DOE/CF-0088
Volume 5

# Department of Energy

## FY 2014 Congressional Budget Request

# Environmental Management

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**Volume 5**

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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)**

(discretionary dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR | FY 2014 Request | FY 2014 vs. FY 2012 $ | FY 2014 vs. FY 2012 % |
|---|---|---|---|---|---|
| Energy and Water Development and Related Agencies | | | | | |
| Energy Programs | | | | | |
| Energy Efficiency and Renewable Energy | 1,780,548 | 1,820,713 | 2,775,700 | +995,152 | +55.9% |
| Electricity Delivery and Energy Reliability | 136,178 | 139,954 | 169,015 | +32,837 | +24.1% |
| Nuclear Energy | 760,466 | 770,075 | 735,460 | -25,006 | -3.3% |
| Race to the Top for Energy Efficiency and Grid Modernization | 0 | 0 | 200,000 | +200,000 | N/A |
| Fossil Energy Programs | | | | | |
| Fossil Energy Research and Development | 337,074 | 494,969 | 420,575 | +83,501 | +24.8% |
| Naval Petroleum and Oil Shale Reserves | 14,909 | 15,000 | 20,000 | +5,091 | +34.1% |
| Strategic Petroleum Reserve | 192,704 | 193,883 | 189,400 | -3,304 | -1.7% |
| Northeast Home Heating Oil Reserve | 10,119 | 10,181 | 8,000 | -2,119 | -20.9% |
| ***Subtotal, Fossil Energy Programs*** | ***554,806*** | ***714,033*** | ***637,975*** | **+83,169** | ***+15.0%*** |
| Uranium Enrichment D&D Fund | 472,180 | 475,070 | 554,823 | +82,643 | +17.5% |
| Energy Information Administration | 105,000 | 105,643 | 117,000 | +12,000 | +11.4% |
| Non-Defense Environmental Cleanup | 235,381 | 236,746 | 212,956 | -22,425 | -9.5% |
| Science | 4,934,980 | 4,903,461 | 5,152,752 | +217,772 | +4.4% |
| Advanced Research Projects Agency - Energy | 275,000 | 276,683 | 379,000 | +104,000 | +37.8% |
| Departmental Administration | 126,000 | 126,772 | 118,392 | -7,608 | -6.0% |
| Inspector General | 42,000 | 42,257 | 42,120 | +120 | +0.3% |
| Advanced Technology Vehicles Manufacturing Loan | 6,000 | 6,037 | 6,000 | 0 | N/A |
| ***Total, Energy Programs*** | ***9,428,539*** | ***9,617,444*** | ***11,101,193*** | **+1,672,654** | ***+17.7%*** |
| Atomic Energy Defense Activities | | | | | |
| National Nuclear Security Administration: | | | | | |
| Weapons Activities* | 7,214,834 | 7,557,342 | 7,868,409 | +311,067 | +4.1% |
| Defense Nuclear Nonproliferation | 2,300,950 | 2,409,930 | 2,140,142 | -160,808 | -7.0% |
| Naval Reactors | 1,080,000 | 1,086,610 | 1,246,134 | +166,134 | +15.4% |
| Office of the Administrator | 410,000 | 412,509 | 397,784 | -12,216 | -3.0% |
| ***Total, National Nuclear Security Administration*** | ***11,005,784*** | ***11,466,391*** | ***11,652,469*** | **+304,177** | ***+2.8%*** |
| Environmental and Other Defense Activities | | | | | |
| Defense Environmental Cleanup | 5,002,847 | 5,033,568 | 5,316,909 | +314,062 | +6.3% |
| Other Defense Activities | 823,364 | 828,402 | 749,080 | -74,284 | -9.0% |
| ***Total, Environmental & Other Defense Activities*** | ***5,826,211*** | ***5,861,970*** | ***6,065,989*** | **+239,778** | ***+4.1%*** |
| ***Total, Atomic Energy Defense Activities*** | ***16,831,995*** | ***17,328,361*** | ***17,718,458*** | **+543,955** | ***+3.2%*** |
| Power Marketing Administration | | | | | |
| Southeastern Power Administration | 0 | 0 | 0 | 0 | N/A |
| Southwestern Power Administration | 11,892 | 11,965 | 11,892 | 0 | N/A |
| Western Area Power Administration | 95,978 | 96,556 | 95,930 | -48 | -0.1% |
| Falcon & Amistad Operating & Maintenance Fund | 220 | 221 | 420 | +200 | +90.9% |
| Colorado River Basins | -23,000 | -23,141 | -23,000 | 0 | N/A |
| Transmission Infrastructure Program | 0 | 0 | 0 | 0 | N/A |
| ***Total, Power Marketing Administrations*** | ***85,090*** | ***85,601*** | ***85,242*** | **+152** | ***+0.2%*** |
| ***Subtotal, Energy and Water Development and Related Agencies*** | ***26,345,624*** | ***27,031,406*** | ***28,904,893*** | **+2,216,761** | ***+8.4%*** |
| Uranium Enrichment D&D (UED&D) Fund Discretionary | 0 | 0 | -463,000 | -463,000 | N/A |
| Excess Fees and Recoveries, FERC | -25,534 | -27,479 | -26,236 | -702 | -2.7% |
| **Total, Discretionary Funding by Appropriation** | **26,320,090** | **27,003,927** | **28,415,657** | **+1,753,059** | ***+6.7%*** |

