. In agreement with the regulatory agencies and neighboring

**FY 2013 Congressional Budget**

community, the following priorities have been established:

- Prevent contamination of water supply wells and associated risk to human health and loss of beneficial uses of ground water.
- Prevent exposure of onsite workers to contaminants and reduce the current unacceptable risk.
- Control and prevent further offsite plume migration.
- Reduce contaminant concentration and mass in the vadose and ground water.
- Control contaminant sources.

The following factors could have significant impacts on individual projects and may impact the overall cleanup scope, schedule, and cost. Potential impacts follow:

- The major uncertainty is the remediation of the depleted uranium contaminated soil at the Building 812 Firing Table (Operable Unit 9).
- The challenges of the project include the excavation of soil from very steep terrain, large volumes of soil to be remediated and potential impacts to endangered species habitat and surface water drainage ways in the area during excavation and remediation.

**Strategic Plan and Performance Measures**

No PM activity for current three-year budget period.

**Explanation of Funding Changes**

(Dollars In Thousands)

	FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
<b>Defense Environmental Cleanup</b>			
<b>NNSA Sites</b>			
<b>Lawrence Livermore National Laboratory</b>			
<b>VL-FOO-0013B-D / Solid Waste Stabilization and Disposition Support - Lawrence Livermore National Laboratory (Defense)</b>			
▪ No significant change.	238	186	-52
<b>VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300</b>			
▪ Increase supports additional soil characterization activities at the Building 812 Firing Table to meet final cleanup remedy to ensure regulatory compliance.	635	1,298	+663
<b>Total, Lawrence Livermore National Laboratory</b>	<b>873</b>	<b>1,484</b>	<b>611</b>

**Solid Waste Stabilization and Disposition Support - Lawrence Livermore National Laboratory (Defense) (PBS: VL-FOO-0013B-D)**

**Overview**

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

The activities in this project support the cleanup activities at Site 300 that will be completed with the remediation of contaminated soil and ground water at Building 821/Operable Unit 9, Building 865/Operable Unit 8, and perchlorate in ground water at the Building 850/Operable Unit 5 firing table. Activities performed in this project will continue to provide funding for:

- Pay for grants to the State of California Regional Water Quality Control Board and the California Department of Toxic Substances Control to provide oversight. This funding is mandated by the Federal Facility Agreement signed by DOE, Environmental Protection Agency, and the State of California.
- Support for site investigations, hydrogeologic studies, regulatory review, and stakeholder liaisons are also managed within this project through wide applicability of these restoration activities. This project will end when all environmental restoration activities are completed at Site 300.

Sequence

There are no milestones associated with this PBS.

Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Maintained regulatory interactions in support of Building 812/Operable Unit 9 soil and ground water remediation, Building 865/Operable Unit 8, and perchlorate</li> </ul>	<b>222</b>



	contaminated ground water at Building 850/Operable Unit 5.	
FY 2012	<ul style="list-style-type: none"> <li>▪ Support the Lawrence Livermore National Laboratory Site 300 Environmental Restoration Project and the grants with the State of California Regional Water Quality Control Board and Department of Toxic Substances.</li> </ul>	<b>238</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Support the Lawrence Livermore National Laboratory Site 300 Environmental Restoration Project and the grants with the State of California Regional Water Quality Control Board and Department of Toxic Substances.</li> </ul>	<b>186</b>

**Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300 (PBS: VL-LLNL-0031)**

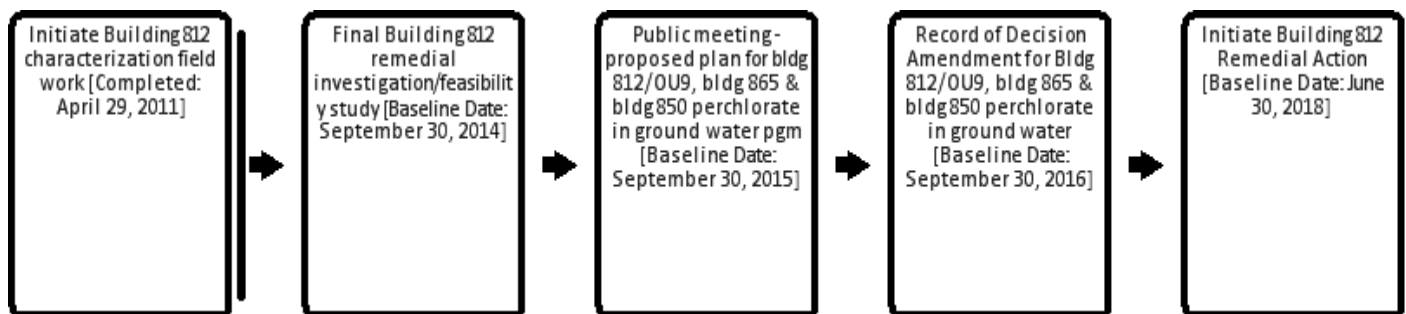
**Overview**

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

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. Implementation and build-out of the required remediation alternative will address risk reduction associated with soil and groundwater contamination and will complete the project.

Additional characterization of the Building 812 Firing Table/Operable Unit 9 area is underway. Remedial investigation and remedial build-out at the Building 812/Operable Unit 9, Building 865/Operable Unit 8, and for perchlorate in Building 850/Operable Unit 5 ground water remain the responsibility of EM. When remedial investigations and remedial action selection build-out in these areas are complete, responsibility for the management and funding of Comprehensive Environmental Response; Compensation and Liability Act required Long Term Stewardship activities will be transferred from EM to National Nuclear Security Administration.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> <li>▪ This EM cleanup work is a regulatory driven activity that maintains compliance with Federal and State laws.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Finalized Building 812/Operable Unit 9 Characterization Work Plan.</li> <li>▪ Initiated Building 812/Operable Unit 9 Gamma Surface Soil Survey.</li> <li>▪ Initiated Treatability Study for Enhanced <i>In Situ</i> Bioremediation of Perchlorate in Groundwater at Building 850/Operable Unit 5.</li> </ul>	<b>600</b>

FY 2012	<ul style="list-style-type: none"> <li>▪ Finalize Building 812/Operable Unit 9 Baseline Risk Assessment Work Plan</li> <li>▪ Continue the Treatability Study for Enhanced <i>In Situ</i> Bioremediation of Perchlorate in Ground water at Building 850.</li> </ul>	<b>635</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Complete additional Building 812/Operable Unit 9 Characterization Field Work.</li> <li>▪ Continue the Treatability Study for Enhanced <i>In Situ</i> Bioremediation of Perchlorate in Ground water at Building 850/Operable Unit 5.</li> </ul>	<b>1,298</b>



**Los Alamos National Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
NNSA Sites			
Los Alamos National Laboratory			
VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy	67,015	67,015	103,542
VL-LANL-0030 / Soil and Water Remediation-LANL	121,738	117,985	131,371
Subtotal, Los Alamos National Laboratory	188,753	185,000	234,913
NNSA Service Center/Separations Processing Research Unit (SPRU)			
VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle	3,047	3,561	4,230
Total, NNSA Sites	191,800	188,561	239,143

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012  
P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The Los Alamos National Laboratory Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment.

Since its inception in 1943 as part of the Manhattan Project, the primary mission of the Los Alamos National Laboratory has been nuclear weapons research and development. In achieving this mission, the Laboratory released hazardous and radioactive materials to the environment through outfalls, stack releases, and material disposal areas. Mixed low-level waste and transuranic waste have been staged in preparation for off-site disposition to the Waste Isolation Pilot Plant. Since 1989, the Environmental Management program at Los Alamos National Laboratory has been comprised of

activities to address the characterization and cleanup of environmental media (i.e., soil and groundwater), the disposition of legacy waste, and decontamination and decommissioning and demolition of process-contaminated facilities at Technical Area-21 (Material Disposal Areas: A, T, U and V), and waste management facilities at Technical Area -54 (Material Disposal Areas: G, H, and L), that allows for characterization and cleanup of Solid Waste Management Units which are collocated in the footprint of the structures. Los Alamos National Laboratory highest priorities for the cleanup mission are to maintain safety, reduce urgent risk and move toward compliance with the FY 2005 Consent Order. In FY 2012 the Department initiated discussions with the State of New Mexico to reprioritize the scheduled activities within the Consent Order based on a risk-based approach. This will extend the current completion date of the 2005 Consent Order past 2015.

EM will continue to aggressively pursue cleanup in accordance with the Consent Order while working with regulators to facilitate cleanup as quickly as possible.

## **Regulatory Framework**

The primary regulatory driver for the Environmental Management Projects at Los Alamos National Laboratory is the March 1, 2005, Consent Order on Consent. The Consent Order, signed by the New Mexico Environment Department, Los Alamos National Laboratory and DOE, provides the primary requirements for the Los Alamos National Laboratory Environmental Restoration Project, and establishes an enforceable schedule and milestones for corrective actions.

As a result of recent wildfires, the Department and the state of New Mexico are revisiting the prioritization of activities at Los Alamos National Laboratory to ensure that the highest risk stored combustible transuranic waste can be addressed in an expeditious manner. In early FY 2012, the Department and the State developed a Framework Agreement which documents the shared commitment to reduce risks and propose revisions to the schedules of some compliance-driven, but lower risk activities.

Other drivers include the 1995 Federal Facilities Compliance Agreement, Public Law 105-119, 10 Code of Federal Regulations, Part 830, Nuclear Safety Management, a hazardous waste facility permit for storage and treatment, Federal Facility Compliance Order, the Atomic Energy Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act, the Clean Air Act, and the Individual Permit issued by the U. S. Environmental Protection Agency in February 2009 for storm water management at Los Alamos National Laboratory.

## **Program Accomplishments**

During FY 2012 consistent with the Consent Order, the Los Alamos National Laboratory plans include the following major accomplishments (however, these are subject to change as a result of pending discussions with the State of New Mexico):

- Prepare and submit Corrective Measures Evaluation for Material Disposal Area C and continued vapor monitoring and reporting at Material Disposal Areas C, G, H, and L.
- Completion of Phase II characterization activities for Upper Los Alamos Canyon Aggregate Area; completion of Phase II Investigation Report for Upper Los Alamos Canyon Aggregate Areas.
- Continuation of groundwater monitoring and reporting requirements consistent with Consent Order and the Resource Conservation and Recovery Act Operating Permit; continue storm-water sampling, sediment monitoring, mitigation and reporting requirements consistent with the Individual Permit.

**Environmental Management/  
Los Alamos National Laboratory**

- Continue disposition of mixed low-level waste/low-level waste and transuranic waste.
- Construction of a modular box line and disposition of excess materials in Technical Area-54 to remain compliant for the new Resource Conservation and Recovery Act permit.

<u>Milestones</u>	<u>Date</u>
Closure package for recovery projects completion of Material Disposal Area B, recovery wells, D&D and Tritium Systems Test Assembly, completion of milestones R1.1-066, R1-2-073 and R1.1-068	May 2012
Obtain CD-2/3 approval and establish Project Baseline	January 2012
Prepare and submit Corrective Measures Evaluation Report for Material Disposal Areas C	September 2012
Complete demolition of TA-21 Buildings 21-286; 21-230; 21-229; 21-227; 21-387; 21-342 (East Water Tower)	September 2012

Current estimated Life-Cycle cost range is \$2,756,000,000 - \$3,300,000,000; current projected closure date is 2015.

## **Explanation of Changes**

The Department requests \$239,143,000 in FY 2013 for the Los Alamos National Laboratory, which is a 27 percent increase over the FY 2012 enacted appropriation level. The FY 2013 request increases activities associated with Solid Waste Stabilization and Disposition-Los Alamos National Laboratory Legacy to expedite the de-inventory and disposal of above ground transuranic waste (+\$36,527,000); and Soil and Water Remediation-Los Alamos National Laboratory to meet the increased number of enforceable agreement milestones (+\$13,386,000).

## **Program Planning and Management**

Program planning and management at Los Alamos National Laboratory is conducted through the issuance and execution of contracts to large and small businesses. Los Alamos National Laboratory develops near-term and long-term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. The current contract at Los Alamos National

**FY 2013 Congressional Budget**

Laboratory is a Management and Operations contract. The contract performance period runs from 2006 to 2016.

### **Strategic Management**

The cleanup strategy at the Los Alamos National Laboratory involves the following activities:

- Develop a comprehensive and detailed plan for cleanup of Environmental Management legacy waste sites at Los Alamos.
- As a result of the recent wildfires, the Department and the State of New Mexico are revisiting the prioritization of activities at Los Alamos National Laboratory to ensure the highest risk of stored combustible transuranic waste can be addressed in an expedited manner.
- Continue retrieval and disposition of legacy Transuranic waste, decommissioning and decontamination of excess facilities at Technical Areas 21 and 54, and final remedy and site completion at approximately 860 remaining Solid Waste Management Units.
- Conduct assessments and corrective actions at contaminated sites to reduce unacceptable human health and ecological risks, and to reduce the inventory of legacy transuranic waste.
- Restoration strategy is risk-based and complies with regulatory requirements to provide for future land use.

- Decontamination, decommissioning and demolition of process-contaminated facilities at Technical Area-21 and waste management facilities at Technical Area-54 allows for the characterization and cleanup of Solid Waste Management Units which are co-located in the footprint of the structures.

The following factors and assumptions could have significant impacts on individual projects and may impact the overall cleanup scope, schedule, and costs identified:

- As a result of the recent wildfires, the Department and the State of New Mexico are revisiting the prioritization of activities at Los Alamos National Laboratory to ensure the highest risk of stored combustible transuranic waste can be addressed in an expedited manner. In early FY2012 the Department and the State developed a Framework Agreement which documents the shared commitment to reduce risks and propose revisions to the schedules of some compliance-driven, but lower risk activities thereby resulting in changes to the Consent Order schedule, scope and cost.
- It is assumed that 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.
- It is assumed that regulators will approve cleanup levels for individual sites that correspond to the intended land use, thereby leaving in place some contaminants that do not pose unacceptable health and environmental risks.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Los Alamos National Laboratory Site Measure 1: Transuranic Waste Dispositioned (Cubic meters) - Contact Handled</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year (Cumulative to date)	5,990	N/A
Current Year (Cumulative to date)	4,387	N/A
Prior Year (Cumulative to date)	3,557	3,387/Not Met
Analysis	<p>Management and removal of contact handled transuranic waste across the EM complex directly supports risk reduction and the goal of reducing the EM site footprint. It is important to note that the budget request supports the operation of the Waste Isolation Pilot Plant which is the sole repository for the disposal of both remote handled transuranic waste and contact handled transuranic waste.</p> <p>For FY 2011, the Los Alamos National Laboratory targeted a cumulative total of 3,557 cubic meters of contact handled transuranic waste to be removed from inventory. At the end of FY 2011 the EM complex had dispositioned a cumulative total of 3,387 cubic meters of contact handled transuranic, 170 cubic meters short of its target.</p>	

<b>Los Alamos National Laboratory Site Measure 2: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	10,272	N/A
Current Year(Cumulative to date)	10,120	N/A
Prior Year(Cumulative to date)	8,045	8,843/Met
Analysis	<p>Management and removal of legacy and newly generated low-level waste and mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint at the Los Alamos National Laboratory site. It should be noted that the Los Alamos National Laboratory site is dependent upon the Nevada National Security Site and commercial waste disposal sites for low-level, and mixed low-level waste disposal.</p> <p>For FY 2011 the LANL site targeted a cumulative total of 8,045 cubic meters of legacy and newly generated low-level waste and mixed low-level waste to be disposed. At the end of FY 2011, the Los Alamos National Laboratory site disposed a cumulative total of 8,843 cubic meters of low-level waste and mixed low-level waste, exceeding its target for FY 2011 by 798 cubic meters.</p>	



<b>Los Alamos National Laboratory Site Measure 3: Radioactive Facility Completions (Number of Facilities)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	39	N/A
Current Year(Cumulative to date)	5	N/A
Prior Year(Cumulative to date)	3	2/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the Los Alamos National Laboratory targeted a cumulative total of 3 radioactive facilities to be completed. At the end of FY 2011, the Los Alamos National Laboratory had completed a cumulative total of 2 radioactive facilities, one facility short of its target.</p>	

<b>Los Alamos National Laboratory Site Measure 4: Remediation Complete (Number of Release Sites)</b>		
	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	1,742	N/A
Current Year(Cumulative to date)	1,671	N/A
Prior Year(Cumulative to date)	1,536	1,534/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contamination also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the Los Alamos National Laboratory targeted a cumulative total of 7,158 release sites to be completed. By the end of FY 2011 the Los Alamos National Laboratory had completed a cumulative total of 1,534 release sites, two release sites short of its target.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

**Explanation of Funding Changes**

**(Dollars In Thousands)**

	<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>	<b>FY 2013 vs FY 2012</b>
<b>Defense Environmental Cleanup</b>			
<b>NNSA Sites</b>			
<b>Los Alamos National Laboratory</b>			
<b>VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy</b>			
▪ Increase reflects planned acceleration of processing and shipments of above-grade transuranic waste and the disposition of low level and mixed low level waste.	67,015	103,542	+36,527
<b>VL-LANL-0030 / Soil and Water Remediation-LANL</b>			
▪ Increase is due to acceleration of remediation activities at Material Disposal Area C, Technical Area-21, material disposal areas and Solid Waste Management Units.	117,985	131,371	+13,386
<b>NNSA Service Center/Separations Processing Research Unit (SPRU)</b>			
<b>VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle</b>			
▪ Increase is due to additional document reviews required by the Natural Resource Damage Assessment Trustee Council and preliminary estimate of damages for potential impacts to resources.	3,561	4,230	+669
<b>Total, Los Alamos National Laboratory</b>	<b>188,561</b>	<b>239,143</b>	<b>50,582</b>

**Miscellaneous Programs and Agreements in Principle (PBS: VL-FAO-0101)**

**Overview**

This PBS is within the Defense Environmental Cleanup appropriation.

This PBS provides support for the New Mexico Agreement in Principle and the Natural Resource Damage Assessment at Los Alamos National Laboratory. A pre-assessment screening, representing the first phase of a Natural Resource Damage Assessment for the Los Alamos National Laboratory site, has been completed, and the Los Alamos National Laboratory Natural Resource Trustee Council concluded that a full assessment can be conducted.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve Contract and Project Management	<ul style="list-style-type: none"> <li>▪ The Department will continue to play a leadership role in environmental stewardship</li> <li>▪ The Department will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Supported the New Mexico Agreement in Principle.</li> <li>▪ Supported the Natural Resource Damage Assessment.</li> </ul>	<b>3,047</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Support the New Mexico Agreement in Principle.</li> <li>▪ Support the Natural Resource Damage Assessment at Los Alamos National Laboratory.</li> </ul>	<b>3,561</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Support the New Mexico Agreement in Principle.</li> <li>▪ Support the Natural Resource Damage Assessment.</li> </ul>	<b>4,230</b>

## Solid Waste Stabilization and Disposition-LANL Legacy (PBS: VL-LANL-0013)

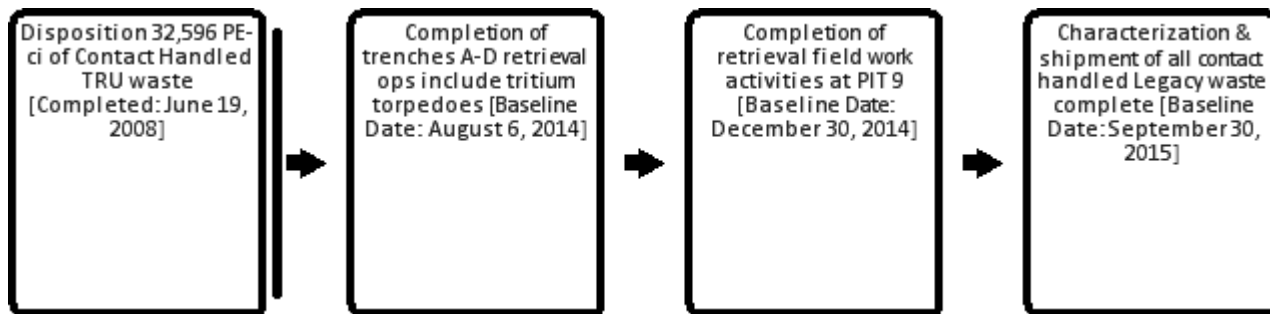
### Overview

This PBS is within the Defense Environmental Cleanup appropriation.

The Solid Waste Stabilization and Disposition PBS, also known as the Legacy Waste Disposition PBS, is comprised of the characterization treatment, storage, transportation and disposition of legacy transuranic and mixed low-level waste generated between 1970 and 1999 at the Los Alamos National Laboratory. The end-state of this project is the safe disposal of legacy waste from Los Alamos National Laboratory.

This PBS scope is integrated with the Soil and Water Remediation PBS (PBS-VL-LANL-0030) which includes compliance activities associated with the New Mexico Environment Department 2005 Compliance Order on Consent. The other driver requiring disposition of this waste is the Site Treatment Plan developed under the authority of the 1995 Federal Facility Compliance Agreement between the National Nuclear Security Administration and the Environmental Protection Agency. The Solid Waste Stabilization and Disposition PBS includes disposition of legacy and generated, mixed, low-level waste and is scheduled to be completed by FY 2015. Transuranic Waste Operations continue under Carlsbad Field Office's Central Characterization PBS and the Los Alamos National Laboratory for contact- and remote-handled transuranic waste retrieval and disposition.