Note: For Weapons Activities, the FY 2014 Request is compared against the FY 2013 Annualized Continuing Resolution level.

**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 sport utility vehicle, three lube trucks and one fire truck for replacement only, $4,853,909,000, to remain available until expended: Provided, That $280,784,000, shall be available until September 30, 2015 for program direction.*

*(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, $212,956,000, 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, $554,823,000, to be derived from the Uranium Enrichment Decontamination and Decommissioning Fund, to remain available until expended.*

**Explanation of Change**

No Changes

**Environmental Management**
**Overview**

**Appropriation Summary**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | 5,006,228 | 5,036,970 | 5,316,909 |
| Non-Defense Environmental Cleanup | 235,381 | 236,746 | 212,956 |
| Uranium Enrichment Decontamination and Decommissioning Fund | 472,180 | 475,070 | 554,823 |
| Subtotal, Environmental Management | 5,713,789 | 5,748,786 | 6,084,688 |
| Use of Prior Year (Defense Environmental Cleanup) | -3,381 | -3,402 | 0 |
| D&D Fund Offset | 0 | 0 | -463,000 |
| Total, Environmental Management | 5,710,408 | 5,745,384 | 5,621,688 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Appropriation Summary by Program**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Closure Sites | | | |
| Closure Sites Administration | 4,703 | 4,732 | 4,702 |
| Hanford Site | | | |
| Central Plateau Remediation | 545,334 | 548,671 | 513,450 |
| Richland Community and Regulatory Support | 19,540 | 19,660 | 14,701 |
| River Corridor and Other Cleanup Operations | 385,169 | 387,526 | 393,634 |
| Total, Hanford Site | 950,043 | 955,857 | 921,785 |
| Idaho National Laboratory | | | |
| Idaho Cleanup and Waste Disposition | 380,569 | 382,898 | 362,100 |
| Idaho Community and Regulatory Support | 4,100 | 4,125 | 2,910 |
| Total, Idaho National Laboratory | 384,669 | 387,023 | 365,010 |
| NNSA Sites | | | |
| Lawrence Livermore National Laboratory | 2,173 | --- | 1,476 |
| Los Alamos National Laboratory | 188,161 | --- | 219,789 |
| Nevada | 65,145 | --- | 61,897 |
| Sandia National Laboratories | 2,814 | --- | 2,814 |

| | (dollars in thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
| SPRU | 23,700 | --- | 23,700 |
| Total, NNSA Sites | 281,993 | 283,718 | 309,676 |
| Oak Ridge | | | |
| Building 3019 | 37,000 | 37,226 | 0 |
| OR Cleanup and Disposition | 80,900 | 86,426 | 115,855 |
| OR Nuclear Facility D&D | 74,100 | 69,523 | 73,716 |
| OR Reservation Community and Regulatory Support | 6,409 | 6,448 | 4,365 |
| Total, Oak Ridge | 198,409 | 199,623 | 193,936 |
| Office of River Protection | | | |
| Tank Farm Activities | 442,010 | 444,504 | 520,216 |
| Waste Treatment and Immobilization Plant | 740,000 | 744,529 | 690,000 |
| Total, Office of River Protection | 1,182,010 | 1,189,033 | 1,210,216 |
| Savannah River Site | | | |
| Radioactive Liquid Tank Waste Stabilization and Disposition | 827,552 | 843,684 | 644,560 |
| Savannah River Risk Management Operations | 350,646 | 341,725 | 432,491 |
| SR Community and Regulatory Support | 9,584 | 9,643 | 11,210 |
| Total, Savannah River Site | 1,187,782 | 1,195,052 | 1,088,261 |
| Waste Isolation Pilot Plant | 213,334 | 214,640 | 203,390 |
| Program Support | 20,380 | 20,505 | 17,979 |
| Program Direction | 321,628 | 323,596 | 280,784 |
| Safeguards and Security | 250,968 | 252,504 | 234,079 |
| Technology Development and Deployment | | | |
| Headquarters Operations | 10,309 | 10,687 | 20,000 |
| Oak Ridge | 0 | --- | 4,091 |
| Total, Technology Development and Deployment | 10,309 | 10,687 | 24,091 |
| Federal Contribution to the Uranium Enrichment D&D Fund | 0 | 0 | 463,000 |
| Total, Defense Environmental Cleanup | 5,006,228 | 5,036,970 | 5,316,909 |
| | | | |
| Non-Defense Environmental Cleanup | | | |
| Fast Flux Test Reactor Facility D&D | 2,703 | 2,720 | 2,545 |
| Gaseous Diffusion Plants | | | |
| Paducah Gaseous Diffusion Plant | 52,290 | --- | 46,870 |
| Portsmouth Gaseous Diffusion Plant | 48,148 | --- | 49,352 |
| Total, Gaseous Diffusion Plants | 100,438 | 101,053 | 96,222 |
| Small Sites | | | |
| Brookhaven National Laboratory | 12,535 | --- | 0 |
| DOE-Sponsored Facilities (per P.L. 112-74) | 10,000 | --- | 0 |
| Energy Technology Engineering Center | 6,279 | --- | 9,411 |
| Idaho National Laboratory | 5,131 | --- | 5,000 |
| Moab | 30,625 | --- | 35,778 |
| SLAC National Accelerator Laboratory | 2,935 | --- | 0 |

| | (dollars in thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
| Total, Small Sites | 67,505 | 67,842 | 50,189 |
| West Valley Demonstration Project | 64,735 | 65,131 | 64,000 |
| Total, Non-Defense Environmental Cleanup | 235,381 | 236,746 | 212,956 |
| Uranium Enrichment Decontamination and Decommissioning Fund | | | |
| Oak Ridge | 200,856 | 202,085 | 177,064 |
| Paducah | 81,357 | 81,855 | 262,057 |
| Portsmouth | 189,967 | 191,130 | 91,818 |
| Pension and Community and Regulatory Support | | | |
| Oak Ridge | 0 | 0 | 18,926 |
| Paducah Gaseous Diffusion Plant | 0 | 0 | 3,163 |
| Portsmouth Gaseous Diffusion Plant | 0 | 0 | 1,795 |
| Total, Pension and Community and Regulatory Support | 0 | 0 | 23,884 |
| Total, Uranium Enrichment Decontamination and Decommissioning Fund | 472,180 | 475,070 | 554,823 |
| Total, Environmental Management | 5,713,789 | 5,748,786 | 6,084,688 |
| Use of Prior Year (Defense Environmental Cleanup) | -3,381 | -3,402 | 0 |
| D&D Fund Offset | 0 | 0 | -463,000 |
| Total, Environmental Management | 5,710,408 | 5,745,384 | 5,621,688 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**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 Cold War sites, while protecting human health and the environment. The EM program was established in 1989 and is responsible for the cleanup of millions of gallons of liquid radioactive waste, thousands of tons of spent (used) nuclear fuel and special nuclear material, disposition of large volumes of transuranic and mixed/low-level waste, huge quantities of contaminated soil and water, and deactivation and decommissioning of thousands 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 2012, EM had completed cleanup activities for 90 sites in 30 states and in 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 $294,569,200,000 to $330,947,250,000. This includes $107,593,735,000 in actual costs from 1997 through 2012, and an additional estimate of $186,975,465,000 to $223,353,515,000 to complete EM's remaining mission between 2060 and 2066.