### Sequence



### Benefits

Waste Disposition and Disposal	<ul style="list-style-type: none"> <li>Transuranic waste and low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Continued transuranic drum remediation capacity to support up to five shipments</li> </ul>	<b>67,015</b>

	<p>a week to the Waste Isolation Pilot Plant.</p> <ul style="list-style-type: none"> <li>▪ Packaged 2,000 containers of transuranic waste for disposition.</li> <li>▪ Installed and commissioned the Nuclear Filter Technology Drum Venting System.</li> <li>▪ Continued disposal of low-level waste and pursued offsite disposal for majority of operational and environmental restoration/decontamination and decommissioning generated waste.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue services and actions to maintain safe operations associated with the stored transuranic inventory such as safe configuration and within prescribed Material at Risk limits.</li> <li>▪ Conservation and Recovery Act permit, and conceptual design and cost estimate prepared for Contact-Handled transuranic Retrieval scope to support the Capital Critical Decision process.</li> <li>▪ Disposition of mixed low-level waste/low-level waste and transuranic waste.</li> <li>▪ Construction of a modular box line and disposition of excess materials in TA-54 to remain compliant for the new Resource Conservation and Recovery Act permit.</li> <li>▪ Decommission and demolition of TA-54 Area G structures on Pad 9 including 54-0229, -0230, -0231, -0232; structures on Pad 5 including 54-0049 and -0224; and structures on Pad 6 including 54-0153 and -0283.</li> </ul>	<b>67,015</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue Solid Waste Stabilization and Disposition services and actions to maintain safe operations associated with the stored transuranic inventory such as safe configuration and within prescribed Material at Risk limits.</li> <li>▪ Prepare robust baselines and conceptual design and cost estimate for Contact-Handled Transuranic Retrieval scope to support Critical Decision-2/3.</li> <li>▪ Initiate planning and baselines for Trenches A-D and Pit -9.</li> <li>▪ Disposition of mixed low-level waste/low-level waste and transuranic waste.</li> <li>▪ Implement operations of new oversize modular box line and disposition of excess materials.</li> </ul>	<b>103,542</b>

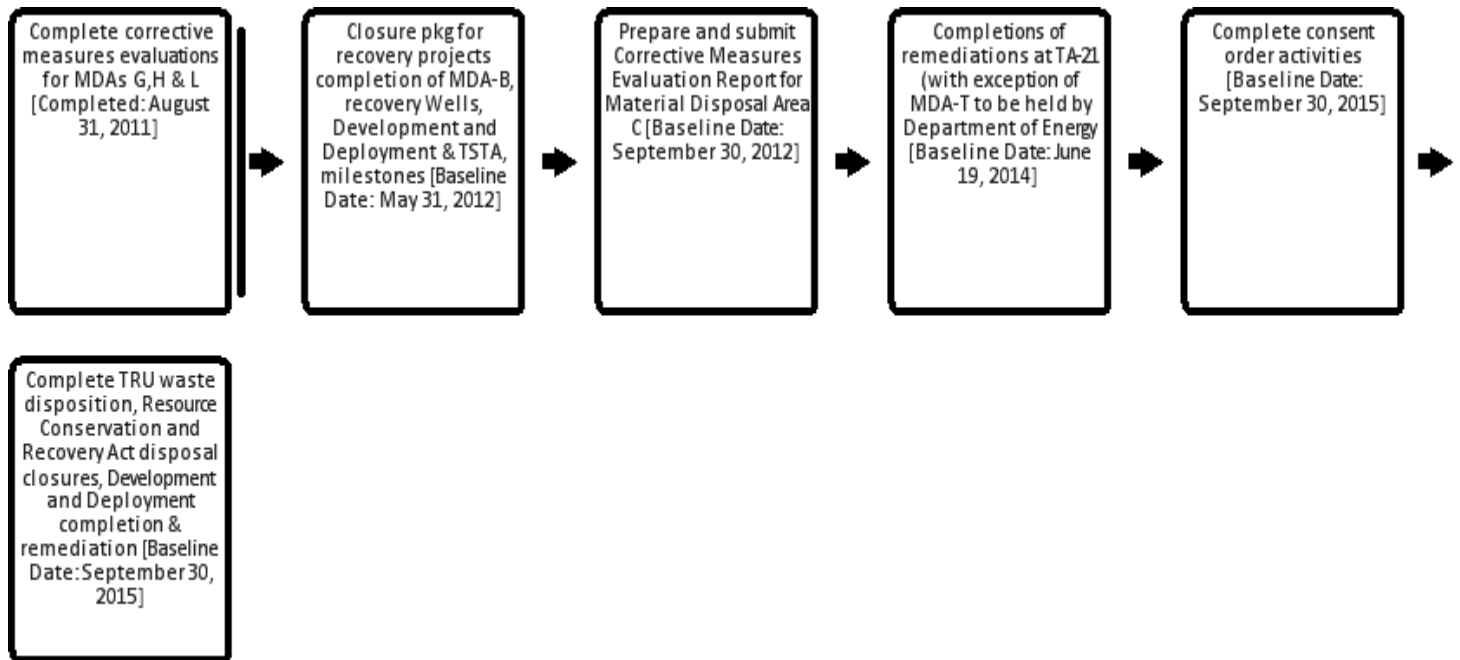
**Soil and Water Remediation-LANL (PBS: VL-LANL-0030)**

**Overview**

This PBS is within the Defense Environmental Cleanup appropriation.

The Los Alamos National Laboratory Soil and Water Remediation PBS scope includes identification, investigation and remediation of chemical and or radiological contamination attributable to past Laboratory operations and practices. The remaining scope of the PBS includes characterization, monitoring, and protection of the surface and groundwater at the Laboratory and approximately 860 Potential Release Sites left to be investigated, remediated or closed by evaluation and assessment of human health and ecological risks. Included in the scope for the 860 sites remaining to be addressed are: 1) characterization and final remedy of eight priority material disposal areas which are to follow the Resource Conservation and Recovery Act corrective measures study and implementation process. One of the material disposal areas, at Technical Area-54, is the former and active radioactive waste disposal area for the Laboratory; 2) protection and monitoring of groundwater resources and storm water to ensure protection of drinking water supplies; 3) remediation of Technical Area-21, including 3 material disposal areas and over 100 Solid Waste Management Units.

**Sequence**



**Benefits**

Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
<b>Fiscal Year</b>	<b>Activity</b>	<b>Funding (dollars in thousands)</b>
FY 2011	<ul style="list-style-type: none"> <li>▪ Completed and delivered revised Corrective Measures Evaluation Report for Material Disposal Areas G, H, and L.</li> <li>▪ Completed Phase II Investigation and submittal of the Phase II Report for Middle Los Alamos Canyon Aggregate Area.</li> <li>▪ Completed characterization activities for Upper Cañada del Buey, Two Mile, and Cañon de Valle Aggregate Areas; Completion of Investigation Reports for Upper Cañada del Buey, Two Mile, and Cañon de Valle Aggregate Areas; Completion of Investigation and Accelerated Clean-up Work Plans for Pajarito/Three Mile and Two Mile Aggregate Areas; Completion of Corrective Measures Evaluation Plans for Firing Site R-44, Material Disposal Area AB, and Material Disposal Area C.</li> <li>▪ Completed the Analytical Report for the General's Tanks; Completion of the Radiological Risk Assessment Report for the General's Tanks; Initiation of the Treatability Study for the General's Tanks; Completion of the Vapor Intrusion Assessment Report for Material Disposal Area T; Completion of the Corrective Measures Evaluation Report for Material Disposal Area T; Completion of the Corrective Measures Implementation design for Material Disposal Area T; Completion of the Vapor Monitoring Reports for Material Disposal Area V; Completed the clean-up and Characterization of Solid Waste Management Unit 21-022(b)-99, Industrial Waste Lines.</li> </ul>	<b>121,738</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Complete Corrective Measures Evaluation Report for Material Disposal Area C and continue vapor monitoring and reporting at Material Disposal Areas C, G, H and L.</li> <li>▪ Continue to provide services such as database management, computer support, information management, records processing, geographic information systems support, and database interface; meet Consent Order requirements for reporting and access to data by the Public through web-based databases (e.g. Risk Analysis, Communication, Evaluation and Reduction).</li> <li>▪ Complete the Annual and Semi-Annual reporting requirements under the Environmental Protection Agency Individual Permit of February 2009.</li> <li>▪ Continue groundwater monitoring and reporting requirements consistent with Consent Order and the Resource Conservation and Recovery Act Operating Permit; continue storm-water sampling, sediment monitoring, mitigation and reporting requirements consistent with the Individual Permit.</li> <li>▪ Continue High and Moderate Priority Site corrective action requirements consistent with the Individual Permit; completion of Asphalt Monitoring and Removal Report for Guaje/Barrancas/Rendija Canyons Aggregate Area; completion of 2009 biennial Ordnance Survey Report for Guaje/Barrancas/Rendija Canyons Aggregate.</li> <li>▪ Complete Phase II characterization activities for Upper Los Alamos Canyon Aggregate Area; completion of Phase II Investigation Report for Upper Los Alamos Canyon Aggregate Areas.</li> </ul>	<b>117,985</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue groundwater monitoring and reporting requirements consistent with Consent Order and the Resource Conservation and Recovery Act Operating Permit; continue storm-water sampling, sediment monitoring, mitigation and reporting requirements consistent with the Individual Permit.</li> <li>▪ Initiate design for the remedy for Material Disposal Area C (presumed to be engineered cover).</li> <li>▪ Complete the investigation and corrective measures evaluation of Material Disposal Area T to obtain final regulatory remedy selection.</li> </ul>	<b>131,371</b>

	<ul style="list-style-type: none"><li>▪ Continue to provide critical database management infrastructure support to meet Consent Order requirements.</li><li>▪ Conduct investigation and characterization of two Technical Areas under the Canon de Valle Capital Asset Project.</li></ul>	
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Nevada

Funding Schedule by Activity

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
NNSA Sites			
Nevada			
VL-NV-0030 / Soil and Water Remediation-			
Nevada	53,481	50,395	49,840
VL-NV-0080 / Operate Waste Disposal Facility-			
Nevada	7,352	11,350	11,200
VL-NV-0100 / Nevada Community and			
Regulatory Support	1,677	3,800	3,601
Subtotal, Nevada	62,510	65,545	64,641

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012  
 P.L. 112-10, Department of Defense and Full Year Continuing  
 Appropriation Act, 2011

**Overview**

The Nevada National Security Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment.

The following activities directly support the Department’s mission and goals to enhance nuclear security through environmental efforts:

- Environmental restoration scope addresses surface and shallow subsurface radiological soil contamination on the Nevada National Security Site and Nevada Test and Training Range. It includes all activities required to assess and perform appropriate corrective actions at approximately 900 former underground test locations, approximately 100 surface or near-surface soil contamination locations and more than 1,000 other industrial-type sites. Industrial-type site restorations address facility decontamination and decommissioning, various historical infrastructure remediation efforts (e.g., septic systems, mud pits, storage tanks, disposal sites, etc.), and conventional weapons cleanup including unexploded ordnance.

- Underground test area activities involve geologic and hydrologic characterization, contaminated groundwater transport modeling, and contaminant boundary definition and establishment of a monitoring system to protect against the inadvertent use of contaminated groundwater.
- Waste Management scope supports the completion of cleanup at DOE sites across the United States by maintaining the capability to dispose low-level waste and mixed low-level waste. It also supports disposal of waste generated by environmental restoration activities at the Nevada National Security Site.

The near-term and long-term benefits from the Nevada Site Office environmental restoration efforts include the overall reduction to potential human health and environmental risks, and restoration of the environment to a level that will allow the effective continuation of the national security mission conducted at the Nevada National Security Site. The benefit of maintaining sufficient low-level and mixed low-level radioactive waste disposal capabilities is to support cleanup across DOE missions. Disposing radioactive waste from storage locations across the DOE complex in engineered disposal facilities at the Nevada National Security Site will substantially reduce health and environmental risks at other DOE sites across the nation.

**Regulatory Framework**

Nevada Site Office work at Nevada National Security Site and Nevada Test and Training Range follows all applicable federal level regulations:

- The Resource Conservation and Recovery Act.
- Clean Air Act, Clean Water Act, and Atomic Energy Act.
- DOE Orders, and applicable Nevada specific laws, codes and acts.
- The Federal Facility Agreement and Consent Order (1996, as amended) for environmental restoration activities.
- The Federal Facility Compliance Act under the waste management project.

**Program Accomplishments**

During FY 2012 it is expected that the Nevada National Security Site will accomplish the following major activities:

- Complete the Yucca Flat Phase I contaminant boundary transport model and Phase II corrective action investigation plan addendum.
- Complete planning activities to implement corrective actions at six soil contamination sites.
- Complete characterization and determination of corrective actions for 41 soil contamination sites.
- Complete initial investigation activities for 37 soil contamination sites.
- Safely operate Area 5 low-level waste and mixed low-level waste disposal facilities, receiving waste from approximately 30 approved generator sites.
- Maintain rigorous generator certification program to ensure all waste received for disposal fully complies with Nevada National Security Site waste acceptance requirements.

<u>Milestones</u>	<u>Date</u>
Constructed & Commissioned new RCRA compliant Mixed Low Level Waste disposal facility	(Completed April 2011)
FY11 through FY13 Continue to Dispose Low Level Waste in support of DOE Complex; Conduct Audits; and Maintain Technical/Safety Documentation	Sept 2013
FY 11 through FY 13, close 25 of 1179 Contaminated Waste Sites and continue Underground Test Area	Sept 2013

Analysis, Evaluation and Monitoring Network Activities

Current estimated Life-Cycle cost \$2,590,000,000; current projected closure dates are 2027 - 2038.

**Explanation of Changes**

The Department requests \$64,641,000 in Fiscal Year 2013 for the Nevada National Security Site, which is an approximately 1.4 percent decrease below the FY 2012 enacted appropriation level. For more information please see the PBS level of detail located in the Explanation of Funding Changes section later in this chapter.

**Program Planning and Management**

Program planning and management Nevada National Security Site is conducted through the issuance and execution of contracts to large and small businesses. Nevada National Security Site develops near-term and long-term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. The current contract at the Nevada National Security Site is with National Security Technologies, LLC. The contract has a base performance period of 2006 to 2011 with options to 2016.

**Strategic Management**

In meeting the identified strategic goals, the department will implement the following key strategies to more efficiently and effectively manage the program, thus putting the taxpayers’ dollar to more productive use:

- Plan and conduct environmental restoration activities in a risk informed and cost effective manner in order to complete cleanup of legacy contamination and fulfill legal and regulatory commitments.
- Provide safe compliant and cost effective disposal for DOE-generated low-level waste & mixed low-level waste streams, supporting the reduction in both Nevada National Security Site contaminated site footprint, as well as the cleanup of other DOE site’s contaminated footprint.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Nevada Site Measure 1: Remediation Complete (Number of Release Sites)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	1,122	N/A
Current Year(Cumulative to date)	1,120	N/A
Prior Year(Cumulative to date)	1,120	1,115/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning (D&amp;D) of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contamination also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011 the Nevada Nuclear Security Site targeted a cumulative total of 1,120 release sites to be completed. At the end of FY 2011, completed closure of a cumulative total of 1,115, release sites five sites short of its cumulative total target of 1,120 release sites.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

**Explanation of Funding Changes**

**(Dollars In Thousands)**

FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
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**Defense Environmental Cleanup**

**NNSA Sites**

**Nevada**

**VL-NV-0030 / Soil and Water Remediation-Nevada**

- No significant change

50,395      49,840      -555

**VL-NV-0080 / Operate Waste Disposal Facility-Nevada**

- No significant change

11,350      11,200      -150

**VL-NV-0100 / Nevada Community and Regulatory Support**

- No significant change

3,800      3,601      -199

**Total, Nevada**

**65,545      64,641      -904**

**Environmental Management/  
Nevada**

**FY 2013 Congressional Budget**

## Soil and Water Remediation-Nevada (PBS: VL-NV-0030)

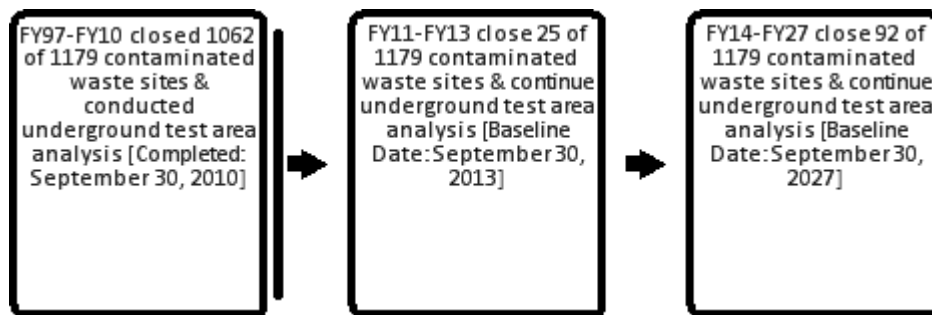
### Overview

This PBS is within the Defense Environmental Cleanup appropriation.

The overall objective of this PBS is to provide for appropriate risk-based remediation of contaminated support facilities and soils, and groundwater modeling on the Nevada National Security Site and the U.S. Air Force's Nevada Test and Training Range. Surface and subsurface contamination of industrial and soil contaminated sites is the result of historic atmospheric and underground nuclear tests. The cleanup is complex due to the number of sites, nature/extent of contamination, and site size/location. The surface contamination includes over 1,000 industrial-type sites and approximately 100 soil contamination sites on the Nevada National Security Site and Nevada Test and Training Range. The subsurface contamination includes approximately 900 groundwater contamination sites on the Nevada National Security Site. The industrial-type release sites are mainly support facilities and structures that were left after conducting aboveground and underground nuclear tests, surface nuclear engine and reactor experiments, and weapons delivery systems.

Currently, activities at most of the 1,000 industrial-type sites have been completed, and activities at approximately 1,000 other sites are in progress.

### Sequence



### Benefits

Cleanup Benefits	<ul style="list-style-type: none"> <li>Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Completed demolition and disposal of one contaminated inactive facility (Building 3210 at Test Cell C) and closure of three industrial-type sites.</li> <li>Continued progress toward closure of approximately 900 subsurface contaminated groundwater sites on the Nevada National Security Site.</li> </ul>	<b>53,481</b>

	<ul style="list-style-type: none"> <li>▪ Completed the Frenchman Flat Phase II corrective action decision document and corrective action plan.</li> <li>▪ Completed Rainier Mesa Phase I source term report and contaminant boundary flow model.</li> <li>▪ Continued Rainier Mesa Phase I contaminant boundary transport model activities.</li> <li>▪ Drilled one groundwater data acquisition well in Pahute Mesa.</li> <li>▪ Completed two Pahute Mesa Phase II well developments, testing and sampling operations, and complete three well analyses.</li> <li>▪ Continued Yucca Flat Phase I contaminant boundary groundwater modeling activities.</li> <li>▪ Completed closure of four soil contamination sites.</li> <li>▪ Completed initial investigation activities for 39 soil contamination sites.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue progress toward closure of approximately 900 subsurface contaminated groundwater sites.</li> <li>▪ Complete the Yucca Flat Phase I contaminant boundary transport model and Phase II corrective action investigation plan addendum.</li> <li>▪ Drill/install two wells in Frenchman Flat.</li> <li>▪ Complete three Pahute Mesa Phase II well development, testing, and sampling operations.</li> <li>▪ Continue Rainier Mesa Phase I contaminant boundary transport model activities.</li> <li>▪ Complete planning activities to implement corrective actions at six soil contamination sites.</li> <li>▪ Complete characterization and determination of corrective actions for 41 soil contamination sites.</li> <li>▪ Complete initial investigation activities for 37 soil contamination sites.</li> <li>▪ Complete closure of four soil contamination sites.</li> </ul>	<b>50,395</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue progress toward closure of approximately 900 subsurface contaminated groundwater sites.</li> <li>▪ Drill/install five wells in Pahute Mesa, Yucca Flat and Frenchman Flat.</li> <li>▪ Complete two Pahute Mesa Phase II well development, testing, and sampling operations.</li> <li>▪ Complete Rainier Mesa Phase I contaminant boundary transport model activities.</li> <li>▪ Complete closure of three industrial-type sites.</li> <li>▪ Complete planning activities to implement corrective actions at 21 soil contamination sites.</li> <li>▪ Complete characterization and determination of corrective actions for 24 soil contamination sites.</li> <li>▪ Complete initial investigation activities for 18 soil contamination sites.</li> </ul>	<b>49,840</b>

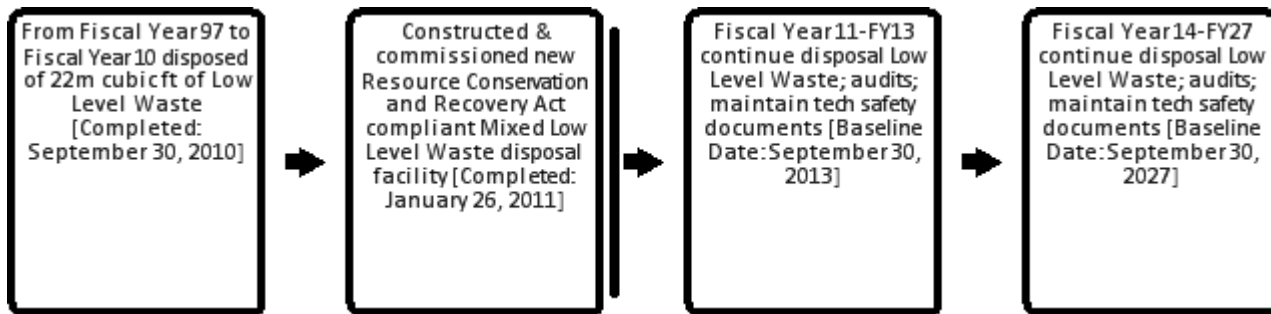
**Operate Waste Disposal Facility-Nevada (PBS: VL-NV-0080)**

**Overview**

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

This PBS provides low-level waste and mixed low-level waste disposal capability to meet the needs of all DOE sites through FY 2027 for waste that require offsite disposal for which commercial disposal is not available or cost effective. The funding requested in this PBS supports EM’s allocated share of annual disposal costs and therefore is dependent on total waste volumes from all DOE programs. Continuing the practice begun in FY 2009, non-EM programs will fund a share of this activity based upon each program’s share of the waste disposed at the Nevada National Security Site. Nevada maintains the capability to dispose low-level waste and mixed low-level waste (as allowed under permit conditions as administered by the State of Nevada), and disposal of classified material from approved generators throughout the DOE complex. The total Nevada National Security Site low-level waste, mixed low-level waste and classified material waste life-cycle volume from complex-wide generators is projected to be over 1.3 million cubic meters through FY 2027 at project completion.

**Sequence**



**Benefits**

Waste Disposition and Disposal	<ul style="list-style-type: none"> <li>Low-level waste disposal is an activity for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework and it will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>Supported cleanup activities across the DOE complex by disposing of approximately 42,000 cubic meters of low-level and mixed low-level radioactive</li> </ul>	<b>7,352</b>

	<p>waste. Of that total, 47 percent was generated by American Reinvestment Recovery Act funded cleanup programs.</p> <ul style="list-style-type: none"> <li>▪ Continued audits and waste certification reviews in support of generator programs to ensure compliance with the Nevada National Security Site Waste Acceptance Criteria.</li> <li>▪ Continued developing and maintaining plans, permits, safety basis, and technical and regulatory support for activities such as the Nevada National Security Site Resource Conservation and Recovery Act Part B Permit.</li> <li>▪ Initiated operation of mixed low-level waste disposal at the new Resource Conservation and Recovery Act cell.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue developing and maintaining plans, permits, safety basis, and technical and regulatory support for activities such as the Nevada National Security Site Resource Conservation and Recovery Act Part B Permit.</li> <li>▪ Continue audits and waste certification reviews in support of generator programs to ensure compliance with the Nevada National Security Site Waste Acceptance Criteria.</li> <li>▪ Continue operation of Resource Conservation and Recovery Act mixed low-level waste disposal cell.</li> <li>▪ Dispose of approximately 34,000 cubic meters of low-level waste or mixed low-level waste from DOE sites and generators.</li> </ul>	<b>11,350</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue developing and maintaining plans, permits, safety basis, and technical and regulatory support for activities such as the Nevada National Security Site Resource Conservation and Recovery Act Part B Permit.</li> <li>▪ Continue audits and waste certification reviews in support of generator programs to ensure compliance with the Nevada National Security Site Waste Acceptance Criteria.</li> <li>▪ Continue operation of Resource Conservation and Recovery Act mixed low-level waste disposal cell.</li> <li>▪ Support cleanup activities across the DOE complex by disposing of approximately 34,000 cubic meters of low-level and mixed low-level radioactive waste.</li> <li>▪ Begin receipt of Consolidated Edison Uranium Solidification Project material from the Uranium-233 inventory to the Nevada National Security Site disposal facility</li> </ul>	<b>11,200</b>

**Nevada Community and Regulatory Support (PBS: VL-NV-0100)**

**Overview**

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

This PBS provides support for Agreements in Principle with two state agencies - the Nevada Division of Emergency Management and the Nevada Division of Environmental Protection. This PBS also includes funding for the annual Federal Facilities Agreement and Consent Order fee.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Improve and Maintain Positive Stakeholder and Regulator Relationships	<ul style="list-style-type: none"> <li>• The Department will continue to play a leadership role in environmental stewardship</li> <li>• We will work to strengthen our commitment to integrating environmental justice principles into our mission.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provide support for State of Nevada regulatory oversight of the Nevada National Security Site and for the agreements and grants with organizations in the State of Nevada.</li> </ul>	<b>1,677</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide support for State of Nevada regulatory oversight of the Nevada National Security Site.</li> <li>▪ Provide support for the State of Nevada grant to perform programmatic and regulatory oversight and to carry out environmental and natural resources planning as it pertains to the Nevada National Security Site.</li> </ul>	<b>3,800</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide support for State of Nevada regulatory oversight of the Nevada National Security Site</li> <li>▪ Provide support for the State of Nevada grant to perform programmatic and regulatory oversight and to carry out environmental and natural resources planning as it pertains to the Nevada National Security Site.</li> </ul>	<b>3,601</b>



**Sandia National Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

FY 2011 Current	FY 2012 Enacted	FY 2013 Request
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Defense Environmental Cleanup NNSA Sites Sandia National Laboratories VL-SN-0030 / Soil and Water Remediation- Sandia	3,014	3,014	5,000
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**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012  
P.L. 112-10, Department of Defense and Full Year  
Continuing Appropriation Act, 2011

**Overview**

The Sandia National Laboratory Site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment.

The Sandia National Laboratories-New Mexico site is located in Albuquerque, New Mexico. The Sandia National Laboratories Environmental Restoration Project scope includes 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.

At the end of FY 2009, 265 of 268 soil release sites were considered remediation complete. The three soil release sites that remain are considered “deferred active-mission” sites and bring a future cleanup liability. The scope that remains to be addressed under Environmental Restoration Operations includes three groundwater areas of concern currently in various stages of characterization that require final remedies, administrative regulatory closure of 26 soil release sites and the Mixed Waste Landfill and groundwater assessment/closure at five soil release sites re-opened by the New Mexico Environment Department . The completion of this scope continues to be regulated by

the April 2004 Compliance Order on Consent pursuant to the New Mexico Hazardous Waste Act.

**Regulatory Framework**

The regulatory driver for completing this work is the April 2004 New Mexico Environment Department Compliance Order on Consent. As of September 2009, 233 of 265 sites have been approved by the State for No Further Action through the entire regulatory process. The remaining 32 sites are in various stages of completion. Five out of the other remaining 32 sites are undergoing groundwater assessment/closure and the remainders are waiting for final State regulatory approval. Final approval of the Mixed Waste Landfill and the three groundwater areas of concern bring complexity with expected public interaction.

**Program Accomplishments**

During FY 2012 it is expected that the Sandia National Laboratory will complete the following major accomplishments:

- Receive New Mexico Environment Department approval of the Mixed Waste Landfill Corrective Measures Implementation Report (remedy report) and start transition of landfill to Long Term Stewardship.
- Submit the Mixed Waste Landfill Long-term Monitoring & Maintenance plan to New Mexico Environment Department.

- Participate in the State’s public hearing process for site permit and regulatory approval on 24 of 32 soil sites.

water characterization at-Sandia National Laboratory (+\$1,986,000).

**Program Planning and Management**

Program planning and management at Sandia National Laboratory is conducted through the issuance and execution of contracts to large and small businesses Sandia National Laboratory develops near-term and long-term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. The current Contractor at Sandia National Laboratory is the Sandia Corporation, a subsidiary of the Lockheed Martin Company.

**Strategic Management**

The Sandia National Laboratory’s Environmental Restoration Operations mission is to complete all necessary corrective actions at the remaining 32 of 265 release soil sites and at the three groundwater areas of concern. The Mixed Waste Landfill’s soil cover remedy is in place and its long-term monitoring and maintenance plan is currently under development. Upon proposing the preferred remedy as Monitored Natural Attenuation and progressing one of three groundwater areas to the remedy phase. The lessons learned will be applied to the remaining two groundwater areas to help accelerate obtaining final remedies.

<b><u>Milestones</u></b>	<b><u>Date</u></b>
Receive Final Regulatory Closure and Transfer Chemical Waste Landfill to Long Term Stewardship Program	June 2011 (completed)
Receive New Mexico Environment Department Approval of Mixed Waste Landfill Corrective Measures Implementation Remedy Report	October 2011
Submit Mixed Waste Landfill Long Term Monitoring and Maintenance Plan to New Mexico Environmental Department	April 2012

Current estimated Life-Cycle cost of \$272,000,000 to \$276,000,000; current projected closure date is 2020.

**Explanation of Changes**

The Department requests \$5,000,000 in FY 2013 for the Sandia National Laboratory, which is a 65.9 percent increase over the current FY 2012 appropriation level. The FY 2013 request increases the levels for soil and

Strategic Plan and Performance Measures

No PM activity for current three-year budget period.

Explanation of Funding Changes

(Dollars In Thousands)

	FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
<b>Defense Environmental Cleanup</b>			
<b>NNSA Sites</b>			
<b>Sandia National Laboratories</b>			
<b>VL-SN-0030 / Soil and Water Remediation-Sandia</b>			
▪ Increase permits the completion of additional groundwater and soil vapor characterization in Tech Area-V, and to complete groundwater characterization at soil sites 8/58 and 68.	3,014	5,000	+1,986
<b>Total, Sandia Site Office</b>	<b>3,014</b>	<b>5,000</b>	<b>1,986</b>

## Soil and Water Remediation-Sandia (PBS: VL-SN-0030)

### Overview

This PBS is within the Defense Environmental Cleanup appropriation.

The Sandia National Laboratories Environmental Restoration Operations mission is to complete all necessary corrective actions at the remaining 32 of 265 release soil sites and three groundwater areas of concern. The Mixed Waste Landfill long-term monitoring and maintenance plan is currently under development.

All groundwater areas are expected to transition to long-term stewardship following completion of characterization and installation of the determined remedy.

### Sequence



### Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Completed Installation of 4 Groundwater Wells and Soil Vapor Wells at Technical Area-V Groundwater Area pursuant to New Mexico Environment Department requirements.</li> <li>▪ Received final regulatory approval on Chemical Waste Landfill and transferred to Long Term Stewardship Program.</li> <li>▪ Completed Installation of 5 Groundwater Wells at Soil Sites 8/58 and 68 pursuant to New Mexico Environment Department requirements.</li> </ul>	<b>3,014</b>

	<ul style="list-style-type: none"> <li>▪ Commenced Groundwater Characterization at Soil Sites 149 and 154.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Submit Mixed Waste Landfill Long-term Monitoring and Maintenance Plan to the New Mexico Environmental Department.</li> <li>▪ Submit Burn Site Groundwater Well Installation Report to New Mexico Environmental Department after completion of fieldwork (4 new wells).</li> <li>▪ Submit Groundwater Well Installation Report on Soil Sites 8/58 and 68 to New Mexico Environmental Department after completion of fieldwork (5 new wells).</li> <li>▪ Perform slug tests for Soil Sites 8/58 and 68.</li> <li>▪ Participate in Public Hearing for Site Permit and Regulatory Approval on 24 of 32 Soil Sites</li> </ul>	<b>3,014</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Submit Permit Modification request to the New Mexico Environment Department to commence public hearing for regulatory closure of Mixed Waste Landfill.</li> <li>▪ Complete Mixed Waste Landfill borrow pit reclamation to assist regulatory closeout.</li> <li>▪ Submit conceptual model and Corrective Measures Evaluation Report on Burn Site GW Area to the New Mexico Environment Department.</li> <li>▪ Complete additional groundwater and soil vapor characterization at Tech Area-V GW Area.</li> <li>▪ Complete groundwater characterization at Soil Sites 8/58 and 68.</li> <li>▪ Submit final Groundwater Characterization Report for Soil Sites 149 and 154</li> </ul>	<b>5,000</b>



## Separations Process Research Unit

### Funding Schedule by Activity

(dollars in thousands)

FY 2011 Current	FY 2012 Enacted	FY 2013 Request
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Defense Environmental Cleanup  
NNSA Sites  
SPRU

VL-SPRU-0040 / Nuclear Facility D&D-  
Separations Process Research Unit

50,895                      24,000                      24,000

#### **Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012  
P.L. 112-10, Department of Defense and Full Year  
Continuing Appropriation Act, 2011

#### **Overview**

The Separations Process Research Unit Site will support the Department's Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment.

The Separations Process Research Unit was an inactive pilot plant used to research and develop chemical processes to separate plutonium from radioactive material. The Separations Process Research Unit operated from 1950 to 1953. The Separations Process Research Unit operations contaminated nuclear facilities and approximately thirty acres of land where waste containers were managed. Groundwater immediately adjacent to the nuclear facilities and in a limited area where containers were once stored, was also contaminated with radioactivity. The scope of the Separations Process Research Unit project was to decontaminate and remove the nuclear facilities, remediate the land areas, and ship the resulting waste to the appropriate off-site disposal facilities.

#### **Program Accomplishments and Milestones**

During FY 2012 it is expected that the Separations Process Research Unit will be ready for the

**Environmental Management/  
Separations Processing Research Unit**

decontamination and decommissioning phase of work. The following are major accomplishments to be completed in FY 2012:

- Complete installation of tent enclosures over facilities.
- Environmental Protection Agency approves construction of the ventilation stacks.
- Repair hillside instability caused by Hurricane Irene.
- Install ventilation systems.
- Site facilities decontamination and decommissioning ready.
- Establish a revised project baseline cost and schedule.

<b><u>Milestones</u></b>	<b><u>Date</u></b>
Environmental Protection Agency approves construction of stacks for tent enclosures	Nov 2011
Construct Building H2 Tent Enclosure	(projected) Jan 2012
Construct Building G2 Tent Enclosure	(projected) Jan 2012
Complete Phase I Hillside repairs	(projected) Apr 2012
Complete installation of ventilation systems	(projected) May 2012
Site tent enclosures decontamination and decommissioning ready	(projected) Jun 2012

**FY 2013 Congressional Budget**

### **Explanation of Changes**

The Department requests \$24,000,000 million in FY 2013 at the Separations Process Research Unit which is the same as the FY 2012 current appropriation level. DOE is currently evaluating changes recommended by the contractor that would indicate completion of demolition later than FY 2013. Poor contractor performance, impacts from Hurricane Irene and enclosure design changes prevented the project from being decontamination and decommissioning ready in FY 2011.

### **Program Planning and Management**

Program planning and management at Separations Process Research Unit is conducted through the issuance and execution of contracts to large and small businesses. Separations Process Research Unit develops near-term and long-term planning approaches in order to develop contract strategies and program/project plans at a more detailed level. Selected contractors then execute these

plans to complete cleanup on schedule. Current contracts at Separations Process Research Unit include:

Washington Group International, Inc. - A Cost Plus Incentive Fee (CPIF) Task Order performed under CLIN 002 of the contract, Deactivation, Demolition, and Removal of Contaminated Facilities to include soils near and under Facilities of the DOE Environmental Management Nationwide Indefinite Delivery Indefinite Quantity (IDIQ) contracts for the period July 2009 – December 2011.

### **Strategic Management**

This site is expected to be decontamination and decommissioning ready if FY 2012, and is working to resolve changes in the project. The strategy for the site includes the required completion of any remaining cleanup activities and continuing administrative support until all EM post-closure administrative activities are completed and the site is transitioned to the Naval Reactors Program for their continued mission use.



**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Separations Process Research Unit Site Measure 1: Nuclear Facility Completions (Number of Facilities)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	3	N/A
Current Year(Cumulative to date)	3	N/A
Prior Year(Cumulative to date)	1	0/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning of excess legacy facilities which is measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing 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 the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the Separations Process Research Unit targeted one nuclear facility to be completed. At the end of FY 2011, the Separations Process Research Unit did not meet its target.</p>	

<b>Separations Process Research Unit Site Measure 2: Remediation Complete (Number of Release Sites)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	5	N/A
Current Year(Cumulative to date)	5	N/A
Prior Year(Cumulative to date)	5	4/Not Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning of excess legacy facilities and soil and groundwater remediation at legacy sites. These maximize the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner. Removal of contamination also reduces monitoring and maintenance life-cycle costs and liabilities.</p> <p>For FY 2011, the Separations Process Research Unit targeted a cumulative total of 5 release sites to be completed. By the end of FY 2011 the Separations Process Research Unit had completed a cumulative total of 4 release sites, one release site short of its target.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

\*\* The targets of the metrics for the Separations Process Research Unit will be updated to reflect a new set of activities for a path forward currently under evaluation by the Department.

#### **Explanation of Funding Changes**

**There are no funding changes for this site**

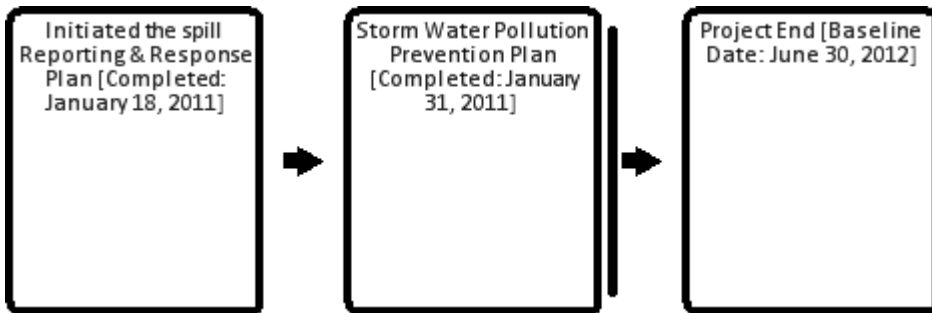
**Nuclear Facility D&D-Separations Process Research Unit (PBS: VL-SPRU-0040)**

Overview

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

The project objectives are to remove the inactive nuclear facilities and disposition the chemical and radioactive contamination in land areas and return the areas back the Knolls Atomic Power Laboratory for continued mission use by the Naval Reactors Program.

Sequence



Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Completed enclosure over remaining portions of H2 and remaining G2 structure to support D&amp;D activities.</li> <li>▪ Completed the North Field contaminated soil cleanup (15 acres remediated).</li> </ul>	<b>50,895</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Obtain Environmental Protection Agency approval for construction of stacks for tent enclosures.</li> <li>▪ Construct Building H2 Tent Enclosure.</li> <li>▪ Construct Building G2 Tent Enclosure.</li> <li>▪ Complete Phase I Hillside repairs.</li> <li>▪ Complete installation of ventilation systems.</li> <li>▪ Complete Site Decontamination &amp; Decommissioning readiness.</li> </ul>	<b>24,000</b>

FY 2013	<ul style="list-style-type: none"> <li>▪ Complete remaining hillside repairs from Hurricane Irene.</li> <li>▪ Approve revised baseline.</li> <li>▪ Resume Decontamination &amp; Decommissioning activities at H2 and G2.</li> <li>▪ Complete removal of tanks and tanks waste from building H2 vaults.</li> <li>▪ Complete shipments of all transuranic and other waste from the Site.</li> </ul>	<b>24,000</b>
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**West Valley Demonstration Project**

**Funding Schedule by Activity**

(dollars in thousands)

FY 2011 Current	FY 2012 Enacted	FY 2013 Request
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Non-Defense Environmental Cleanup			
West Valley Demonstration Project			
OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley	19,930	14,422	16,049
OH-WV-0040 / Nuclear Facility D&D-West Valley	37,736	50,313	31,813
Subtotal, West Valley Demonstration Project	57,666	64,735	47,862

Public Law Authorizations

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

Overview

The West Valley Demonstration Project will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. The West Valley Demonstration Project is responsible for stabilizing and dispositioning low-level and transuranic waste and decontaminate and decommissioning of excess facilities, tanks, and equipment.

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 principal mission of DOE is to satisfy the mandates established by the West Valley Demonstration Project Act of 1980 (Public Law 96-368):

- Solidify, in a form suitable for transportation and disposal, the high-level waste;
- Develop containers suitable for permanent disposal of the solidified high-level waste;
- Transport, in accordance with applicable law, the solidified waste to an appropriate disposal site;
- Dispose of low-level waste and transuranic waste produced by high-level waste solidification activities;

- Decontaminate and decommission tanks and facilities used for solidification of high-level waste, as well as any material and hardware used in connection with the Project, in accordance with Nuclear Regulatory Commission requirements.

In meeting the Department’s strategic goal: to enhance nuclear security through defense, nonproliferation, and environmental efforts, the Department will work aggressively to reduce the footprint at the West Valley Demonstration Project site. This involves the treating, packaging and disposal of low-level and transuranic waste, cleaning up the environment, removing or deactivating excess facilities.

Regulatory Framework

Cleanup and environmental remediation activities at West Valley are governed by the following statutes, regulations, and agreements:

- The West Valley Demonstration Project Act (Public Law 96-368) required the Secretary of Energy to carry out a high-level radioactive waste management project at the Western New York Nuclear Services Center.
- Cooperative Agreement between DOE and New York State Energy Research and Development Authority (1980, amended 1981) provides for the 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 for the purposes and duration of the Project.

- Memorandum of Understanding between DOE and Nuclear Regulatory Commission (1981) identifies roles, responsibilities, terms and conditions agreed to regarding the Nuclear Regulatory Commission review and consultation during the course of the Project Nuclear Regulatory Commission completed the review and issued a Technical Evaluation Report supporting the Decommissioning Plan in February 2010.
- Stipulation of Compromise Settlement agreement (1987) 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-site and off-site disposal of low-level waste.
- Second Supplemental Cooperative Agreement, Supplemental Agreement to the Cooperative Agreement between DOE and the New York State Research and Development Authority Setting Forth Special Provisions for the Identification, Implementation and Management of the Phase I Studies for the Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western Nuclear Service Center (dated March 14, 2011).
- Resource Conservation and Recovery Act 3008(h) Administrative Order on Consent (1992) between the United States Protection Agency, the New York State Department of Environmental Conservation, DOE and New York State Energy Research and Development Authority regarding Resource Conservation and Recovery Act.
- Cooperative Agreement between the Seneca Nation of Indians and the West Valley Demonstration Project (1996) establishes a framework for inter-governmental relationships between the Seneca Nation of Indians and the DOE with respect to Project activities.
- The Final Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship and the associated Record of Decision issued April 2010. The Record of Decision was “Phased Decision-making” in which the decommissioning will be completed in two phases. Phase 1 activities are expected to take eight to ten years to complete. In addition, during Phase 1, additional site characterization and scientific studies will be conducted to facilitate consensus decision making for the remaining facilities or areas.
- A Phase 2 decision will be made within ten years after the initial DOE Record of Decision and New York State Energy Research and Development

Authority Findings Statement. These decisions would address final closure of the high-level waste tanks, Nuclear Regulatory Commission Licensed Disposal Area, and State Licensed Disposal Area.

#### **Program Accomplishments**

DOE has completed the first two mandates of the West Valley Demonstration Project Act – solidification of the liquid high-level waste and development containers suitable for permanent disposal of the high-level waste.

During FY 2012 it is expected that the West Valley Demonstration Project will perform the following major accomplishments:

- Continue processing, storage, and disposal of legacy waste and remediation of low-level waste.
- Process and store transuranic waste.
- Complete Engineering of the Main Plant Process Building upgrades for the removal of the High Level Waste Canisters.

Current estimated Life-Cycle cost range is \$1,663,542,000 to \$1,782,510,000; current projected closure date is 2018.

#### **Explanation of Changes**

The Department requests \$47,862,000 in Fiscal Year 2013 for the West Valley Demonstration Project, which is a 26 percent decrease from the FY 2012 enacted appropriation level.

The FY 2013 request increases the levels for Solid Waste Stabilization and Disposition (+\$1,627,000) and decreases Nuclear Facility D&D (-\$18,500,000).

#### **Program Planning and Management**

Program planning and management at West Valley Demonstration Project is conducted through the issuance and execution of contracts to large and small businesses. Two of the major current contracts at the West Valley Demonstration Project include:

- West Valley Demonstration Project CH2M Hill B&V West Valley, LCC, Contract was awarded June 29, 2011. CH2M Hill is preparing the Project Baseline which is due in FY 2012.
- Safety and Ecology Corporation, an IDIQ for Environmental Characterization Services at the West Valley Demonstration Project.

## **Strategic Management**

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 that are in safe storage within the former spent fuel reprocessing plant. The remaining work to be completed by DOE at West Valley includes: (1) shipment of the high-level waste canisters for off-site disposal; (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 elements associated with decommissioning of the West Valley Demonstration Project were considered during development of the Decommissioning and/or Long Term Management Environmental Impact Statement. A Record of Decision was issued in April 2010 outlining DOE's plan for completing its remaining responsibilities. To that end, DOE will continue to focus on low-level and transuranic waste disposition, decontamination and removal of the Main Plant Process Building, and removal of non-essential facilities. In addition, DOE has installed a permeable treatment wall

to mitigate the spread of a ground water plume and is installing a tank and vault drying system to safely manage the High-Level Waste tanks until their final closure pathway is determined. DOE will relocate the 275 high-level waste canisters that are currently stored in the Main Plant Processing Building (the original reprocessing facility) to a new on-site storage facility. After the high-level waste canisters are moved, the Main Plant Processing Building will be decontaminated and demolished consistent with the Environmental Impact Statement Record of Decision.

The following assumptions present the strongest impacts to the overall achievement of the program's strategic goal:

- The Project will be able to disposition higher activity low-level waste off-site, without obstruction, consistent with the 2005 Waste Management Record of Decision.
- Supplemental analyses and amendments to the Record of Decision, as necessary, will allow for off-site disposition of other Project waste (e.g., transuranic waste).
- The Project's transuranic waste has been integrated into the Department's ongoing Greater Than Class C low-level waste disposition Environmental Impact Statement. Transuranic waste will be placed into interim storage until a disposition path is available.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

**Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.**

**West Valley Demonstration Project Site Measure 1: Legacy and Newly Generated Low-Level and Mixed Low-Level Waste disposed (Cubic meters)**

	<u>Target</u>	<u>Actual/ Met or Not Met</u>
Budget Year(Cumulative to date)	29,578	N/A
Current Year(Cumulative to date)	29,338	N/A
Prior Year(Cumulative to date)	28,416	29,158/Met
Analysis	<p>Management and removal of legacy and newly generated low-level waste and mixed low-level waste directly supports risk reduction and the goal of reducing the EM site footprint at the West Valley Demonstration Plant (WVDP) site. It should be noted that the WVDP is dependent upon the Nevada National Security Site and commercial waste disposal sites for low-level, and mixed low-level waste disposal.</p> <p>For FY 2011, the WVDP targeted a cumulative total of 28,416 cubic meters of low-level waste and mixed low-level waste to be disposed. At the end of FY 2011, the WVDP site disposed a cumulative total of 29,158 cubic meters of low-level waste and mixed low-level waste, exceeding its target by 742 cubic meters.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

**Explanation of Funding Changes**

**(Dollars In Thousands)**

FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
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**Non-Defense Environmental Cleanup**

**West Valley Demonstration Project**

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

- The increase supports the processing and disposal of legacy mixed low-level waste to be in compliance with the Site Treatment Plan.