EM continues to pursue its cleanup objectives safely 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 (activities focused on wastes that contain the highest concentrations of radionuclides and sites with the highest radionuclide contamination). Taking many variables into account, EM has generally prioritized its cleanup activities as follows:

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

EM has continued progress in cleaning up the complex. For example, in the High Level Tank Waste area, EM packaged a record high of 275 canisters of high level waste at the Defense Waste Processing Facility and closed two waste tanks – the first since 1997 – at the Savannah River Site. EM completed the F Reactor Area cleanup at Hanford in July 2012, leaving only the cocooned F Reactor facility standing. In Oak Ridge, EM completed demolition of the North Tower of the K-25 uranium processing facility. Finally, key EM reforms in contract and project management are bearing fruit. GAO has recognized EM's progress in this area in its February 14th biennial update of the high risk list. In recognition of EM's improvements in contract and project management, GAO narrowed the scope of its high risk designation, removing EM capital asset projects with costs less than $750 million from the list.

**American Reinvestment and Recovery Act**

As of February 25, 2013, EM has expended $5,930,772,754, or 99.08 percent, of the $5,985,689,455 in ARRA funding to achieve footprint reduction and complete near-term cleanup activities. More than 11,000 highly skilled technical jobs were created by Recovery Act activities. The remaining $54,966,701 is expected to be expended by the end of FY 2013, with a small remaining amount of funds left in FY 2014 to pay for final invoices from disposition of legacy waste, site characterization, and facility demolition activities at Oak Ridge National Laboratory, Y-12, and the East Tennessee Technology Park.

**FY 2014 Budget**

The FY 2014 investment of $5,621,688,000 in budget authority will be utilized to fund activities to maintain a safe, secure and compliant posture in the EM complex. Additionally, the FY 2014 funding level positions the EM program to meet enforceable milestones due in FY 2014. The FY 2014 budget request supports the continued construction of two unique and complex tank waste processing plants at the Savannah River Site and Office of River Protection. Technical, project management and contractor performance issues have put both projects at risk of increased costs and schedules. EM is working closely with our contractors to identify the most economical and timely path for completion. Eventually, these two sites will treat over 80 million gallons of radioactive tank waste for ultimate disposal.

The FY 2014 budget 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 special nuclear materials and spent (used) fuel disposition, and footprint reduction activities, such as the soil and groundwater remediation, and facility decontamination and decommissioning activities.

To address many of the high-risk activities there is a total of $24,091,000 requested for the Technology Development and Deployment program. This program develops technologies which will either improve confidence of EM cleanup plans or provide opportunities for technical improvements, reduced cost, and/or accelerated schedule. Examples include: alternative endpoint scenarios to monitored 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.

The FY 2014 Budget funds the following activities:

At Idaho, the FY 2014 request will support the completion of operations of the Sodium Bearing Waste treatment facility. 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, and complete treatment of all liquid tank waste at Idaho.

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; packaging 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 a small volume of transuranic waste from other DOE sites that do not have characterization capabilities.