14,422                      16,049                      +1,627

**OH-WV-0040 / Nuclear Facility D&D-West Valley**

- Decrease reflects completion of engineering activities for Main Plant Process Building upgrades for the removal of the High Level Waste Canisters in FY 2012.

50,313                      31,813                      -18,500

**Total, West Valley Demonstration Project**

**64,735                      47,862                      -16,873**

**Environmental Management/  
West Valley Demonstration Project**

**FY 2013 Congressional Budget**



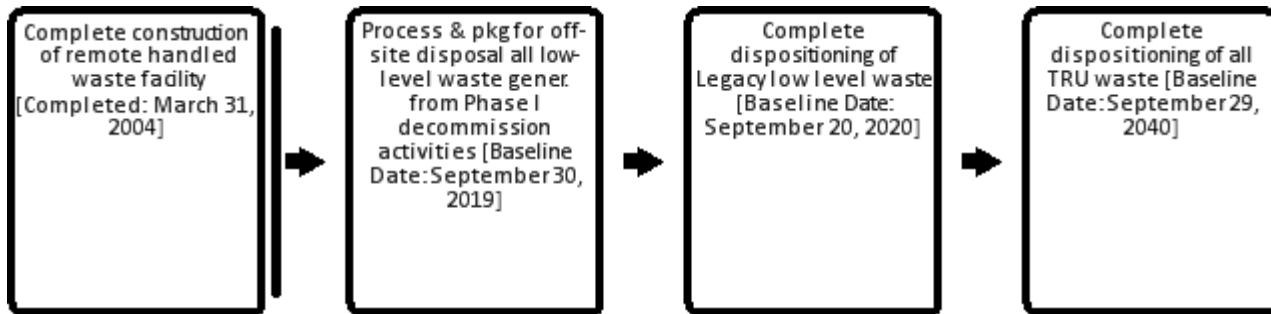
**Solid Waste Stabilization and Disposition-West Valley (PBS: OH-WV-0013)**

**Overview**

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 to disposition the low-level and transuranic waste produced as a result of high level waste solidification activities. When this project is completed, all West Valley 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.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Processed and disposed of legacy mixed low-level waste to be in compliance with the Site Treatment Plan.</li> <li>▪ Processed and stored legacy and remediation low-level waste.</li> <li>▪ Size-reduced and packaged remote-handled and contact-handled transuranic waste for onsite storage.</li> </ul>	<b>19,930</b>

	<ul style="list-style-type: none"> <li>▪ Prepared documentation to support a waste determination for High Level Waste Melter.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Support processing, storage, and disposal of legacy and remediation of low-level waste.</li> <li>▪ Process, store, and dispose of legacy mixed low-level waste to be in compliance with the Site Treatment Plan.</li> <li>▪ Process and store legacy and remediation transuranic waste.</li> </ul>	<b>14,422</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Process and dispose of legacy mixed low-level waste to be in compliance with the Site Treatment Plan.</li> <li>▪ Continue processing and disposal of legacy and remediation low-level waste and storage of legacy and remediation transuranic waste.</li> </ul>	<b>16,049</b>

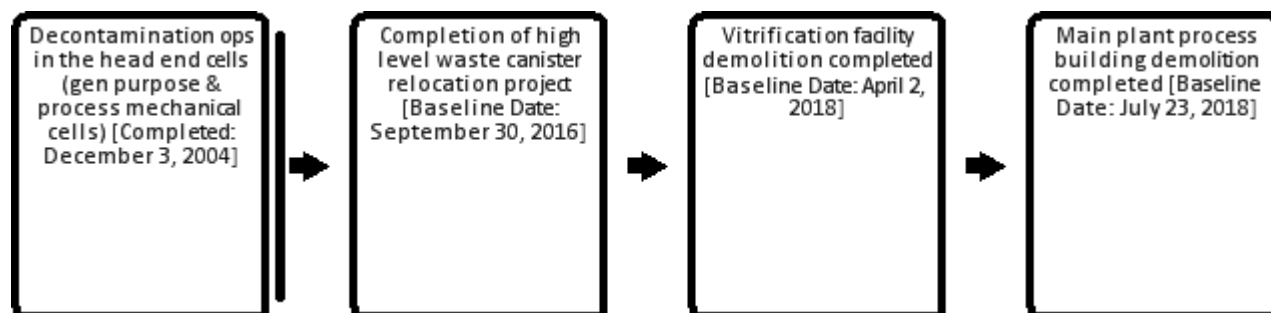
## Nuclear Facility D&D-West Valley (PBS: OH-WV-0040)

### Overview

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

The decontamination and decommissioning program at the West Valley Demonstration Project encompasses the facilities, tanks and hardware used during high-level waste solidification efforts. Decontamination and decommissioning activities were subject to a Final Environmental Impact Statement which was completed in January 2010 and a Record of Decision was issued in April 2010. DOE has selected a phased approach for decommissioning activities at the West Valley Demonstration Project. Phase I is the first of a two-phase process for the final decommissioning of the western New York site in accordance with the West Valley Demonstration Project Act. In support of the issuance of the Final Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center, DOE awarded a contract to CH2M Hill-B&W West Valley, LLC for the Phase I Decommissioning Facility Disposition activities at the West Valley Demonstration Project. With the issuance of the Final Environmental Impact Statement for Decommissioning and/or Long-Term Stewardship at the West Valley Demonstration Project and Western New York Nuclear Service Center at the Record of Decision, the decontamination and decommissioning will be performed consistent with the Nuclear Regulatory Commission criteria and the Record of Decision to most effectively reduce worker, public, and environmental risks. In February 2010, the Nuclear Regulatory Commission issued a Technical Evaluation Report providing unconditional approval of the Decommissioning Plan for the Main Plant Process Building, the Vitrification Facility, and the Water Treatment Lagoons (Waste Management Areas 1 and 2). To support decontamination and decommissioning efforts, safety management and maintenance at the site are in compliance with federal and state statutes, as well as DOE orders and requirements.

### Sequence



### Benefits

Waste Disposition and Disposal	<ul style="list-style-type: none"> <li>▪ Transuranic waste and low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
<b>Fiscal Year</b>	<b>Activity</b>	<b>Funding (dollars in thousands)</b>
FY 2011	<ul style="list-style-type: none"> <li>▪ Maintained site services.</li> <li>▪ Completed decontamination of the Main Plant Process Building.</li> </ul>	<b>37,736</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Maintain site services.</li> <li>▪ Begin Pre-demolition of the Main Plant Processing Building.</li> <li>▪ Design the High Level Waste Canister Storage Facility.</li> <li>▪ Complete Engineering of the Main Plant Process Building upgrades for the removal of the High Level Waste Canisters.</li> </ul>	<b>50,313</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain site services.</li> <li>▪ Initiate Main Plant Process Building upgrades for the removal of the High Level Waste Canisters</li> </ul>	<b>31,813</b>

**Brookhaven National Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Non-Defense Environmental Cleanup			
Small Sites			
Brookhaven National Laboratory			
BRNL-0030 / Soil and Water Remediation-			
Brookhaven National Laboratory	7,788	9,585	7,840
BRNL-0040 / Nuclear Facility D&D-Brookhaven			
Graphite Research Reactor	4,300	0	0
BRNL-0041 / Nuclear Facility D&D-High Flux			
Beam Reactor	1,445	0	0
BRNL-0100 / Brookhaven Community and			
Regulatory Support	300	0	0
Subtotal, Brookhaven National Laboratory	<u>13,833</u>	<u>9,585</u>	<u>7,840</u>

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The Brookhaven National Laboratory will support the Department's Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. The Brookhaven National Laboratory is a U.S. Department of Energy (DOE) owned multi-disciplinary scientific research center. 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. 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. The High Flux Beam Reactor was constructed for basic research experiments in physics, chemistry and biology, was permanently shut down in 1999. 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.

The lifecycle planning estimate range is 2018 to 2020. Upon completion of the currently identified scope including obtaining regulatory approval and completing project documentation, the Long-Term Environmental Operations, and Safety and Security program will be transferred to the DOE Office of Science in FY 2014. The High Flux Beam Reactor stack must be removed by FY 2020 per the Record of Decision signed by EM, the U.S. Environmental Protection Agency and New York State. EM will retain responsibility to complete this activity and will start planning for conducting this activity beginning in FY 2017.

### **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 among 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 corresponding New York State regulations. Active remediation to meet Comprehensive Environmental Response, Compensation, and Liability Act milestones within the Interagency Agreement were completed in 2005.

### **Program Accomplishments**

During FY 2012 it is expected that the Brookhaven National Laboratory will complete the following accomplishments:

- EM will support surveillance and maintenance activities for the Soil and Water Remediation Project.

Current estimated Life-Cycle cost range is \$466,137,000. With American Recovery and Reinvestment Act funding, a majority of the EM legacy clean-up goals were accelerated and accomplished in 2011. The remaining scope, the High Flux Beam Reactor Stack, will be completed in the 2018 to 2020 timeframe. The Soil and Groundwater long-term surveillance and maintenance scope is expected to be transferred to the Office of Science in FY 2014.

### **Explanation of Changes**

The Department requests \$7,840,000 in Fiscal Year 2013 for Brookhaven National Laboratory, which is an 18 percent decrease from the enacted FY 2012 enacted appropriation level.

The decrease reflects the completion of EM legacy cleanup scope and the remaining funds provide for Long-Term Surveillance and Maintenance.

### **Strategic Management**

In meeting the identified strategic goals, the department will continue surveillance and maintenance activities for the eventual transfer of the site to the Office of Science with the High Flux Beam Reactor 100 meters Stack decontamination and decommissioning scheduled to be completed no later than 2020.

**Strategic Plan and Performance Measures**

**STRATEGIC GOAL: Enhance nuclear security through defense, nonproliferation, and environmental efforts.**

**Strategic Objective: Complete Environmental Remediation of our Legacy and Active Sites**

<b>Targeted Outcome: Reduce Cold War legacy waste site footprint by 40% (to 540 square miles) by 2011 (Priority Goal) and by 90% (approximately 90 square miles) by 2015.</b>		
<b>Brookhaven National Laboratory Site Measure 1: Nuclear Facility Completions (Number of Facilities)</b>		
	<b><u>Target</u></b>	<b><u>Actual/ Met or Not Met</u></b>
Budget Year(Cumulative to date)	1	N/A
Current Year(Cumulative to date)	1	N/A
Prior Year(Cumulative to date)	0	0/Met
Analysis	<p>Footprint reduction will be accomplished through decontamination and decommissioning of excess legacy facilities measured through three corporate performance measures (i.e., nuclear, radioactive, and industrial facility completions) providing the number of facilities that have reached their end state. 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 indicator of EM's progress towards the reduction of environmental, safety and health risks in a safe, secure, compliant, and cost-effective manner as well as reducing monitoring and maintenance life-cycle costs and liabilities. Footprint is also achieved through soil and groundwater remediation as measured by release site completions.</p> <p>For FY 2011 the Brookhaven site has not targeted any Nuclear Facilities to be completed.</p>	

\* The targets and actuals listed for this table are only the cumulative totals from the EM Base Program for the budget period. These tables do not include the total measure (life-cycle) necessary to complete each site, the measures for activities funded before FY 2011, as well as activities funded by the American Recovery and Reinvestment Act. This information can be found in the ancillary tables.

**Explanation of Funding Changes**

	<b>(Dollars In Thousands)</b>		
	<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>	<b>FY 2013 vs FY 2012</b>
<b>Non-Defense Environmental Cleanup</b>			
<b>Small Sites</b>			
<b>Brookhaven National Laboratory</b>			
<b>BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory</b>			
▪ Decrease reflects the completion of EM legacy cleanup scope and the remaining funds provide for Long-Term Surveillance and Maintenance.	9,585	7,840	-1,745
<b>Total, Brookhaven National Laboratory</b>	<b>9,585</b>	<b>7,840</b>	<b>-1,745</b>
<b>Environmental Management/ Brookhaven National Laboratory</b>			

FY 2013 Congressional Budget

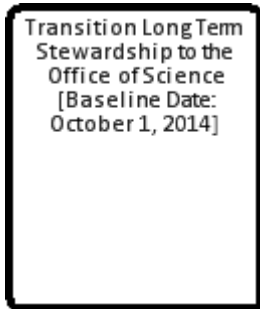
**Soil and Water Remediation-Brookhaven National Laboratory (PBS: BRNL-0030)**

**Overview**

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

The scope of this project includes actions taken on environmental media and some building structures that became contaminated with radioactive and chemical substances at Brookhaven National Laboratory. Cleanup is conducted as a response action in accordance with the Comprehensive Environmental Response, Compensation and Liability Act and under an Interagency Agreement which serves as the Federal Facility Agreement among the DOE, the United States Environmental Protection Agency and New York State. DOE has committed to plan and implement an effective monitoring and treatment system operating program at the Laboratory. The end-state of this PBS is operation of sixteen groundwater treatment systems, completion of all required non-reactor facility decontamination and decommissioning, and soil and Peconic River cleanup (completed by September 30, 2005). Continuing activities such as groundwater monitoring and treatment system operations and maintenance are underway. The end state for this project was successfully achieved. All soil cleanups, tank removals, landfill caps and remediation of the Peconic River have been completed and all related wastes have been disposed of off-site. All sixteen groundwater treatment systems are either currently operating, or have been shut down and/or decommissioned.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Operated and maintained groundwater treatment plants located on and off site.</li> </ul>	<b>7,788</b>



	<ul style="list-style-type: none"> <li>▪ Monitored existing on site landfills.</li> <li>▪ Accumulated data from hundreds of monitoring wells (on and off site), and provided results on all activities to the regulatory and public community.</li> <li>▪ Completed Peconic River sediment trap removal and sediment remediation.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ EM will support surveillance and maintenance activities for the Soil and Water Remediation Project.</li> </ul>	<b>9,585</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ EM will support surveillance and maintenance activities for the Soil and Water Remediation Project and will initiate the transfer of work scope to the Office of Science in FY 2014.</li> </ul>	<b>7,840</b>

**Nuclear Facility D&D-Brookhaven Graphite Research Reactor (PBS: BRNL-0040)**

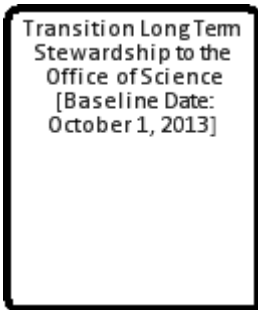
**Overview**

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

This PBS scope includes characterization, stabilization, and decontamination and decommissioning of the Brookhaven Graphite Research Reactor at Brookhaven National Laboratory. The decommissioning of Brookhaven Graphite Research Reactor is conducted as a response action under the Comprehensive Environmental Response, Compensation and Liability Act. It is identified as Area of Concern 9 under an Interagency Agreement, which serves as the Federal Facility Agreement between DOE, the United States Environmental Protection Agency and New York State. A Feasibility Study was prepared to evaluate viable decommissioning alternatives. DOE will maintain the facility in a protected state until the radioactivity naturally decays to low levels. As such, surveillance and maintenance of the remaining structures will be transferred to the Brookhaven National Laboratory landlord (DOE Office of Science) in 2014. Completed decommissioning work includes demolition and disposal of pile fans and sump, above-grade canal house, water treatment houses, instrument house, above-grade ducts, below-grade duct filters/coolers/liners (partial), below-grade piping to/from the canal, below-grade portions of the canal external to building 701, and selected hot pockets of contaminated soil.

Currently, the following actions have also been completed: Building 701 isolated from Building 703; Installation of the final protective cap; completed facility characterization; development of Documented Safety Analysis and Technical Safety Requirement documents; and removal of the graphite pile.

**Sequence**



**Benefits**

Waste Disposition and Disposal	<ul style="list-style-type: none"> <li>▪ Low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing contaminated facilities, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
<b>Fiscal Year</b>	<b>Activity</b>	<b>Funding (dollars in thousands)</b>
FY 2011	<ul style="list-style-type: none"> <li>▪ Continued bioshield removal and disposal.</li> <li>▪ American Recovery and Reinvestment act accomplishments included installation of an engineered Cap and monitoring wells.</li> </ul>	<b>4,300</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Complete bioshield removal and disposal using prior year carryover funding.</li> </ul>	<b>0</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ No activities.</li> </ul>	<b>0</b>

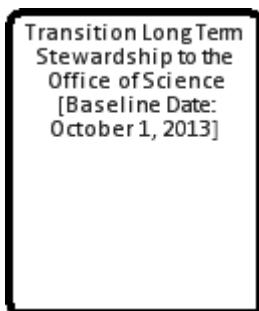
**Nuclear Facility D&D-High Flux Beam Reactor (PBS: BRNL-0041)**

**Overview**

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

This PBS scope includes characterization, decontamination and decommissioning of the High Flux Beam Reactor at Brookhaven National Laboratory. The scope also includes the remediation of a two-acre plot of contaminated soil alongside a railroad spur (which has been completed). The High Flux Beam Reactor complex has been deactivated and stabilized. Fuel has been removed, equipment used to support research and experimentation has been removed, and the primary system, including the fuel pool, has been drained. Ancillary buildings have been demolished. Excess control rod blades and other legacy waste have been removed and disposed. Contaminated silencer baffles have been removed from the High Flux Beam Reactor stack (Building 705).

**Sequence**



**Benefits**

Maximize Success of Construction and Operations Outcomes	<ul style="list-style-type: none"> <li>▪ Demolition and low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Monitored reactor facility environment set for long-term storage as well as addressing maintenance activities.</li> <li>▪ American Recovery and Reinvestment Act accomplishment included decontamination and decommissioning of the High Flux Beam Reactor ancillary facilities/utilities in preparation of long term storage and working toward the completion of “legacy scope” at the Brookhaven National Laboratory.</li> <li>▪ American Recovery and Reinvestment Act accomplishments included completion</li> </ul>	<b>1,445</b>

	of the Underground Utilities Removal and the decontamination and decommissioning of the stack silencers and fan house building 802.	
FY 2012	<ul style="list-style-type: none"> <li>▪ No activities.</li> </ul>	<b>0</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ No activities.</li> </ul>	<b>0</b>

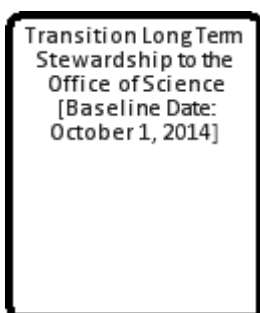
## Brookhaven Community and Regulatory Support (PBS: BRNL-0100)

### Overview

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

Brookhaven National Laboratory is listed on the National Priorities List. This PBS scope includes assistance to New York State for carrying out its oversight responsibilities in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act and the Federal Facility Agreement, also known as, the Brookhaven Interagency Agreement among the DOE, the United States Environmental Protection Agency, and the New York State Department of Environmental Conservation.

### Sequence



### Benefits

Cleanup Benefits	<ul style="list-style-type: none"> <li>▪ Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing facilities, contaminated soils, and groundwater.</li> </ul>

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Reviewed and approved regulatory documents.</li> </ul>	<b>300</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ No activities.</li> </ul>	<b>0</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ No activities.</li> </ul>	<b>0</b>

## Energy Technology Engineering Center

### Funding Schedule by Activity

(dollars in thousands)

FY 2011 Current	FY 2012 Enacted	FY 2013 Request
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Non-Defense Environmental Cleanup Small Sites Energy Technology Engineering Center CBC-ETEC-0040 / Nuclear Facility D&D-Energy Technology Engineering Center	6,466	9,279	9,460
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#### **Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

#### **Overview**

The Energy Technology Engineering Center will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. The Energy Technology Engineering Center is responsible for disposition of radioactive and hazardous waste; deactivate, decommission, and demolish excess facilities; and remediate-contaminated groundwater and soil.

The Energy Technology Engineering Center, which was DOE’s laboratory for nuclear and liquid metal research (non-defense) at the Santa Susana Field Laboratory, is a collection of facilities within Area IV. There are 18 numbered structures consisting of two radiological facilities, two sodium facilities, and other miscellaneous structures. The Energy Technology Engineering Center is surplus to DOE’s current mission. Current use of the site involves characterization and site investigation to support clean-up and closure.

#### **Regulatory Framework**

Regulation of the Energy Technology Engineering Center Closure project is segmented by different regulatory

**Environmental Management/  
Energy Technology Engineering Center**

authorities. Prior decontamination and demolition activities of the radiologically contaminated facilities at the Energy Technology Engineering Center were conducted under Atomic Energy Act authority. The U.S. District Court for the Northern District of California directed the DOE to complete an Environmental Impact Statement and Record of Decision for Area IV of the Santa Susana Field Laboratory in accordance with the National Environmental Policy Act.

The Resource Conservation and Recovery Act groundwater cleanup is regulated by the California Department of Toxics Substance Control and is being performed consistent with a signed Consent Order issued by the California Department of Toxic Substances Control in August 2007. DOE completed negotiation of an Administrative Order on Consent with the California Department of Toxic Substance Control in December 2010 for all remaining soil characterization and remediation.

#### **Program Accomplishments**

During the next five-year period, the Energy Technology Engineering Center is expected to perform the following accomplishments:

- Continue Resource Conservation and Recovery Act facility investigation program for groundwater

**FY 2013 Congressional Budget**

including sampling, analysis, and report preparations.

- Continue preparation of required supporting information for completion of a court ordered Environmental Impact Statement.
- Complete soil characterization for radionuclides (Environmental Protection Agency) and for chemicals (Department of Toxic Substance Control/DOE).
- Begin demolition of remaining structures consistent with the outcome of the Environmental Impact Statement.

Current estimated Life-Cycle cost range is \$341,536,000 to \$387,924,000; current projected closure date is 2018 to 2025.

**Explanation of Changes**

The Department requests \$9,460,000 in Fiscal Year 2013 for the Energy Technology Engineering Center, which is a 2 percent increase from the FY 2012 enacted appropriation level.

**Strategic Management**

In meeting the Department’s strategic goal, “Enhance nuclear security through defense, nonproliferation, and environmental efforts”, the Department will work aggressively to reduce the footprint at the Energy Technology Engineering Center. This involves the planning and characterization activities required for packaging and disposition of radioactive and hazardous waste streams, cleaning up the environment, and removing or deactivating unneeded facilities.

**Strategic Plan and Performance Measures**

No PM activity for current three-year budget period.

**Explanation of Funding Changes**

(Dollars In Thousands)

**Non-Defense Environmental Cleanup  
Small Sites**

**Energy Technology Engineering Center  
CBC-ETEC-0040 / Nuclear Facility D&D-Energy Technology Engineering Center**

- No significant change.

	<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>	<b>FY 2013 vs FY 2012</b>
	9,279	9,460	+181
<b>Total, Energy Technology Engineering Center</b>	<b>9,279</b>	<b>9,460</b>	<b>181</b>



**Nuclear Facility D&D-Energy Technology Engineering Center (PBS: CBC-ETEC-0040)**

**Overview**

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

The purpose of this PBS scope is to: 1) clean up contaminated release sites; 2) decontaminate, decommission, and demolish radioactively and chemically contaminated facilities for eventual release of the property to the Boeing Company (the site owner); 3) perform remediation of both contaminated groundwater and soil; and 4) remove radioactive and hazardous waste from the site applying (when possible) waste minimization principles such as recycling. Currently, decontamination, decommissioning, and demolition are complete except for the Sodium Pump Test Facility, Building 4024, Hazardous Waste Management Facility, Radioactive Materials Handling Facility complex, and a number of other miscellaneous structures. Soil and groundwater characterization is being performed.

The end-state is to complete cleanup for both radiological contamination and chemical contamination and demolition of remaining structures. The site will then be turned over to the Boeing Company, which owns the land.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Performed ongoing program support and landlord services.</li> <li>▪ Supported Resource Conservation and Recovery Act facility investigation program for groundwater including sampling, analysis, and report preparations.</li> <li>▪ Prepared required supporting information for completion of a court ordered</li> </ul>	<b>6,466</b>

	<p>Environmental Impact Statement.</p> <ul style="list-style-type: none"> <li>▪ Initiated co-located chemical sampling as required by the Administrative Order on Consent with the State.</li> <li>▪ A portion of the scope of work typically covered in the Program Baseline Summary was executed with American Recovery and Reinvestment Act funding.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Perform ongoing program support and landlord services.</li> <li>▪ Support Resource Conservation and Recovery Act facility investigation program for groundwater including sampling, analysis, and report preparations.</li> <li>▪ Support Comprehensive Environmental Response, Compensation, and Liability Act investigation program for soils including sampling, analysis, and report preparations.</li> <li>▪ Prepare required supporting information for completion of a court ordered Environmental Impact Statement.</li> </ul>	<b>9,279</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Perform ongoing program support and landlord services.</li> <li>▪ Support Resource Conservation and Recovery Act facility investigation program for groundwater including sampling, analysis, and report preparations.</li> <li>▪ Start Soils Remedial Acton Implementation Plan.</li> <li>▪ Begin preparation for demolition of remaining structures consistent with outcome of the Environmental Impact Statement.</li> </ul>	<b>9,460</b>

**Moab**

**Funding Schedule by Activity**

(dollars in thousands)

FY 2011 Current	FY 2012 Enacted	FY 2013 Request
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Non-Defense Environmental Cleanup  
 Small Sites  
 Moab  
 CBC-MOAB-0031 / Soil and Water  
 Remediation-Moab

32,594                      31,000                      30,941

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year  
 Continuing Appropriation Act, 2011

the cleanup standards established under 40 CFR 192. The U.S. Nuclear Regulatory Commission must concur with the remediation plan and license the final disposal site.

**Program Accomplishments and Milestones**

During FY 2011- FY 2013 it is expected that the Moab Site will complete the following accomplishments:

**Overview**

The Moab site will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. In October 2000, the Floyd D. Spence National Defense Authorization Act of 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. The project is covered by a 16,000,000 ton pile of uranium mill tailings. To date, the project has hauled 2,196,091 base tons through the EM base program and 2,631,899 tons through the American Recovery and Reinvestment Act, for a total of 4,827,990 tons of residual radioactive material from the Moab site to the Crescent Junction disposal site.

Direct maintenance and repair at the Moab Site is estimated to be \$200,000.

<u>Milestones</u>	<u>Date</u>
▪ Transported and disposed of 3,000,000 tons completed	1/31/11
▪ Transported and disposed of 4,000,000 tons completed	6/30/11
▪ Transport and dispose of 650,000 tons of tailings from Moab to the Crescent Junction disposal cell	9/30/12
▪ Transport and dispose of 650,000 tons of tailings from Moab to the Crescent Junction disposal cell	9/30/13

**Regulatory Framework**

Remediation must be performed in accordance with Title I of the Uranium Mill Tailings Radiation Control Act and

**Environmental Management/  
 Moab**

**FY 2013 Congressional Budget**

Current estimated Life-Cycle cost range is \$897,923,000 to \$928,331,000; current projected closure date is 2028. With American Recovery and Reinvestment Act funding, the completion date has been accelerated by three years to 2025.

**Explanation of Changes**

The Department requests \$30,941,000 in FY 2013 for the Moab Site, which is approximately the same as the FY 2012 enacted appropriation level.

**Strategic Management**

In meeting the Department’s strategic goal, “Enhance nuclear security through defense, nonproliferation, and environmental efforts,” the Department will work aggressively to reduce the footprint at the Moab site. This involves the transport of uranium mill tailings away from its current location near the Colorado River and Arches National Park to be disposed of at a DOE facility in Crescent Junction, Utah.

**Strategic Plan and Performance Measures**

No PM activity for current three-year budget period.

**Explanation of Funding Changes**

(Dollars In Thousands)

**Non-Defense Environmental Cleanup**

**Small Sites**

**Moab**

**CBC-MOAB-0031 / Soil and Water Remediation-Moab**

- No significant change.

**Total, Moab**

	<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>	<b>FY 2013 vs FY 2012</b>
	31,000	30,941	-59
<b>Total, Moab</b>	<b>31,000</b>	<b>30,941</b>	<b>-59</b>

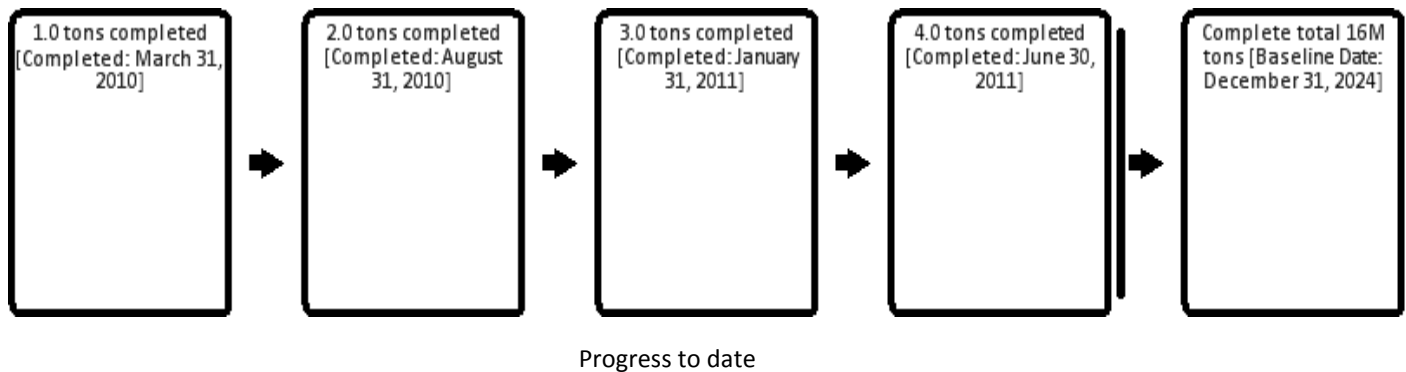
**Soil and Water Remediation-Moab (PBS: CBC-MOAB-0031)**

**Overview**

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

The project scope is to remediate contaminated mill tailings, mill debris, contaminated ground water, and contaminated vicinity properties at the former Atlas Minerals Corporation uranium ore-processing site. DOE became responsible for this mission upon enactment of the Floyd D. Spence National Defense Authorization Act of 2001. A Record of Decision issued in September 2005 required relocation of the mill tailings away from the Colorado River to a DOE-constructed disposal facility near Crescent Junction, Utah, primarily via rail transportation. The site is of particular public interest due to its unique setting on the banks of the Colorado River and its proximity to Arches National Park.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Conducted Moab and Crescent Junction sites operation and maintenance.</li> <li>▪ Operated interim remedial action for contaminated groundwater.</li> <li>▪ Placed tailings into the disposal cell and constructed the cell cover.</li> <li>▪ Excavated tailings and transport from millsite to the disposal cell (4,827,990 tons).</li> <li>▪ Performed operations and maintenance of the materials handling system and infrastructure.</li> </ul>	<b>32,594</b>

	<ul style="list-style-type: none"> <li>▪ Remediated vicinity properties in the community surrounding the tailings pile.</li> <li>▪ A portion of the scope of work typically covered in this Project Baseline Summary was executed with American Recovery and Reinvestment Act funding as discussed above in the American Recovery and Reinvestment Act Activities section of the Site Overview.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Conduct Moab and Crescent Junction sites operation and maintenance</li> <li>▪ Operate interim remedial action for contaminated groundwater.</li> <li>▪ Excavate tailings and transport from millsite to the disposal cell (650,000 tons)</li> <li>▪ Remediate vicinity properties in the community surrounding the tailings pile.</li> <li>▪ Demobilization of current Remedial Action Contractor and mobilization of follow-on Remedial Action Contractor.</li> <li>▪ Place tailings into the disposal cell and constructing the cell cover.</li> </ul>	<b>31,000</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Conduct Moab and Crescent Junction sites operation and maintenance</li> <li>▪ Operate interim remedial action for contaminated groundwater.</li> <li>▪ Excavate tailings and transport from millsite to the disposal cell (650,000 tons)</li> <li>▪ Remediate vicinity properties in the community surrounding the tailings pile.</li> <li>▪ Place tailings into the disposal cell and constructing the cell cover.</li> </ul>	<b>30,941</b>

**SLAC National Accelerator Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

FY 2011 Current	FY 2012 Enacted	FY 2013 Request
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Non-Defense Environmental Cleanup Small Sites SLAC National Accelerator Laboratory CBC-SLAC-0030 / Soil and Water Remediation- Stanford Linear Accelerator Center	7,711	2,435	3,800
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**Public Law Authorization**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The SLAC National Accelerator Laboratory will support the Department’s Strategic Plan to complete the environmental remediation of legacy and active sites, while protecting human health and the environment. The SLAC National Accelerator Laboratory Remediation Project is responsible for remediating chemically contaminated groundwater and soil.

The SLAC National Accelerator Laboratory is a federally funded national research laboratory constructed in 1963 and continuously managed and operated by Stanford University under a contract with DOE. The original lease agreement was signed in 1962 for a period of 50 years, expiring in 2012. However, the lease was renewed in 2010 for an additional 30 years.

The SLAC National Accelerator Laboratory research program centers on experimental and theoretical research in elementary particle, hard x-ray and coherent light physics using electron beams and a broad program of research in atomic and solid-state physics, chemistry, biology, and medicine using synchrotron radiation.

EM completed their portion of the physical work associated with current legacy cleanup objectives and scope at the end of FY 2011. Transfer of ownership to the Office of Science will be initiated in the FY 2014 budget. Until that time, EM will provide funding for surveillance and maintenance activities and continue working on remaining EM responsible California Regional Water Quality Control Board Order deliverables during FY 2012 and FY 2013.

**Regulatory Framework**

The California Regional Water Quality Control Board, San Francisco Bay Region is the lead regulatory agency at the SLAC National Accelerator Laboratory for all media including soil, groundwater, sediment, and storm water. While the U.S. Environmental Protection Agency has regulatory authority regarding soil remedial actions involving polychlorinated biphenyls, it seeks no involvement as long as the Toxic Substances Control Act unrestricted use standards are applied. DOE is executing its Comprehensive Environmental Response, Compensation and Liability Act authority (Executive Order 12580) to conduct removal actions. The SLAC National Accelerator Laboratory work scope was stipulated under the California Regional Water Quality Control Board Order No. R2-2005-0022, issued May 2005. This Order requires the investigation and remediation of impacted soil and groundwater resulting from the historical spills and leaks that have occurred during operations. Per the Order, a Remedial Investigation/Feasibility Study Work Plan was prepared and approved to facilitate preliminary agreements on

whether cleanup actions are necessary for many of the sites.

Order No. R2-2005-0022 was unilaterally revised in October 2009 to correct deadlines for the deliverables. With that revision, the Board also expanded the definition and scope of the West SLAC Operable Unit to potentially include work beyond the current EM project scope and encompass inaccessible areas. EM and the Office of Science subsequently agreed to revise their respective responsibilities with EM's West SLAC Board Order deliverable ending with the completion of the Remedial Investigation Report and Risk Assessment.

**Program Accomplishments and Milestones**

During FY 2012 and FY 2013 it is expected that the SLAC National Accelerator Laboratory will accomplish the following:

- Complete project and Regulatory closeout requirements.
- Complete work on the West SLAC Operable Unit Remedial Investigation Report and Risk Assessment, the Research Yard Operable Unit Risk Assessment, the Groundwater Volatile Organic Compound Operable Unit Operations and Maintenance Plan, Remedial Action Plan Implementation Report and Risk Management Plan, and the Group 2 Removal Action Site Closure Report.

**Milestones**

**Date**

- |   |            |
|---|------------|
| ▪ Completion of Physical Field Work               | 9/14/2011  |
| ▪ Complete ARRA Project                           | 9/28/2011  |
| ▪ Final Approval of CD-4/Closeout Package         | 12/9/2011  |
| ▪ Project End                                     | 9/30/2013  |
| ▪ Initiate Site transfer to the Office of Science | 10/31/2013 |

Current estimated Life-Cycle cost range is \$62,496,000; current projected closure date is 2013 and initiation of transfer to the Office of Science for long-term surveillance and maintenance will commence in FY 2014.

**Explanation of Changes**

The Department requests \$3,800,000 in FY 2013 for the SLAC National Accelerator Laboratory, which is a 56 percent increase from the FY 2012 enacted appropriation level.

The increase reflects the completion of EM legacy cleanup scope and the remaining funds provide for Long-Term Surveillance and Maintenance.

**Strategic Management**

In meeting the identified strategic goals, the Department will continue surveillance and maintenance activities for the eventual transfer of the SLAC National Accelerator Laboratory Long-Term Surveillance and Maintenance activities to the Office of Science and complete remaining EM responsible California Regional Water Quality Control Board Order deliverables.

**Strategic Plan and Performance Measures**

**No PM activity for current three-year budget period.**



**Explanation of Funding Changes**

**(Dollars In Thousands)**

<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>	<b>FY 2013 vs FY 2012</b>
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**Non-Defense Environmental Cleanup**

**Small Sites**

**SLAC National Accelerator Laboratory**

**CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear**

**Accelerator Center**

- Increase is due to the delay in completing the West SLAC Operable Unit, Research Yard Operable Unit and Groundwater Volatile Organic Compound Operable Unit regulatory compliance documents, and the preparation for transfer to the Office of Science in FY 2014.

2,435	3,800	+1,365
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**Total, SLAC National Accelerator Laboratory**

<b>2,435</b>	<b>3,800</b>	<b>1,365</b>
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**Soil and Water Remediation-Stanford Linear Accelerator Center (PBS: CBC-SLAC-0030)**

**Overview**

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

Activities in this PBS involve the cleanup of legacy contamination resulting from the physics research mission and operations over the past several decades at the SLAC National Accelerator Laboratory. The EM mission includes the identification of chemical contaminants in soil and groundwater and developing and implementing remedies to address these environmental concerns using Comprehensive Environmental Response, Compensation, and Liability Act technical guidance in accordance with the California Regional Water Quality Control Board Order. The principal contaminants of concern include polychlorinated biphenyls, lead, and volatile organic compounds in soils and groundwater. Preliminary Site Assessments have identified 54 release sites requiring further action; either further risk evaluation or remediation. The Long-Term Surveillance activities involve supporting the long-term surveillance, maintenance, and operation activities for the installed groundwater treatment systems at the SLAC National Accelerator Laboratory. It also covers the responsibility for completing the Comprehensive Environmental Response, Compensation, and Liability Act process for the remainder of the West SLAC, Research Yard Operable Units as agreed to by the Office of Science.

**Sequence**



**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> <li>▪ Mitigating the existing environmental legacy risks at the SLAC National Accelerator Laboratory is paramount in maintaining Stanford University’s positive visibility on the densely populated San Francisco Peninsula.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Operated five installed groundwater treatment systems and maintained compliance with the California Regional Water Quality Control Board Order.</li> <li>▪ Completed residual remedial excavation and disposal for all West SLAC soil sites.</li> </ul>	<b>7,711</b>

	<ul style="list-style-type: none"> <li>▪ Worked on project and regulatory closeout requirements.</li> <li>▪ A portion of the scope of work typically covered in this program baseline summary was executed with American Recovery and Reinvestment Act funding.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Work on project and regulatory closeout requirements.</li> <li>▪ Continue work on the West SLAC Operable Unit Remedial Investigation Report and Risk Assessment, the Research Yard Operable Unit Risk Assessment, the Groundwater Volatile Organic Compound Operable Unit Operations and Maintenance Plan, Remedial Action Plan Implementation Report and Risk Management Plan, and the Group 2 Removal Action Site Closure Report.</li> <li>▪ Legacy cleanup work scope to be completed by the end of FY 2011. EM will support surveillance and maintenance activities for the Soil and Water Remediation Project.</li> </ul>	<b>2,435</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Worked on project and regulatory closeout requirements.</li> <li>▪ Complete work on the West SLAC Operable Unit Remedial Investigation Report and Risk Assessment, the Research Yard Operable Unit Risk Assessment, the Groundwater Volatile Organic Compound Operable Unit Operations and Maintenance Plan, Remedial Action Plan Implementation Report and Risk Management Plan, and the Group 2 Removal Action Site Closure Report.</li> <li>▪ Legacy cleanup work scope to be completed by the end of FY 2011. EM will support surveillance and maintenance activities for the Soil and Water Remediation Project and in FY 2014 will initiate transfer of work scope to the Office of Science.</li> </ul>	<b>3,800</b>



**All Other Sites**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Closure Sites			
Closure Sites Administration			
CBC-0100-RF / CBC Post Closure			
Administration - Rocky Flats	175	4,703	1,990
Non-Defense Environmental Cleanup			
Small Sites			
DOE-Sponsored Facilities (per P.L 112-74)	0	10,000	0
 Total, Other Sites	<hr/> 175	<hr/> 14,703	<hr/> 1,990

**Overview**

In supporting the Department’s Strategic Plan, “Complete Environmental Remediation of Our Legacy and Active Sites, Protect Human Health and the Environment,” the Environmental Management Program manages program scope that includes closure and post-closure administrative activities at a number of geographic sites across the nation. Some of the sites described in this section of the budget may have continuing EM mission requirements; however, some may have no funding requirements in FY 2013. The sites included in this section are in the final stages of cleanup and closure or have actually transitioned to the post-closure phase. All sites included in this section have contributed to the Department’s strategic goal on footprint reduction and now only require continuing administrative support until all EM post-closure administrative activities are completed and the site can be fully transitioned to other Department of Energy programs (i.e., Office of Science, Legacy Management, etc.).

The site currently included in this section of the budget is the Consolidated Business Center. Below is an overview of the site included in this section.

**Environmental Management/  
All Other Sites**

**Consolidated Business Center**

The Consolidated Business Center is located in Cincinnati, Ohio and serves as a central clearinghouse for a wide range of activities supporting DOE’s national environmental cleanup mission from financial management and contracting to human resources and information resource management. The Consolidated Business Center also assumed responsibility for administrative closure and post-closure activities at EM defense and non-defense sites, which includes contract closeout, litigation and litigation support. The Consolidated Business Center is currently providing post-closure administrative and litigation support for the Rocky Flats site and non-defense post-closure litigation support for SLAC National Accelerator Laboratory, the Moab UMTRA Project, the West Valley Demonstration Project, and the Energy Technology Engineering Center.

**Program Accomplishments**

**Consolidated Business Center**

The primary accomplishments for the Consolidated Business Center for FY 2012 mainly involve funding the ongoing Rocky Flats Closure Project’s legal requirements, court orders for the Cook and Stone cases, and funding

the lease and records management costs for the Rocky Flats Records Vault.

**Explanation of Changes**

The Department requests \$1,990,000 in FY 2013 for All Other Sites, which is an 86.5 percent decrease from the Fiscal Year 2012 enacted appropriation level.

The FY 2013 request for All Other Sites decreases are due to the reduction in cost of legal requirements for the Cook and Stone cases at the Rocky Flats site.

**Strategic Management**

The sites included in this section are in their final stages of cleanup and closure or have already transitioned to the post-closure phase. The strategy for the sites included in this section require completing any remaining cleanup activities and continuing administrative support until all EM post-closure administrative activities are completed and the sites are transitioned to other Departmental programs (i.e., Office of Science, Legacy Management, etc.).

**Strategic Plan and Performance Measures**

No PM activity for current three-year budget period.

**Explanation of Funding Changes**

(Dollars In Thousands)

	FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
<b>Defense Environmental Cleanup</b>			
<b>Closure Sites</b>			
<b>Closure Sites Administration</b>			
<b>CBC-0100-RF / CBC Post Closure Administration - Rocky Flats</b>			
▪ Decrease reflects reduction of ongoing support for the Rocky Flats legal requirements in the Cook and Stone cases.	4,703	1,990	-2,713
<b>Non-Defense Environmental Cleanup</b>			
<b>Small Sites</b>			
<b>DOE-Sponsored Facilities (per P.L 112-74)</b>			
▪ No additional funding is requested for this project.	10,000	0	-10,000
<b>Total, Other Sites</b>	<b>14,703</b>	<b>1,990</b>	<b>-12,713</b>

**CBC Post Closure Administration - Rocky Flats (PBS: CBC-0100-RF)**

**Overview**

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

The Rocky Flats Closure Project achieved site closure in FY 2006. However, ongoing litigation support 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 scope of this PBS is to provide site litigation support related to the continuing class actions and other civil litigation activities of former site contractors. This PBS also funds the records management vault and the labor for the vault classifiers.

<b>Funding and Activity Schedule</b>		
<b>Fiscal Year</b>	<b>Activity</b>	<b>Funding (dollars in thousands)</b>
FY 2011	<ul style="list-style-type: none"> <li>▪ Funded the ongoing Rocky Flats Closure Project’s legal requirements and court orders for the Cook and Stone cases from carryover funds.</li> <li>▪ Funded the Rocky Flats records vault lease and records management costs from carryover funds.</li> </ul>	<b>175</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Fund the ongoing Rocky Flats Closure Project’s legal requirements and court orders for the Cook and Stone cases.</li> <li>▪ Fund the Rocky Flats records vault lease and records management costs.</li> </ul>	<b>4,703</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Fund the ongoing Rocky Flats Closure Project’s legal requirements and court orders for the Cook and Stone cases at a reduced level.</li> <li>▪ Fund the Rocky Flats records vault lease and records management costs at a reduced level.</li> </ul>	<b>1,990</b>





**Headquarters Operations**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup Program Support Headquarters EM-HBCU-0100 / Minority Serving Institution Partnerships Program	0	0	8,300
HQ-MS-0100 / Policy, Management, and Technical Support	21,101	20,380	9,979
Subtotal, Headquarters	<u>21,101</u>	<u>20,380</u>	<u>18,279</u>

Defense Environmental Cleanup

Program Support

Headquarters

EM-HBCU-0100 / Minority Serving Institution

Partnerships Program

HQ-MS-0100 / Policy, Management, and

Technical Support

Subtotal, Headquarters

**Description**

The Headquarters Operations program includes policy, management and technical support activities to provide management and direction for various crosscutting EM and DOE initiatives. Through this program, EM establishes and implements national and departmental policies, provides focused technical expertise to resolve barriers to site cleanup, and conducts analyses and integrates 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 may result in cost savings. Also included is the Uranium/Thorium Reimbursement program that provides reimbursements to licensees (subject to a site-specific limit) for the cost of environmental cleanup of uranium and thorium processing contamination attributable to materials sold to the Federal 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 be reduced. 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.