At the Office of River Protection, the FY 2014 request will support continued construction of the Waste Treatment and Immobilization Plant. As of January 2013, the Waste Treatment and Immobilization Plant construction is approximately 67 percent complete. Additionally, the FY 2014 request supports the completion of C-Farm retrieval activities, continues single-shell integrity activities, continues AY/AZ farm ventilation system upgrades, and continues removal of hose-in-hose transfer lines in support of hot operations for the Waste Treatment and Immobilization Plant.

At the Savannah River Site, the largest portion of the FY 2014 request supports the Liquid Tank Waste Management Program. This includes the operation of the Defense Waste Processing Facility and management of the tank farms. In addition, the request supports continued construction of the Salt Waste Processing Facility, and operation of the Actinide Removal Process and Modular Caustic Side Extraction units. These units will be needed until the Salt Waste Processing Facility begins operation. The request also supports the operations of the Saltstone Facility, completion of Saltstone Disposal Units 3 and 5, and closure activities for Tanks 5 and 6.

The site will continue to support the Global Threat Reduction Initiative through continued receipt and storage of foreign and domestic research reactor spent nuclear fuel. The request supports life extension activities to L-Basin in support of planned spent nuclear fuel receipts, and the initiation of activities to expand the storage capacity of L-Basin. The request also supports continued activities to reduce the residual plutonium contamination in Building 235-F as committed in Defense Nuclear Safety Facilities Board Recommendation 2012-1.

In FY 2014, the budget request will support the decontamination and decommissioning project at the Portsmouth Gaseous Diffusion Plant in Piketon, Ohio, by providing the site funding with a total of $142,965,000. Approximately $49,352,000 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 depleted uranium oxide form 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, small equipment removal, utility optimizations, and hazardous material abatement.

At Paducah, the budget request will support the transition of the Gaseous Diffusion Plant from the United States Enrichment Corporation to the Department of Energy, because the United States Enrichment Corporation has indicated its intent to terminate its leased operations of the facility. The requested funding will support one-time safety and regulatory evaluations and documentation, procedures development, and facility improvements and modifications to reduce surveillance and maintenance costs as well as ongoing surveillance and maintenance until such time as decontamination and decommissioning is undertaken. This represents new scope for the EM program.

At Los Alamos National Laboratory, the FY 2014 request will complete disposition of the highest risk transuranic waste which is combustible and stored above-ground. This will fulfill the primary commitment within the Framework Agreement developed between the Department and the State of New Mexico in FY 2012. The FY 2014 request also supports deactivation and decommissioning of process-contaminated facilities within Technical Area 21.

At Richland, progress will continue along the River Corridor supporting planned completion of this critical project in FY 2015. EM will continue remediation of the 618-10 burial ground, continue installation and testing of sludge equipment in the KW Basin, and continue removal and/or remedial actions for 13 high priority facilities in the 300 Area. In addition, the FY 2014 request supports continued deactivation, decontamination, and decommissioning of facilities in the Plutonium Finishing Plant complex, initiation of sludge removal from the KW Fuel Storage Basin to storage within the central plateau of the site, continuing placement of KE Reactor in Interim Safe Storage, and starting remediation of the 618-11 burial ground, continuing groundwater characterization, and obtaining a final Record of Decision for the 100 Area. These efforts are aimed at reducing the Richland site cleanup footprint by approximately 90 percent by FY 2015.

At Oak Ridge, the FY 2014 request will provide for continued operations at the East Tennessee Technology Park. This will provide infrastructure support for decontamination and decommissioning of excess facilities

and remediation of contaminated sites, enabling the Oak Ridge Office to meet Federal Facility Agreement regulatory milestones and safety requirements. The FY 2014 requested funding will also support completing the demolition of the remaining portion of the K-25 facility at the East Tennessee Technology Park, which is the highest-priority decontamination and decommissioning project at Oak Ridge, and initiating demolition of the K-27 facility. In addition, the processing of contact-handled and remote-handled transuranic waste will continue at the Transuranic Waste Processing Center in order to meet the Site Treatment Plan milestone. Furthermore, Oak Ridge will continue the design and conceptual planning for the Sludge Buildout capital asset project at the Transuranic Waste Processing Center which is needed to disposition the liquid wastes stored in the Melton Valley storage tanks. Additionally, the U-233 direct-disposition activities initiated in FY 2012 will continue through FY 2014. This request will also maintain Building 3019 in a safe operating condition.