**Reimbursements to Uranium/Thorium Licensees**

Pursuant to Title X of the Energy Policy Act of 1992 and 10 CFR Part 765, the Reimbursement to Uranium/Thorium Licensees includes reimbursements to fourteen active uranium and thorium processing site licensees for that portion of the environmental cleanup costs attributable to nuclear material sold to the federal government during the Cold War Era. Title X authorizes the Department to reimburse eligible costs annually to licensees.

The intent of Title X is to reimburse eligible costs previously incurred by licensees, and does not relieve licensees of their liability to complete environmental restoration of their former mill sites. Four sites are expected to complete cleanup and have their licenses terminated within the next two years, and four additional sites are planning to complete cleanup by 2020.

**Mercury Export Ban Act of 2008**

The Mercury Export Ban Act of 2008 bans the export of elemental mercury generated in the United States beginning in 2013, prohibits federal agencies from either

selling or distributing mercury, and instructs DOE to provide long-term management and storage for elemental mercury. The storage capability needs to be operational by January 1, 2013. Additionally, DOE's mercury storage operations will be subject to the requirements of the Solid Waste Disposal Act, the Resource Conservation and Recovery Act, and the National Environmental Policy Act. In addition, DOE was required to issue guidance outlining procedures and standards for the operation of the long-term elemental mercury management and storage facility no later than October 1, 2009. DOE issued these procedures and standards guidance in November 2009. In accordance with the Act, by October 1, 2012, DOE is to disclose fee amounts that will be collected at the time of mercury delivery to the management and storage facility.

DOE began preparation of an Environmental Impact Statement in May 2009 to identify a long-term elemental mercury management and storage facility. The Final Environmental Impact Statement was issued in January

2011. The record of decision on the selection of the elemental mercury storage facility will be issued upon additional analysis.

**Greater-than-Class-C Waste**

In FY 2013, DOE will issue the final Environmental Impact Statement for the Disposal of Greater-Than-Class-C Low Level Radioactive Waste and Greater-Than-Class-C-like Waste. Once the Final Environmental Impact Statement is issued and as required under Section 631 of the Energy Policy Act of 2005, DOE will submit a report to Congress that includes information on Greater-Than-Class-C Waste, options for ensuring the safe disposal of the waste, options for cost recovery, and an identification of any statutory authority required for disposal of the waste. Once Congress has taken action on the report, DOE will issue the Record of Decision for the disposal of Greater-Than-Class-C Waste.

**Strategic Plan and Performance Measures**

No PM activity for current three-year budget period.

**Explanation of Funding Changes**

(Dollars In Thousands)

	FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
<b>Defense Environmental Cleanup</b>			
<b>Program Support</b>			
<b>Headquarters</b>			
<b>EM-HBCU-0100 / Minority Serving Institution Partnerships Program</b>			
▪ Increase supports the implementation of the Department's Minority Serving Institutional Partnership Program strategy.	0	8,300	+8,300
<b>HQ-MS-0100 / Policy, Management, and Technical Support</b>			
▪ Funding supports various environmental impact statement activities and secretarial initiatives.	20,380	9,979	-10,401
<b>Total, Headquarters Operations</b>	<b>20,380</b>	<b>18,279</b>	<b>-2,101</b>

## Minority Serving Institution Partnerships Program (PBS: EM-HBCU-0100)

### Overview

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

The Office of Environmental Management supports the Minority Serving Institutional Partnership Program to attract, develop, and retain the technical workforce at its national laboratories and production plants required to execute its mission.

Developed goals for this partnership include:

- Strengthen and expand Minority Serving Institution (MSI) capacity and research experience in DOE mission areas of interest.
- Increase visible participation of MSI faculty in DOE technical engagements and activities, such as collaborative research, technical workshops, expert panel reviews and studies, and competitive processes.
- Target collaborations between MSIs and DOE laboratories and plants that increase scientist-to-scientist interactions, applied research and engineering application collaborations and/or implementation of research results, and provide MSI access to DOE facilities.
- Increase number of MSI students who graduate with Science, Technology, Engineering, and Mathematics (STEM) degrees relevant to DOE mission areas and have had exposure to career opportunities at DOE sites.
- Increase number of MSI graduates/Postdocs hired into DOE's technical and scientific workforce.

The Minority Serving Institutional Partnership Program aligns Minority Serving Institutional investments with the departmental mission in order to develop the needed skills and talent for DOE's enduring technical workforce at the laboratories and production plants, and to enhance the research and education at under-represented colleges and universities.

### Sequence

There are no milestones associated with this PBS.

Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ In FY 2011, Historically Black College/University activities were funded proportionately across the EM complex utilizing cleanup dollars across the sites. The FY 2011 funded amount complex-wide was \$8,357,000.</li> </ul>	<b>0</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ In FY 2012, Historically Black College/University activities will be funded</li> </ul>	<b>0</b>

	proportionately across the EM complex utilizing cleanup dollars across the sites. The FY 2012 planned activity level complex-wide is \$8,218,000.	
FY 2013	<ul style="list-style-type: none"> <li>▪ Transition to the Department's Minority Serving Institution Partnerships Program strategy.</li> </ul>	<b>8,300</b>

**Policy, Management, and Technical Support (PBS: HQ-MS-0100)**

**Overview**

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

This PBS scope includes management and direction for various crosscutting EM and DOE initiatives, establishment and implementation of national and departmental policies, various intergovernmental activities, and analyses and integration activities across the DOE complex. Also, the scope of this PBS includes government-furnished services and items necessary to accelerate site cleanup and risk reduction efforts, assure pathways to disposition waste and materials, conduct transportation, packaging, and emergency preparedness activities, complete necessary policy analyses, support legal claims, support closure assistance activities, and effectively communicate with the public and stakeholders regarding the EM program’s activities. It includes the National Environmental Policy Act analysis on Greater-Than-Class C radioactive waste disposal, as required by Section 631 of the Energy Policy Act of 2005.

**Sequence**

There are no milestones associated with this PBS.

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Continued 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.</li> <li>▪ Provided expertise in the areas of safety, health and security, emergency management, package certification, quality assurance, nuclear criticality safety, and risk management.</li> <li>▪ Instilled safety awareness by utilizing the National Safety Council to conduct surveys which will indicate whether and how EM’s commitment to safety is working.</li> <li>▪ Issued the final Environmental Impact Statement for Disposal of Greater-Than-Class C Radioactive Waste.</li> <li>▪ Supported various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program and Consolidated Accounting Investment System.</li> </ul>	<b>21,101</b>

	<ul style="list-style-type: none"> <li>▪ Provided 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 and expertise that indirectly supports EM mission objectives.</li> <li>▪ Administered the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.</li> <li>▪ Provided rapid response from technical experts or “External/Internal” review teams to address emerging, imminent technical issues impeding site cleanup and closure.</li> <li>▪ Provided technical solution projects designed to reduce near-term technical risks and technical assistance to include site troubleshooting, consulting, scientific or technical problem solving.</li> <li>▪ Developed the fee amounts for long-term elemental mercury management and storage and continue planning activities for the facility.</li> </ul>	
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue support of State and local government participation through the State Government Working Group, Energy Community Alliance, National Association of Attorneys General, local officials exchange seminars, Environmental Council of the States, and government-to-government interactions with grants with the National Governors Association.</li> <li>▪ Provide expertise in the areas of safety, health and security, emergency management, package certification, quality assurance, nuclear criticality safety, and risk management.</li> <li>▪ Instill safety awareness by utilizing the National Safety Council to conduct surveys which will indicate whether and how EM’s commitment to safety is working.</li> <li>▪ Issue the final Environmental Impact Statement for Disposal of Greater-Than-Class C Radioactive Waste.</li> <li>▪ Support various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program and Consolidated Accounting Investment System.</li> <li>▪ 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 and expertise that indirectly supports EM mission objectives.</li> <li>▪ Administer the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.</li> <li>▪ Provide rapid response from technical experts or “External/Internal” review teams to address emerging, imminent technical issues impeding site cleanup and closure.</li> <li>▪ Provide technical solution projects designed to reduce near-term technical risks and technical assistance to include site troubleshooting, consulting, scientific or technical problem solving.</li> <li>▪ Perform additional analysis for long-term elemental mercury management and storage facility.</li> <li>▪ Support the Working Capital Fund initiatives such as iManage, DOENet, Financial Statement</li> </ul>	<b>20,380</b>

	Audits, A-123, and DCAA Audits.	
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue support of State and local government participation through the State Government Working Group, Energy Community Alliance, National Association of Attorneys General, local officials exchange seminars, Environmental Council of the States, and government-to-government interactions with grants with the National Governors Association.</li> <li>▪ Provide expertise in the areas of safety, health and security, emergency management, package certification, quality assurance, nuclear criticality safety, and risk management.</li> <li>▪ Provide support to 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.</li> <li>▪ Provide support for various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program and Consolidated Accounting Investment System.</li> <li>▪ 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 and expertise that indirectly supports EM mission objectives.</li> <li>▪ Administer the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.</li> <li>▪ Provide rapid response from technical experts or "External/Internal" review teams to address emerging, imminent technical issues impeding site cleanup and closure.</li> <li>▪ Provide technical solution projects designed to reduce near-term technical risks and technical assistance to include site troubleshooting, consulting, scientific or technical problem solving.</li> <li>▪ Perform analysis for long-term elemental mercury management and storage facility.</li> <li>▪ Support for the Working Capital Fund initiatives such as iManage, DOENet, Financial Statement Audits, A-123, and DCAA Audits.</li> </ul>	<b>9,979</b>

**Title X of the Energy Policy Act of 1992: Uranium/Thorium Reimbursement Program  
Status of Payments through Fiscal Year 2011 and Estimated Maximum Program Liability  
(\$ Thousands)**

<u>Licenseses</u>	Total Payments FY 1994- FY 2011	Approved but Unpaid Claim Balances After FY 2011 Payments (Costs for Uranium Licensees that Exceed Current Dry Short Ton Ceiling)	Maximum Remaining Program Liability Including Estimated Costs in Approved Plans for Subsequent Remedial Action
<b>Uranium</b>			
American Nuclear Corp. Site			
American Nuclear Corporation.....	820	0	0
State of Wyoming.....	1,277	0	763
Atlantic Richfield Company <sup>a</sup> .....	32,306	0	0
Atlas Corporation/Moab Mill Reclamation Trust <sup>a</sup> .....	9,694	0	0
Cotter Corporation.....	3,035	376	3,339
Dawn Mining Company.....	9,504	0	9,082
Homestake Mining Company.....	51,253	0	85,458
Pathfinder Mines Corporation.....	10,765	0	288
Petrotomics Company <sup>a</sup> .....	2,850	0	0
Rio Algom Mining LLC <sup>b</sup> .....	41,241	0	6,418
Tennessee Valley Authority.....	15,657	9,473	9,473
Umetco Minerals Corporation-CO.....	54,929	19,184	33,785
Umetco Minerals Corporation-WY.....	20,263	3,723	6,406
Western Nuclear, Incorporated.....	31,901	0	1,625

<sup>a</sup> Reimbursements have been completed to the Atlantic Richfield Company, the licensees of the Moab site and the Petrotomics Company.

<sup>b</sup> Formerly Quivira Mining Company.



	Total Payments FY 1994- FY 2011	Approved but Unpaid Claim Balances After FY 2011 Payments (Costs for Uranium Licensees that Exceed Current Dry Short Ton Ceiling)	Maximum Remaining Program Liability Including Estimated Costs in Approved Plans for Subsequent Remedial Action
<u>Licensees</u>			
Subtotal, Uranium.....	285,496	32,756	156,637
<b>Thorium</b>			
Tronox LLC <sup>c</sup> .....	342,797	0	52,102
Subtotal, Thorium.....	342,797	0	52,102
Total, Uranium and Thorium .....	628,293	32,756	208,739

<sup>c</sup> Formerly Kerr-McGee Chemical Corp. Effective February 2011, the thorium site license was transferred to a trustee.



**Program Direction**

**Funding Profile by Category**

(dollars in thousands)

	<b>FY 2011 Current</b>	<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>
<b>Carlsbad</b>			
Salaries and Benefits	8,131	8,249	7,716
Travel	371	352	345
Other Related Expenses	1,031	963	1,113
<b>Total, Carlsbad</b>	<b>9,533</b>	<b>9,564</b>	<b>9,174</b>
Full Time Equivalents	58	56	54
<b>Idaho</b>			
Salaries and Benefits	8,209	9,952	6,376
Travel	223	221	155
Support Services	748	188	208
Other Related Expenses	2,011	850	1,033
<b>Total, Idaho</b>	<b>11,191</b>	<b>11,211</b>	<b>7,772</b>
Full Time Equivalents	63	67	48
<b>Oak Ridge</b>			
Salaries and Benefits	11,358	11,747	11,621
Travel	185	161	133
Support Services	806	1,252	1,343
Other Related Expenses	2,767	3,000	3,417
<b>Total, Oak Ridge</b>	<b>15,116</b>	<b>16,160</b>	<b>16,514</b>
Full Time Equivalents	80	80	80
<b>Portsmouth/Paducah Project Office</b>			
Salaries and Benefits	7,915	8,668	8,406
Travel	352	265	249
Support Services	1,193	962	1,021
Other Related Expenses	848	1,130	1,343
<b>Total, Portsmouth/Paducah Project Office</b>	<b>10,308</b>	<b>11,025</b>	<b>11,019</b>
Full Time Equivalents	51	54	53
<b>Richland</b>			
Salaries and Benefits	37,338	41,751	36,946
Travel	587	417	417
Support Services	1,743	813	856
Other Related Expenses	9,693	8,000	8,961
<b>Total, Richland</b>	<b>49,361</b>	<b>50,981</b>	<b>47,180</b>
Full Time Equivalents	263	261	254
<b>River Protection</b>			
Salaries and Benefits	22,812	20,609	24,272

**Environmental Management/  
Program Direction**

**FY 2013 Congressional Budget**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Travel	625	487	495
Support Services	1,616	1,302	1,398
Other Related Expenses	4,334	4,000	4,526
Total, River Protection	29,387	26,398	30,691
Full Time Equivalents	148	153	153
Savannah River			
Salaries and Benefits	45,188	45,831	43,324
Travel	678	512	522
Support Services	779	1,434	1,545
Other Related Expenses	3,026	4,150	4,692
Total, Savannah River	49,671	51,927	50,083
Full Time Equivalents	322	328	304
Small Sites			
Salaries and Benefits	5,101	6,579	5,838
Travel	507	250	232
Support Services	1,556	1,261	1,353
Other Related Expenses	936	1,000	1,199
Total, Small Sites	8,100	9,090	8,622
Full Time Equivalents	32	38	36
Nevada			
Salaries and Benefits	3,334	3,280	3,415
Travel	70	58	64
Support Services	81	396	439
Other Related Expenses	132	87	96
Total, Nevada	3,617	3,821	4,014
Full Time Equivalents	23	23	23
NNSA Sites			
Salaries and Benefits	3,517	3,908	3,602
Travel	122	127	132
Support Services	251	1,906	1,751
Other Related Expenses	538	256	329
Total, NNSA Sites	4,428	6,197	5,814
Full Time Equivalents	25	24	25
Field			
Salaries and Benefits	152,903	160,574	151,516
Travel	3,720	2,850	2,744
Support Services	8,773	9,514	9,914
Other Related Expenses	25,316	23,436	26,709
Total, Field	190,712	196,374	190,883
Full Time Equivalents	1,065	1,084	1,030
Headquarters Operations			
Salaries and Benefits	49,989	56,160	56,204
Travel	2,203	2,284	2,263

**Environmental Management/  
Program Direction**

**FY 2013 Congressional Budget**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Support Services	26,986	20,836	19,808
Other Related Expenses	13,936	14,283	21,660
Total, Headquarters Operations	93,114	93,563	99,935
Full Time Equivalents	337	325	322
Consolidated Business Center			
Salaries and Benefits	27,294	23,260	23,338
Travel	894	1,027	867
Support Services	1,711	2,404	2,303
Other Related Expenses	6,282	5,000	6,178
Total, Consolidated Business Center	36,181	31,691	32,686
Full Time Equivalents	198	173	166
Environmental Management			
Salaries and Benefits	230,186	239,994	231,058
Travel	6,817	6,161	5,874
Support Services	37,470	32,754	32,025
Other Related Expenses	45,534	42,719	54,547
Total, Environmental Management	320,007	321,628	323,504
Full Time Equivalents	1,600	1,582	1,518

## Mission

Program Direction provides for the Federal workforce responsible for the overall direction and administrative support of the EM program, including both Headquarters and field personnel. The EM mission of safe cleanup of the nuclear weapons environmental legacy is carried out by a workforce composed largely of contractors, although there are a variety of functions that are inherently governmental (e.g., program management, contract administration, budget formulation and execution, and interagency and international coordination) that require a dedicated Federal workforce.

The role of the Headquarters Federal workforce is to provide leadership, establish and implement policy, conduct analyses, and integrate activities across sites. Increasing standards of accountability for program performance and spending require Headquarters staff to closely analyze budget requests, track expenditures, and compile congressionally mandated and other program plans (e.g., footprint reduction goals). 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 and project management 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.

EM has been successful with hiring efforts since the National Academy of Public Administration's recommendation in 2007, however EM leadership recognizes that a skills mix challenge continues to exist. Consequently, EM is under strict hiring controls consistent with the Department's FY 2013 Workforce Optimization Plan reducing the Federal workforce by 64 from the FY 2012 full-time equivalent (FTE) ceiling.

The total increase of \$1,876,000 over FY 2012 will sustain a workforce of 1,518 and support salaries, benefits, travel, support services, and other related expenses.

**Explanation of Funding Changes**

	FY 2012 Enacted	FY 2013 Request	FY 2013 vs. FY 2012 (\$000)
<b>Salaries and Benefits</b>			
<ul style="list-style-type: none"> <li>▪ Overall decrease related to reduction in personnel-related costs for reduced FTE staffing from 1,582 level to 1,518.</li> </ul>	239,994	231,058	-8,936
<b>Travel</b>			
<ul style="list-style-type: none"> <li>▪ No significant change.</li> </ul>	6,161	5,874	-287
<b>Support Services</b>			
<ul style="list-style-type: none"> <li>▪ Decrease in specialized technical contractual support service activities, information technology investments, and administrative support.</li> </ul>	32,754	32,025	-729
<b>Other Related Expenses</b>			
<ul style="list-style-type: none"> <li>▪ Increase provides building and physical plant maintenance, that is, rent, utilities and essential infrastructure upkeep. Other services include supplies, non-essential materials, printing and reproduction services, telecommunications services upgrades, computer purchases, building renovation, and training.</li> <li>▪ This net increase includes EM’s share of additional Working Capital Fund (WCF). DOE is working to achieve economies of scale through an enhanced WCF. The WCF increase covers certain shared, enterprise activities including enhanced cyber security architecture, employee health and testing services, and consolidated training and recruitment initiatives.</li> </ul>	42,719	54,547	11,828
<b>Total Funding Change, Program Direction</b>	<b>321,628</b>	<b>323,504</b>	<b>+1,876</b>

### Support Services by Category

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
<b>Technical Support Services</b>			
Feasibility of Design Considerations	4,429	3,873	3,786
Development of Specifications	0	0	0
System Definition	98	85	84
System Review and Reliability Analyses	0	0	0
Trade-Off Analyses	0	0	0
Economic and Environmental Analysis	6,648	5,811	5,682
Test and Evaluation Studies	88	78	75
Surveys or Reviews of Technical Operations	10,305	9,006	8,807
<b>Total, Technical Support Services</b>	<b>21,568</b>	<b>18,853</b>	<b>18,434</b>
<b>Management Support Services</b>			
Analyses of Workload and Work Flow	0	0	0
Directives Management Studies	2,252	1,968	1,924
Automatic Data Processing	2,144	1,874	1,833
Manpower Systems Analyses	0	0	0
Preparation of Program Plans	0	0	0
Training and Education	230	201	197
Analysis of DOE Management Processes	833	728	712
Reports and Analyses Management and General Administrative Support	10,443	9,130	8,925
<b>Total, Management Support Services</b>	<b>15,902</b>	<b>13,901</b>	<b>13,591</b>
<b>Total, Support Services</b>	<b>37,470</b>	<b>32,754</b>	<b>32,025</b>

**Other Related Expenses by Category**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Other Related Expenses			
Rent to GSA	8,730	9,029	10,738
Rent to Others	1,150	1,268	1,524
Communication, Utilities, Misc.	8,336	8,837	9,775
Printing and Reproduction	172	69	77
Other Services	8,712	6,919	11,528
Training	299	203	258
Purchases from Gov. Accounts	170	175	224
Operation and Maintenance of Equipment	1,888	1,943	2,292
Supplies and Materials	230	184	199
Equipment	2,753	3,035	3,645
Working Capital Fund	13,094	11,057	14,287
<b>Total, Other Related Expenses</b>	<b>45,534</b>	<b>42,719</b>	<b>54,547</b>



**Safeguards and Security Program**

**Funding Schedule by Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Defense Environmental Cleanup			
Safeguards and Security			
CB-0020 / Safeguards and Security	4,292	4,845	4,977
OH-WV-0020 / Safeguards and Security-West Valley	1,922	1,565	2,015
OR-0020 / Safeguards and Security	17,300	20,493	18,817
PA-0020 / Safeguards and Security	9,963	9,435	8,909
PO-0020 / Safeguards and Security	17,431	16,412	8,578
RL-0020 / Safeguards and Security	69,399	69,078	71,746
SR-0020 / Safeguards and Security	127,638	129,140	121,977
Subtotal, Safeguards and Security	247,945	250,968	237,019

**Public Law Authorization**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

**Overview**

The Environmental Management 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.

The Environmental Management protected assets include large quantities of nuclear and special nuclear materials, millions of classified documents, classified technology, and specialized equipment as well as more than 950 square miles of government-owned land and hundreds of major nuclear and non-nuclear facilities at seven sites across the country. Nearly 27,000 DOE-EM contractor employees work at these sites which are protected by more than 1,200 security personnel including nearly 1,000 protective force personnel. The

majority of the budget covers salaries and benefits of the security personnel along with the weapons, ammunition, vehicles, training, vulnerability assessments, and computer modeling required to keep them in an operational mode.

EM's landlord sites include the Savannah River Site<sup>1</sup>, the Hanford Site (including the Office of River Protection), Carlsbad/Waste Isolation Pilot Plant, West Valley Demonstration Project, East Tennessee Technology Park, Paducah Gaseous Diffusion Plant, and the Portsmouth Gaseous Diffusion Plant.

The following is a brief description of the type of activities performed to fulfill EM's safeguards and security responsibilities:

**Protective Forces**

Protective Forces are employed on various fixed and mobile posts to perform normal and emergency security tasks to include access control, security checks, alarm responses, and readiness defense. The protective forces are an integral part of the security program designed to protect EM assets, including special nuclear material,

<sup>1</sup> The tritium facilities are under the purview of the National Nuclear Security Administration.

classified and sensitive information, and other EM interests. Protective forces constitute the largest component of the safeguards and security program involving extensive training, qualification, and equipment including specialized weapon systems. Coupled with physical security systems, they provide a visible deterrent against threats to site facilities and government resources.

#### **Transportation**

Sensitive DOE materials and wastes are most vulnerable during off-site transit. EM ensures security (including safe havens) for both inter- and intra- site transfers of special nuclear material as well as other classified nuclear material and sensitive wastes.

#### **Physical Security Systems**

Physical Security systems are an integral part of EM's safeguards and security program working in tandem with the protective force. Sites and DOE assets, to include our most critical Category I and II quantities of special nuclear material, are protected by an integrated physical protection system including access controls, barriers or delay mechanisms and intrusion detection systems annunciating locally as well as at central alarm stations.

#### **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. Information security includes classification and operations security reviews of all documents released to the public including Freedom of Information Act and Privacy Act requests, litigation responses, and ongoing environmental health investigations such as for the National Institute for Occupational Safety and Health.

#### **Personnel Security**

Personnel Security encompasses access authorization/security clearance processing - the processes for the administrative determination that an individual is eligible for access to classified matter, or is eligible for access to, or control over, special nuclear material. Personnel Security also includes security education awareness programs for DOE federal and

contractor employees, processing and hosting approved foreign visitors under United States and DOE initiatives, and badge/badge support for all employees, contractors, vendors, and visitors, foreign and domestic.

#### **Material Control and Accountability**

Material Control and Accountability programs are designed to deter and detect theft and diversion of nuclear material by both outside and inside adversaries.

#### **Program Management**

Safeguards and Security Program Management coordinates the management of Physical Security, Protective Force, Information Security, Personnel Security, and Material Control and Accountability to achieve and ensure 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 employees, the public or the environment. Program management also administers contractor clearance programs, the investigation of security incidents, the conduct of security vulnerability assessment and risk analyses programs, and the security survey/assessment program.

#### **Cyber Security**

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

#### **Security Investigations**

All field security background investigations performed for DOE (federal and non-federal employees) are financed by the program office that sponsors the security investigation.

#### **Explanation of Changes**

The Department requests \$237,019,000 in FY 2013 for the Safeguards and Security program, which is a 6 percent decrease from the FY 2012 enacted appropriation level.

**Strategic Plan and Performance Measures**

<b>No PM activity for current three-year budget period.</b>
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**Explanation of Funding Changes**

	<b>(Dollars In Thousands)</b>		
	<b>FY 2012 Enacted</b>	<b>FY 2013 Request</b>	<b>FY 2013 vs FY 2012</b>
<b>Defense Environmental Cleanup</b>			
<b>Safeguards and Security</b>			
<b>CB-0020 / Safeguards and Security</b>			
▪ No significant change.	4,845	4,977	+132
<b>OH-WV-0020 / Safeguards and Security-West Valley</b>			
▪ No significant change.	1,565	2,015	+450
<b>OR-0020 / Safeguards and Security</b>			
▪ The decrease is attributed to refined response strategies and relief shift restructuring.	20,493	18,817	-1,676
<b>PA-0020 / Safeguards and Security</b>			
▪ No significant change.	9,435	8,909	-526
<b>PO-0020 / Safeguards and Security</b>			
▪ The decrease is due to security efficiencies achieved through the return of the gaseous diffusion plant to DOE's control from the United States Enrichment Corporation and DOE's restructuring of the site's security areas.	16,412	8,578	-7,834
<b>RL-0020 / Safeguards and Security</b>			
▪ The increase at Richland is due to a more equitable distribution of site administrative fees, to include award and severance fees, within the Mission Support Alliance site services contract, and inflation.	69,078	71,746	+2,668
<b>SR-0020 / Safeguards and Security</b>			
▪ Decrease is attributed to benefits of a restructured protection program involving protective force optimization, force-multiplier weapon systems, and refined response strategies.	129,140	121,977	-7,163
<b>Total, Safeguards and Security</b>	<b>250,968</b>	<b>237,019</b>	<b>-13,949</b>

## Safeguards and Security (PBS: CB-0020)

### Overview

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

The Waste Isolation Pilot Plant in Carlsbad, New Mexico, is the nation's only mined geologic repository for the permanent disposal of defense-generated transuranic waste. The scope of the Security Program at the Waste Isolation Pilot Plant includes, but is not limited to, planning, administering, and executing a program that protects government assets and ensures the security of disposed sensitive wastes.

### Sequence

There are no milestones associated with this PBS.

### Benefits

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> <li>▪ Maintaining a secure and operating geologic repository for transuranic waste allows the cleanup and permanent disposition of wastes from former nuclear material production sites and weapon production sites across the country.</li> </ul>
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Funding and Activity Schedule		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided security coverage at the Waste Isolation Pilot Plant.</li> </ul>	<b>4,292</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Maintain security coverage at the Waste Isolation Pilot Plant.</li> </ul>	<b>4,845</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain security coverage at the Waste Isolation Pilot Plant.</li> </ul>	<b>4,977</b>

**Safeguards and Security-West Valley (PBS: OH-WV-0020)**

**Overview**

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

The Safeguards and Security Program at the West Valley Demonstration Project protects government assets, information, and technology systems to support the cleanup of this spent fuel reprocessing facility.

This scope will continue until DOE’s mission at the West Valley Demonstration Project is complete.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided physical and cyber security by an on-site guard force to ensure all DOE information resources are identified and protected at all times.</li> <li>▪ Continued program management to oversee the security program including training and qualifications for the West Valley Demonstration Project.</li> </ul>	<b>1,922</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide physical and cyber security by an on-site guard force to ensure all DOE information resources are identified and protected at all times.</li> </ul>	<b>1,565</b>

	<ul style="list-style-type: none"> <li>▪ Continue program management to oversee the security program including training and qualifications for the West Valley Demonstration Project.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide physical and cyber security by an on-site guard force to ensure all DOE information resources are identified and protected at all times.</li> <li>▪ Continue program management to oversee the security program including training and qualifications for the West Valley Demonstration Project.</li> </ul>	<b>2,015</b>

**Safeguards and Security (PBS: OR-0020)**

**Overview**

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

The East Tennessee Technology Park's Safeguards and Security Program provides stable, reliable security services to support the site's cleanup program, maintaining security of weapons-usable nuclear materials as well as sensitive enrichment technology, equipment, and documents. These funds also sustain a reliable, cleared workforce.

The Safeguards and Security Program at the East Tennessee Technology Park continues to implement and maintain Homeland Security Presidential Directive-12 identification credentials for all employees.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Maintained DOE required security for the following major facilities: K-25, K-27, K-1037, Centrifuge Facilities, Classified Burial Grounds, Environmental Management Waste Management Facility, and Transuranic Waste Processing Facility.</li> <li>▪ Security protection provided for enriched uranium, transuranic material, classified components, equipment and work performed under the American Recovery and Reinvestment Act.</li> </ul>	<b>17,300</b>

FY 2012	<ul style="list-style-type: none"> <li>▪ Maintain DOE required security for the following major facilities: K-25, K-27, K-1037, Centrifuge Facilities, Classified Burial Grounds, Environmental Management Waste Management Facility, and Transuranic Waste Processing Facility.</li> </ul>	<b>20,493</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain DOE required security for the following major facilities: K-25, K-27, K-1037, Centrifuge Facilities, Classified Burial Grounds, Environmental Management Waste Management Facility, and Transuranic Waste Processing Facility.</li> </ul>	<b>18,817</b>



**Safeguards and Security (PBS: PA-0020)**

**Overview**

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

The safeguards and security program at the Paducah Gaseous Diffusion Plant protects nuclear materials, sensitive uranium enrichment technology, equipment, information, and facilities and supports the return to the Department of Energy’s control some of the major gaseous diffusion plant uranium enrichment facilities from the United States Enrichment Corporation lease. This will allow the realignment of sensitive security areas to support accelerated and less costly cleanup of the site.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Provided security services for personnel, equipment, information, matter, and special nuclear materials relating to DOE missions, to include decommissioning, decontamination, and demolition activities.</li> </ul>	<b>9,963</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Provide security services for personnel, equipment, information, matter, and special nuclear materials relating to DOE missions, to include decommissioning, decontamination, and demolition activities.</li> </ul>	<b>9,435</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide security services for personnel, equipment, information, matter, and special nuclear materials relating to DOE missions, to include decommissioning, decontamination, and demolition activities.</li> </ul>	<b>8,909</b>

**Safeguards and Security (PBS: PO-0020)**

**Overview**

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

The safeguards and security program at the Portsmouth Gaseous Diffusion Plant protects nuclear materials, sensitive uranium enrichment technology, equipment, information, and facilities and supports the return to the Department of Energy's control the gaseous diffusion plant uranium enrichment facilities from the United States Enrichment Corporation lease. This allows the realignment of sensitive security areas to support accelerated and less costly cleanup of the site.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Maintained the appropriate level of safeguards and security using a graded approach for the non-leased portions of the Portsmouth Gaseous Diffusion Plant.</li> <li>▪ Provided Protective Forces, Nuclear Material Control and Accountability and communications security services.</li> </ul>	<b>17,431</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Continue compliance with Homeland Security Presidential Directive 12 requirements.</li> </ul>	<b>16,412</b>

	<ul style="list-style-type: none"> <li>▪ Maintain the appropriate level of safeguards and security using a graded approach for the non-leased portions of the Portsmouth Gaseous Diffusion Plant.</li> <li>▪ Provide Physical Protection, Protective Forces, Physical Security Systems, Information Security, Operations Security, Personnel Security, Material Control and Accountability Program Management, and Cyber Security.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Continue compliance with Homeland Security Presidential Directive 12 requirements.</li> <li>▪ Maintain the appropriate level of safeguards and security using a graded approach for the non-leased portions of the Portsmouth Gaseous Diffusion Plant.</li> <li>▪ Provide Physical Protection, Protective Forces, Physical Security Systems, Information Security, Operations Security, Personnel Security, Material Control and Accountability Program Management, and Cyber Security.</li> </ul>	<b>8,578</b>

**Safeguards and Security (PBS: RL-0020)**

**Overview**

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

The Safeguards and Security Program at the Richland/Hanford site protects nuclear materials, sensitive weapons and nuclear materials production technology, equipment, information, and facilities, and supports the Hanford remediation and cleanup programs.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Maintained appropriate Hanford site access controls, emergency response, and physical security at the Hanford Site, including protection of spent fuels and nuclear materials at the Canister Storage Building complex protected area.</li> <li>▪ Maintained Material Control and Accountability, Information Security, Personnel Security, and Protective Force at all Hanford operations.</li> <li>▪ Maintained information security, to include cyber security, programs for the protection of classified matter.</li> </ul>	<b>69,399</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ Maintain appropriate Hanford site access controls, emergency response, and</li> </ul>	<b>69,078</b>

	<p>physical security at the Hanford Site, including protection of spent fuels and nuclear materials at the Canister Storage Building complex protected area.</p> <ul style="list-style-type: none"> <li>▪ Maintain Material Control and Accountability, Information Security, Personnel Security, and Protective Force at all Hanford operations.</li> <li>▪ Maintain information security, to include cyber security, programs for the protection of classified matter.</li> </ul>	
FY 2013	<ul style="list-style-type: none"> <li>▪ Maintain appropriate Hanford site access controls, emergency response, and physical security at the Hanford Site, including protection of spent fuels and nuclear materials at the Canister Storage Building complex protected area.</li> <li>▪ Maintain Material Control and Accountability, Information Security, Personnel Security, and Protective Force at all Hanford operations.</li> <li>▪ Maintain information security, to include cyber security, programs for the protection of classified matter.</li> </ul>	<b>71,746</b>

**Safeguards and Security (PBS: SR-0020)**

**Overview**

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

The Savannah River Site Safeguards and Security Program protects nuclear materials, sensitive weapon and nuclear material production technology, equipment, information, and facilities, and supports the Savannah River Site remediation and cleanup programs.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel.</li> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>
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<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<ul style="list-style-type: none"> <li>▪ Operated and maintained the materials control and accountability program for special nuclear material.</li> <li>▪ Maintained appropriate uniformed protective force personnel to assure the security of special nuclear materials, facilities, and other site assets.</li> <li>▪ Operated and maintained physical security protection systems.</li> <li>▪ Ensured protection of classified and unclassified computer security.</li> <li>▪ Executed information and operational security measures, cyber security,</li> </ul>	<b>127,638</b>

	personnel security and program management for the Savannah River Operations Office.	
FY 2012	<ul style="list-style-type: none"> <li>▪ Operate and maintain the materials control and accountability program for special nuclear material.</li> <li>▪ Maintain appropriate uniformed protective force personnel to assure the security of special nuclear materials, facilities, and other site assets.</li> <li>▪ Operate and maintain physical security protection systems.</li> <li>▪ Ensure protection of classified and unclassified computer security.</li> <li>▪ Execute information and operational security measures, cyber security, personnel security and program management for the Savannah River Operations Office.</li> <li>▪ Complete A and B Area Argus projects.</li> <li>▪ Continue activities for planned transfer of the remaining consolidated EM material access area to National Nuclear Security Administration control.</li> </ul>	<b>129,140</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Operate and maintain the materials control and accountability program for special nuclear material.</li> <li>▪ Maintain appropriate uniformed protective force personnel to assure the security of special nuclear materials, facilities, and other site assets.</li> <li>▪ Operate and maintain physical security protection systems.</li> <li>▪ Ensure protection of classified and unclassified computer security.</li> <li>▪ Execute information and operational security measures, cyber security, personnel security and program management for the Savannah River Operations Office.</li> <li>▪ Continue activities for planned transfer of the remaining consolidated EM material access area to National Nuclear Security Administration control.</li> </ul>	<b>121,977</b>

**Funding Schedule by Site and Activity**

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
<b>Carlsbad</b>			
Protective Forces	3,892	4,394	4,513
Information Security	177	200	206
Program Management	170	192	197
Subtotal, Carlsbad	<u>4,239</u>	<u>4,786</u>	<u>4,916</u>
Cyber Security	53	59	61
Total, Carlsbad	<u>4,292</u>	<u>4,845</u>	<u>4,977</u>
<b>Oak Ridge</b>			
Protective Forces	9,104	10,784	12,966
Physical Security Systems	1,935	2,292	1,079
Information Security	981	1,162	833
Personnel Security	76	90	689
Security Investigations	1,669	1,977	705
Material Control and Accountability	1,349	1,598	846
Program Management	817	968	663
Subtotal, Oak Ridge	<u>15,931</u>	<u>18,871</u>	<u>17,781</u>
Cyber Security	1,369	1,622	1,036
Total, Oak Ridge	<u>17,300</u>	<u>20,493</u>	<u>18,817</u>
<b>Paducah</b>			
Protective Forces	5,828	5,520	5,211
Physical Security Systems	950	900	850
Information Security	1,428	1,352	1,277
Security Investigations	299	283	268
Material Control and Accountability	752	712	672
Program Management	706	668	631
Total, Paducah	<u>9,963</u>	<u>9,435</u>	<u>8,909</u>
<b>Portsmouth</b>			
Protective Forces	7,582	7,139	3,732
Physical Security Systems	892	840	439
Information Security	1,862	1,753	916
Personnel Security	456	0	0
Security Investigations	0	429	224
Material Control and Accountability	476	449	234
Program Management	5,228	4,792	2,573
Subtotal, Portsmouth	<u>16,496</u>	<u>15,402</u>	<u>8,118</u>
Cyber Security	935	1,010	460
Total, Portsmouth	<u>17,431</u>	<u>16,412</u>	<u>8,578</u>
<b>Richland</b>			
Protective Forces	38,355	38,653	39,653



Physical Security Systems	7,203	7,357	7,446
Information Security	951	974	983
Personnel Security	2,284	2,327	2,361
Security Investigations	229	137	237
Material Control and Accountability	1,423	1,458	1,471
Program Management	17,280	16,457	17,864
Subtotal, Richland	67,725	67,363	70,015
Cyber Security	1,674	1,715	1,731
Total, Richland	69,399	69,078	71,746
Savannah River			
Protective Forces	90,668	91,486	86,647
Physical Security Systems	13,766	14,021	13,155
Information Security	1,445	1,472	1,381
Personnel Security	6,226	6,341	5,949
Security Investigations	600	611	574
Material Control and Accountability	2,585	2,633	2,470
Program Management	8,673	8,833	8,288
Transportation	282	287	270
Subtotal, Savannah River	124,245	125,684	118,734
Cyber Security	3,393	3,456	3,243
Total, Savannah River	127,638	129,140	121,977
West Valley Demonstration Project			
Protective Forces	1,298	1,102	1,360
Program Management	248	389	260
Subtotal, West Valley Demonstration Project	1,546	1,491	1,620
Cyber Security	376	74	395
Total, West Valley Demonstration Project	1,922	1,565	2,015
Total, Safeguards and Security	247,945	250,968	237,019

#### Funding Schedule by Activity

(dollars in thousands)

FY 2011 Current	FY 2012 Enacted	FY 2013 Request
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Protective Forces	156,727	159,078	154,082
Physical Security Systems	24,746	25,410	22,969
Information Security	6,844	6,913	5,596
Personnel Security	9,042	8,758	8,999
Security Investigations	2,797	3,437	2,008
Material Control and Accountability	6,585	6,850	5,693
Program Management	33,122	32,299	30,476
Transportation	282	287	270
Subtotal, Safeguards and Security	240,145	243,032	230,093
Cyber Security	7,800	7,936	6,926
Safeguards and Security	247,945	250,968	237,019

**Capital Operating Expenses**

(dollars in thousands)

FY 2011 Curr Approp	FY 2012 Request	FY 2013 Request
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General Plant  
Projects

916 620 0

## Technology Development and Deployment

### Funding Schedule by Activity

(dollars in thousands)

	FY 2011 Current	FY 2012 Enacted	FY 2013 Request
Technology Development and Deployment			
Research and Development to Reduce Technical Risk	18,869	10,014	19,390
Small Business Innovative Research Program	0	608	610
<b>Total, Technology Development and Deployment</b>	<b>18,869<sup>a</sup></b>	<b>10,622</b>	<b>20,000</b>

Technology Development and Deployment  
 Research and Development to Reduce Technical Risk  
 Small Business Innovative Research Program  
 Total, Technology Development and Deployment

#### **Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012

P.L. 112-10, Department of Defense and Full Year Continuing Appropriation Act, 2011

#### **Overview**

In supporting the Department’s Strategic Plan “Complete Environmental Remediation of Our Legacy and Active Sites, Protect Human Health and the Environment,” the Technology Development and Deployment program transforms science and innovation into practical solutions for environmental cleanup. The Technology Development and Deployment program focuses on resolving technical challenges with an overall emphasis on transformational technical solutions in response to the highest priority needs of the Office of Environmental Management sites.

The scope of the Technology Development and Deployment program includes direct support of cleanup initiatives and opportunities for transformational technologies associated with environmental management. The program currently focuses on the highest risk and cost projects for the EM complex by addressing issues related to: Tank Waste, Groundwater and Soil Remediation, Nuclear Materials Disposition, and Deactivation and Decommissioning of contaminated excess facilities including nuclear reactors and chemical separation plants. The program utilizes a collaborative approach to developing integrated initiatives across all programs. This narrative only encompasses a portion of the overall Research and Deployment program.

The Technology Development and Deployment program supports the Department’s strategic goal: enhance nuclear security through defense, nonproliferation, and environmental efforts. The Department will work aggressively to reduce the footprint of our contaminated sites while bringing to bear the Department’s research and development assets to develop and deploy transformational technologies that will both accelerate and lower the cost of dispositioning our highest curie materials that present high risk to public health and the environment. Disposition of this material remains our biggest challenge, as there are few precedents and fewer existing technologies and processes available to solve them. For these unique challenges, advancing our technology efforts is essential to finding new and better solutions.

#### **Program Accomplishments and Milestones**

The Technology Development and Deployment program implemented a research and development prioritization process for the DOE EM complex. This process reviews the benefit profiles predicted for each program element, the amount being spent to realize those benefits, and the risks of not delivering the need. The result was an analysis of the distribution of funding scenarios across the complex to align resources against site needs. Building upon this process, a holistic approach was implemented that allows the interrelationships existing between each of the four program areas; Tank Waste, Groundwater and Soil Remediation, Nuclear Materials Disposition, and Deactivation and Decommissioning; to be exploited to the maximum extent practical. This structure allows program funding to be leveraged and

<sup>a</sup> FY 2011, \$543,500 (\$485,300 for Small Business Innovation Research and \$58,200 for Small Business Technical Transfer Programs) transferred to the Office of Science for award and administration of grants to small businesses.

integrated in a manner that advances large research activities forward in a timely manner and allows for transformational solutions for EM site cleanup and closure.

Program accomplishments include:

- Through the groundwater and soil remediation applied field research initiative, developed a low cost flow augmentation strategy to control the flux of mercury to protect critical water resources and prevent mercury from reaching environmental and human receptors at Oak Ridge saving a million dollars annually in treatment costs;
- Through the waste processing program, demonstrated high-level waste glass production rates of three to four times that of the Waste Treatment Plant baselines depending on the waste glass composition; and
- Through the waste processing program, developed an integrated at-tank treatment process capable of supplementing the Waste Treatment Plant at River Protection and thereby potentially reducing the number of high level waste canisters by 50% and increasing process throughput.

Targeted Outcomes in the DOE Strategic Plan are:

- Develop and apply advanced modeling and simulation tools in CY 2011 to accelerate progress on Environmental Management technical challenges.
- Develop novel methods for addressing high-level waste that can accelerate progress and reduce costs of this multidecadal program, with CY 2012 target date for the first demonstration.
- Develop transformational technologies to reduce the life-cycle cost and schedule, and dramatically improve the safety in EM's Deactivation and Decommissioning Program (covering over 3,100 excess contaminated facilities).

**Milestones**

**Date**

This program has no established milestones.

**Explanation of Changes**

The Department requests \$20,000,000 in Fiscal Year 2013 for the Technology Development and Deployment program, which is an 88.2 percent increase from the FY 2012 enacted appropriation level.

The FY 2013 request increase reflects additional research and development investments for Nuclear Materials Disposition, Tank Waste, and Deactivation and Decommissioning.

**Strategic Management**

The mission of the EM Technology Development and Deployment program is to transform science and innovation into practical solutions for environmental cleanup. The vision is to accelerate environmental cleanup and reduce cost through integration, collaboration, and communication transitioning science into practice and supporting site closure achievements.

The Technology Development and Deployment program provides key investments in mid- and long-range research and development projects focused on reducing the cost and contracting the schedule of high priority cleanup issues. These research and development projects are aimed at improving the technical maturity for current baseline technologies, developing cost-effective transformational alternative technologies, and improving or providing next-generation technologies for insertion into program projects. The results of this research and development will address technology gaps and reduce technical uncertainty in the EM program while reducing the life-cycle cost of cleanup

The goals of the EM Technology Development and Deployment program are:

- Define and execute applied research and technology development activities to support EM's accelerated cleanup objectives.
- Improve communication to develop scientific and technical understanding and tools required to implement viable solutions that are critical to mission success.
- Enhance collaboration between regulators, stakeholders, field offices, contractors, scientists, engineers, and international partners to develop clearly identified strategies for addressing technical and programmatic risks to reduce cost, risk, and timeline for mission success.
- Leverage the complementary experience and capabilities employed to support technology development.

Strategic Plan and Performance Measures

No PM activity for current three-year budget period.

Explanation of Funding Changes

(Dollars In Thousands)

	FY 2012 Enacted	FY 2013 Request	FY 2013 vs FY 2012
<b>Research and Development to Reduce Technical Risk</b>			
▪ Increase reflects additional research and development investments for Nuclear Materials Disposition, Tank Waste, and Deactivation and Decommissioning.	10,014	19,390	+9,376
<b>Small Business Innovative Research Program</b>			
▪ Increase reflects a rate increase from FY 2012 to FY 2013 of 2.95% to 3.05% respectively.	608	610	+2
<b>Total, Technology Development and Deployment</b>	<b>10,622</b>	<b>20,000</b>	<b>9,378</b>

## Technology Development (PBS: HQ-TD-0100)

### Overview

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

The Environmental Management Research and Development Program provides for the development of technologies to safely expedite tank waste processing and tank closure, remediation of contaminated groundwater and soil, disposition of nuclear materials and spent (used) nuclear fuel, and deactivation and decommissioning of contaminated excess facilities. The Environmental Management Research and Development program transforms science and innovation into practical solutions for environmental cleanup. The new technologies will transform the Environmental Management cleanup effort by reducing risk (technological, environmental, safety, and health), schedule, and cost. The Environmental Management Research and Development program focuses on resolving technical challenges with an overall emphasis on transformational technical solutions in response to the highest priority needs of the Environmental Management sites. Applied engineering and research demonstrating the technical feasibility of high-risk, high-payoff technologies are included. The Environmental Management Research & Development program matures technologies from concept/basic science through feasibility assessment and technology development (bench scale and scale-up testing and flow-sheet evaluation), then production-level demonstration, and finally to full deployment.

### Tank Waste

The tank waste Research and Development program develops transformational technologies to support the tank waste strategy to safely retrieve, stabilize, and dispose of radioactive tank waste and close the waste tanks. Those technologies will optimize tank waste processing by increasing processing rates and/or efficiencies to reduce life-cycle cost and schedule; removing material from the process flow to reduce life-cycle cost and schedule; accelerating tank waste retrieval and closure; and developing and reducing identified project and safety risks. The tank waste Research and Development program is divided into four initiatives:

- *Decrease Waste Processing Technical and Financial Risk through Better Waste Processing Models* – develop waste processing models to improve the scientific understanding of the process; enhance the predictive capability; and incorporate cost and uncertainty in lifecycle forecast models.
- *Risk Based Tank Closure and Improved Waste Retrieval* – develop a risk-based evaluation strategy to provide a technical basis for high level waste tank closure.
- *Next-Generation Waste Processing Technologies* – develop the next generation waste glass melter, advanced separation technologies, enhanced glass compositions and alternative waste forms for increased waste throughput.
- *Advanced Analytical and Characterization Methods* – develop improved analytical methods to characterize waste composition and improve operations.

### Groundwater and Soil Remediation

The Groundwater and Soil Remediation Research and Development program develops transformational technologies and methodologies to expedite subsurface remediation at DOE sites as part of the Environmental Management cleanup mission. The success of the Groundwater and Soil Remediation Research and Development program requires multi-institutional and multi-disciplinary research teams composed of scientific specialists and from multiple agencies, including national laboratories, universities, industry, and other federal and state agencies. The work within the Groundwater and Soil Remediation Research and Development program is associated with one of the following program elements:

- *Enhanced Remediation Technologies* – developing and deploying enhanced remediation technologies through the applied field research initiatives that target the primary contaminants that drive performance assessments and environmental impact.
- *Modeling for Environmental Management* – developing advanced simulation capabilities for subsurface characteristics to expedite groundwater and soil cleanup through the Advanced Simulation Capability for Environmental Management.
- *Deep Vadose Zone Applied Field Research Initiative*: providing scientifically defensible solutions to the difficult remedial actions related to the deep vadose zone across the complex.

- *Attenuation Based Remedies Applied Field Research Initiative*: develop the tools, approaches and technologies that will be required to address the technical challenges of recalcitrant compounds in the subsurface.
- *Remediation of Mercury and Industrial Contaminants Applied Field Research Initiative*: develop technologies to address the legacy waste at the Oak Ridge Reservation and in particular issues related to mercury and other industrial contaminants such as uranium.

### **Deactivation and Decommissioning**

The Deactivation and Decommissioning Research and Development program supports the identification, development and timely deployment of adaptive and transformational technologies needed for the safe closure of nuclear, radiological, and industrial DOE facilities. Technology alternatives, technical assistance, and applied research activities within the Deactivation and Decommissioning Research and Development program are selected and prioritized based on the leveraging of resources and on the potential to meet the major safety and cost goals. The program elements of the Deactivation and Decommissioning Research and Development program are:

- *Transformational Characterization Technologies* – developing innovative characterization technologies for high radiation areas, low energy radiation surveys, hazardous materials, multiple contaminants of concern and closed systems. .
- *Equipment Removal and Dismantlement* – developing innovative technologies and technical approaches to remove equipment and other materials from high hazard areas including size reduction and packaging for disposal.
- *Decontamination* – developing better understanding of the interactions between contamination and building materials to provide significant advances in decontamination, immobilization, segregation, and passivating methods and technologies.
- *Robotics and Smart Tooling Systems* – developing the next generation remote and robotic platforms and smart tooling systems to reduce the risk to workers and improve the efficiency of decontamination and demolition operations.
- *End States* – In situ Decommissioning – developing solutions for the technical challenges of the permanent isolation of contaminants, fill materials with a reduced environmental impact, and embedded sensors and network systems for improved long term monitoring and performance modeling.

### **Nuclear Materials Disposition**

The Nuclear Materials Disposition Research and Development program will develop transformational technologies to support the Environmental Management cleanup mission to disposition nuclear materials; including characterization, treatment/stabilization, and packaging of nuclear materials for disposition and risk-reduction during extended storage. The Nuclear Materials Disposition Research and Development program is divided into three areas:

- *Spent Nuclear Fuel (SNF) Management* – developing technologies and approaches for extended interim safe storage of Spent (used) Nuclear Fuel and readiness for ultimate disposition.
- *Challenging Materials Disposition* – developing a comprehensive understanding of the challenging materials inventory characteristics and disposition options.
- *Plutonium Materials Management and Disposition* – developing technologies and approaches for the life management and disposition of excess plutonium materials.

### **Small Business Innovative Research**

Funding for the Small Business Innovative Research assessment is in accordance with Public Law 102-564, which mandates a percentage of all research and development dollars be set aside for grants to small businesses. Once funding is appropriated, it is transferred to the DOE Office of Science for award and administration of grants to small businesses.

The FY 2013 amount is an estimated requirement for the continuation of the Small Business Innovation Research and Small Business Technical Transfer programs.

**Sequence**

There are no milestones associated with this PBS.

**Benefits**

Waste Disposition and Disposal	<ul style="list-style-type: none"> <li>▪ Transuranic waste and low-level waste disposal are activities for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework—will enable the near-term site completions and reduce our legacy footprint further.</li> </ul>
Benefits to the Department for Footprint Reduction	<ul style="list-style-type: none"> <li>▪ Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential to furthering other priorities of the Department.</li> </ul>

<b>Funding and Activity Schedule</b>		
Fiscal Year	Activity	Funding (dollars in thousands)
FY 2011	<p><b><u>Tank Waste</u></b></p> <ul style="list-style-type: none"> <li>▪ Demonstrated fluidized bed steam reforming technology using actual Hanford tank waste as an alternative supplemental treatment method for organic containing wastes.</li> <li>▪ Completed next-generation solvent testing for improved Actinide Removal Process and Modular Caustic Side Extraction efficiency at the Savannah River Site.</li> <li>▪ Completed pilot-scale testing of the Near Tank Treatment System for the separation and pre-treatment of tank waste.</li> <li>▪ Completed the initial tool set development for the modeling of cementitious materials performance in waste management applications; this will enable improved risk-informed decision-making, shorter analysis times, and improve transparency.</li> </ul> <p><b><u>Groundwater and Soil Remediation</u></b></p> <ul style="list-style-type: none"> <li>▪ Accelerated deployment of passive remediation measures that are less costly remedies for remediation through the development, in collaboration with regulatory groups, of a multiple scenarios decision-making tool.</li> <li>▪ Quantified, through development of contaminant flux of analysis methods of organics and inorganics, extent of vadose zone contamination which will provide critical information enabling final selection of remediation approaches, including both active and passive methods.</li> <li>▪ Developed a model for performance assessment of technically advanced and less</li> </ul>	<b>18,869</b>



	<p>costly foam based delivery systems to stabilize and treat contaminants in the deep vadose zone. Validate model through meso-scale testing of foam delivery systems for sequestration of dispersed metal and radionuclide contamination.</p> <ul style="list-style-type: none"> <li>▪ Developed the architecture to host a fully integrated, high-performance subsurface computational modeling system that incorporates advanced high-performance computing technologies that will lead to the evaluation of alternative, less costly clean-up approaches.</li> <li>▪ Developed next generation technical models for computational modeling system that integrate subsurface flow and chemical transport and hydrological, geochemical, biological, and thermal processes to better define remediation end states, such as monitored natural attenuation of radionuclides.</li> <li>▪ Developed an integrated long term monitoring plan for the vadose zone that will have application across the complex.</li> <li>▪ Developed new in-situ remediation method for mercury to meet new, more stringent regulatory requirements.</li> </ul> <p><b><u>Deactivation and Decommissioning</u></b></p> <ul style="list-style-type: none"> <li>▪ Completed research on innovative alternative fill materials and specialty grout formulations, and degradation rates and contaminant release specifically in support of SRS's P and R Reactor In-Situ Decommissioning Projects.</li> <li>▪ Constructed a test bed and test embedded sensors' performance.</li> <li>▪ Completed development of remote characterization system for off-gas stacks.</li> <li>▪ Leveraged funding and collaborate with the UK National Nuclear Laboratory, complete testing and demonstration of remote characterization of hot cells (RadBall).</li> <li>▪ Completed development and deployment of adaptive technologies for equipment removal and dismantlement.</li> <li>▪ Completed development and deployment of an innovative treatment process for passivating sodium metal and sodium compounds in reactor equipment and piping.</li> </ul> <p><b><u>Nuclear Materials Disposition</u></b></p> <ul style="list-style-type: none"> <li>▪ No planned activities in FY 2011.</li> </ul> <p><b><u>Small Business Innovative Research Program</u></b></p> <ul style="list-style-type: none"> <li>▪ Supported the Small Business Innovative Research assessment which funds the award and administration of grants to small businesses.</li> </ul>	
FY 2012	<p><b><u>Tank Waste</u></b></p> <ul style="list-style-type: none"> <li>▪ Develop and test glass formulations to take advantage of the higher processing temperatures and crystal tolerance of the Cold Crucible Induction Melter with Hanford and Idaho National Laboratory waste streams.</li> <li>▪ Perform preliminary testing of the Cold Crucible Induction Melter to obtain design data.</li> <li>▪ Support the joint EM-NE-International Study of Glass Behavior Over Geological Time Scales.</li> <li>▪ Continue work for modeling of cementitious materials performance in waste management applications.</li> </ul> <p><b><u>Groundwater and Soil Remediation</u></b></p> <ul style="list-style-type: none"> <li>▪ Develop and test state-of-the art, science-based modeling capability for the next generation of performance assessments: Advanced Simulation Capability for</li> </ul>	10,622

	<p>Environmental Management.</p> <ul style="list-style-type: none"> <li>▪ Continue to develop and demonstrate methods for treating mercury in sediments and water. Begin laboratory and intermediate-scale comparisons of these methods with respect to their effectiveness and applicability to meet new regulatory requirements.</li> <li>▪ Perform field testing and demonstration of the most promising soil treatment methods, including foam-delivery methods for the deep vadose zone. Analyze expected benefits compared to baseline technologies.</li> <li>▪ Use Advanced Simulation Capability for Environmental Management 1.0 Model to integrate data and information from the integrated field sites to iteratively evaluate the alternative approaches for treating key contaminants.</li> </ul> <p><b><u>Deactivation and Decommissioning</u></b></p> <ul style="list-style-type: none"> <li>▪ Continue development and testing of innovative embedded sensors and long-term monitoring technologies for In-Situ Decommissioning.</li> <li>▪ Develop and test a transformational technology for rapid detection of alpha and beta radiation over large areas.</li> <li>▪ Initiate development of remote platforms and tooling systems for hot cell cleanout and dismantlement.</li> </ul> <p><b><u>Nuclear Materials Disposition</u></b></p> <ul style="list-style-type: none"> <li>▪ Initiate evaluation, testing, and design for non-destructive examination systems to extend the life of dry storage facilities and components for used nuclear fuel.</li> </ul> <p><b><u>Small Business Innovative Research Program</u></b></p> <ul style="list-style-type: none"> <li>▪ Support the Small Business Innovative Research assessment which funds the award and administration of grants to small businesses. The Small Business Innovative Research program will solicit proposals from all four areas of research to leverage industry knowledge and expertise. This will facilitate the implementation of any developments as an industry partner will be part of the process and able to subcontract with the clean-up contractor at the site.</li> </ul>	
FY 2013	<p><b><u>Tank Waste</u></b></p> <ul style="list-style-type: none"> <li>▪ Examine the applicability of iron phosphate glass for specific Hanford and INL wastes.</li> <li>▪ Develop pre-conceptual designs for the application of Cold Crucible Induction Melter.</li> <li>▪ Perform real radiological waste testing with alternative melters such as the Cold Crucible Induction Melter.</li> <li>▪ Complete the Phase II tool set for modeling cementitious materials performance in waste management applications; this will enable improved risk-informed decision-making, shorter analysis times, and improve transparency.</li> <li>▪ Complete synthesis and testing of an improved solvent system for cesium removal including testing with real waste.</li> </ul> <p><b><u>Groundwater and Soil Remediation</u></b></p> <ul style="list-style-type: none"> <li>▪ Test multiple cleanup scenarios through the use of Advanced Simulation Capability for Environmental Management for the deep vadose zone.</li> <li>▪ As part of the End States Initiative, test the use of ASCEM as a simulation and visualization tool at Oak Ridge as part of a demonstration of an alternative approach to closure.</li> <li>▪ Begin testing of alternative endpoint scenarios utilizing the processes developed</li> </ul>	20,000

	<p>for monitored natural attenuation.</p> <ul style="list-style-type: none"> <li>▪ Test new tools for long term monitoring approaches of passive remediation techniques.</li> <li>▪ Develop integrated remediation system that includes monitored natural attenuation of radionuclides at a contaminated groundwater site.</li> </ul> <p><b><u>Deactivation and Decommissioning</u></b></p> <ul style="list-style-type: none"> <li>▪ Continue development and testing of innovative embedded sensors and long-term monitoring technologies for In-Situ Decommissioning.</li> <li>▪ Continue development of remote platforms and tooling systems for hot cell cleanout and dismantlement.</li> <li>▪ Continue development of technology and technical approach to segregate and stabilize mercury contaminated debris.</li> <li>▪ Develop characterization technologies for multiple contaminants of concern and closed systems.</li> <li>▪ Develop technologies to passivate hazardous constituents (i.e. mercury, fluorides) in equipment and piping.</li> </ul> <p><b><u>Nuclear Materials Disposition</u></b></p> <ul style="list-style-type: none"> <li>▪ Continue aging management studies to support safe extended storage of used nuclear fuel at DOE sites.</li> <li>▪ Initiate efforts to demonstrate workflow and equipment that can remotely weld DOE standard canisters for used nuclear fuel storage and shipment.</li> <li>▪ Initiate stress corrosion cracking and environmental degradation studies in sealed containment systems and/or aqueous systems with harsh chemistries such as plutonium (3013) containers and used fuel canisters.</li> </ul> <p><b><u>Small Business Innovative Research Program</u></b></p> <ul style="list-style-type: none"> <li>▪ Support the Small Business Innovative Research assessment which funds the award and administration of grants to small businesses. The Small Business Innovative Research program will solicit proposals from all four areas of research to leverage industry knowledge and expertise. This will facilitate the implementation of any developments as an industry partner will be part of the process and able to subcontract with the clean-up contractor at the site.</li> </ul>	
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**Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund**

**Funding Schedule by Activity**

(dollars in thousands)

FY 2011 Current	FY 2012 Enacted	FY 2013 Request
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Defense Environmental Cleanup  
 Federal Contribution to the Uranium Enrichment  
 D&D Fund  
 HQ-DD-0100 / Federal Contribution to the  
 Uranium Enrichment D&D Fund

33,633                      0                      463,000

**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). Prior to October 24, 2007, the Act authorized annual fund contributions which came from both a special assessment on domestic utilities and annual Congressional appropriations.

The Administration will submit legislation to reauthorize section 1802 of the Atomic Energy Act of 1954 (42 U.S.C. 2297g-1) to reinstate a special assessment on domestic utilities, as well as allow for additional Federal deposits into the Fund. The amount collected from industry for a fiscal year would total no more than \$200,000,000 (to be annually adjusted for inflation using the Consumer Price Index for all-urban consumers published by the Department of Labor), and annual deposits from both industry and the Federal government would total no more than \$663,000,000 (also adjusted for inflation), with the remainder above the industry assessment to come from appropriated funds from the Defense Environmental Cleanup account. This proposal reflects

the ongoing need to decontaminate, decommission, and remediate the uranium processing facilities, and the shared responsibility of both industry and the Federal government for these costs.

**Benefits**

This fund is responsible for maintaining, decontaminating, decommissioning, and remediating uranium processing facilities. This includes the environmental management responsibilities at the nation’s three gaseous diffusion plants at Paducah, Kentucky; Portsmouth, Ohio; and Oak Ridge, Tennessee.

The account also provides funding for reimbursement of licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites. The funding request for Uranium/Thorium is found in the Headquarters chapter of the budget.

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

Strategic Plan and Performance Measures

No PM activity for current three-year budget period.

**Federal Contribution to the Uranium Enrichment D&D Fund (PBS: HQ-DD-0100)**

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 purpose of this activity is to provide the annual Federal contribution to the Uranium Enrichment Decontamination and Decommissioning Fund to cover the costs of cleanup at the three gaseous diffusion plants.

<b>Funding and Activity Schedule</b>		
<b>Fiscal Year</b>	<b>Activity</b>	<b>Funding (dollars in thousands)</b>
FY 2011	<ul style="list-style-type: none"> <li>▪ Provide the FY 2011 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992.</li> </ul>	<b>33,633</b>
FY 2012	<ul style="list-style-type: none"> <li>▪ No activities planned.</li> </ul>	<b>0</b>
FY 2013	<ul style="list-style-type: none"> <li>▪ Provide the FY 2013 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992.</li> </ul>	<b>463,000</b>





## GENERAL PROVISIONS

SEC. 301. *The unexpended balances of prior appropriations provided for activities in this Act may be available to the same appropriation accounts for such activities established pursuant to this title. Available balances may be merged with funds in the applicable established accounts and thereafter may be accounted for as one fund for the same time period as originally enacted.*

SEC. 302. *Funds appropriated by this or any other Act, or made available by the transfer of funds in this Act, for intelligence activities are deemed to be specifically authorized by the Congress for purposes of section 504 of the National Security Act of 1947 (50 U.S.C. 414) during fiscal year 2013 until the enactment of the Intelligence Authorization Act for fiscal year 2013.*

SEC. 303. *Not to exceed 5 percent, or \$100,000,000, of any appropriation, whichever is less, made available for Department of Energy activities funded in this Act or subsequent Energy and Water Development and Related Agencies Appropriations Acts may be transferred between such appropriations, but no such appropriation, except as otherwise provided, shall be increased or decreased by more than 5 percent by any such transfers, and any such proposed transfers shall be submitted promptly to the Committees on Appropriations of the House and Senate.*

SEC. 304. *None of the funds made available in this title shall be used for the construction of facilities classified as high-hazard nuclear facilities under 10 CFR Part 830 unless independent oversight is conducted by the Office of Health, Safety, and Security to ensure the project is in compliance with nuclear safety requirements.*

SEC. 305. *None of the funds made available in this title may be used to approve critical decision-2 or critical decision-3 under Department of Energy Order 413.3B, or any successive departmental guidance, for construction projects where the total project cost exceeds \$100,000,000, until a separate independent cost estimate has been developed for the project for that critical decision.*

SEC. 306. (a) *The set-asides included in Division C of Public Law 111-8 for projects specified in the explanatory statement accompanying that Act in the following accounts shall not apply to such funds: "Defense Environmental Cleanup", "Electricity Delivery and Energy Reliability", "Energy Efficiency and Renewable Energy", "Fossil Energy Research and Development", "Non-Defense Environmental Cleanup", "Nuclear Energy", "Other Defense Activities", and "Science". (b) The set-asides included in Public Law 111-85 for projects specified in the explanatory statement accompanying that Act in the following accounts shall not apply to such funds: "Electricity Delivery and Energy Reliability", "Energy Efficiency and Renewable Energy", "Fossil Energy Research and Development", "Nuclear Energy", and "Science".*

SEC. 307. *Of the unobligated balances from prior year appropriations available under the heading "Energy Efficiency and Renewable Energy", \$69,667,000 are hereby permanently cancelled: Provided, That no amounts may be cancelled from amounts that were designated by the Congress as an emergency requirement pursuant to the Concurrent Resolution on the Budget or the Balanced Budget and Emergency Deficit Control Act of 1985, as amended*

SEC. 501. *None of the funds made available by this Act may be used to enter into a contract, memorandum of understanding, or cooperative agreement with, make a grant to, or provide a loan or loan guarantee to any corporation that was convicted (or had an officer or agent of such corporation acting on behalf of the corporation convicted) of a felony criminal violation under any Federal law within the preceding 24 months, where the awarding agency is aware of the conviction, unless the agency has considered suspension or debarment of the corporation, or such officer or agent, and made a determination that this further action is not necessary to protect the interests of the Government.*

SEC. 502. *None of the funds made available by this Act may be used to enter into a contract, memorandum of understanding, or cooperative agreement with, make a grant to, or provide a loan or loan guarantee to, any corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, where the awarding agency is aware of the unpaid tax liability, unless the agency has considered suspension or debarment of the corporation and made a determination that this further action is not necessary to protect the interests of the Government.*

SEC. 503. *None of the funds made available by this Act may be used in contravention of Executive Order No. 12898 of February 11, 1994 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations").*