EM continued to achieve major successes with our mature, nation-wide program for the transportation and disposition of transuranic waste at Carlsbad and low-level and mixed low-level waste at Nevada.

Since opening the Waste Isolation Pilot Plant, near Carlsbad, New Mexico, EM has sent more than 11,000 shipments of this waste for permanent disposal. The FY 2014 request will continue to prioritize shipments of TRU waste from Los Alamos National Laboratory in accord with the Framework Agreement.

At the Nevada site, the FY 2014 request continues safe management and disposal of legacy and newly generated low-level waste and mixed low-level waste from the entire complex directly supporting risk reduction and the goal of reducing the EM site footprint across the EM complex.

All physical work required at the Stanford Linear Accelerator Center was completed in FY 2012, the completion of that site is counted when it is transferred to the Office of Science which had been rescheduled from its original target date of FY 2013 to the beginning of FY 2014. Also, by the end of FY 2012, legacy cleanup was completed at the Brookhaven National Laboratory, with future work required to complete that site scheduled beyond FY 2014.

**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. EM successfully 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 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 technology development will continue with key strategic investments that reduce risk, reduce life-cycle costs, and expedite site closures. This strategy takes a unified approach to technology development and targets specific fundamental areas in subsurface remediation, disposal investigations, and optimization of tank waste treatments while incorporating advanced modeling techniques to improve the decision process. These technology development areas were tactically and collaboratively formulated by both headquarters and field personnel from existing successful projects and future project plans. These technology development investments will position EM to optimize cleanup investments in a time of constrained resources. EM will continue coordination with the Office of Science to ensure that basic research efforts address areas that can substantially improve DOE's ability to meet environmental remediation targets. To enhance these efforts, SC and EM will implement new platforms for coordination such as workshops and "Tech Teams", which have been used to effectively improve coordination between other parts of DOE.

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 a variety of contract and project management tools, including the use of earned value management techniques and principles where appropriate. Collectively, these tools are used to demonstrate whether a project and site are on track to maximize its success for its construction and operations outcomes.

**Explanation of Changes**

The Department's request of $5,621,688,000 in FY 2014 for EM is a 1.6 percent decrease from the FY 2012 current enacted level. In addition to the $5,621,688,000, $463,000,000 is identified for the Federal Government's contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, assuming it is reauthorized as proposed.

The FY 2014 request increases the funding levels for: transition of the gaseous diffusion plant (in a cold and dark state) to Paducah (+$191,392,000); aggressively pursue cleanup at the Los Alamos National Laboratory in accordance with the Consent Order while working with regulators to facilitate cleanup (+$35,239,000); nuclear material stabilization activities at Savannah River (+$50,896,000); and an increased focus on technology development efforts (+$13,782,000).

The FY 2014 request decreases the funding levels for: radioactive tank waste and soil and groundwater remediation activities at Idaho (-$38,646,000), transuranic waste disposal activities at Carlsbad (-$14,069,000); solid waste and decontamination and decommissioning efforts at Oak Ridge (-$12,344,000); radioactive tank waste treatment at Savannah River (-$182,992,000); the Waste Treatment and Immobilization Plant at the Office of River Protection (-$50,000,000); safeguards and security activities (-$16,889,000); Federal FTEs and associated support within Program Direction (-$40,844,000); the Brookhaven National Laboratory and the Stanford Linear Accelerator Center reflecting completion and transfer to the Office and Science (-$15,470,000); and to community and regulatory support across the EM complex commensurate with EM's overall programmatic reduction (-$6,011,000).

**FY 2014 Request Aligned with Goals**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Other Sites | 4,702 | 0 | 0 | 0 |
| Headquarters Operations | 37,979 | 0 | 0 | 0 |
| Richland | 993,408 | 0 | 0 | 0 |
| D&D Fund Deposit | 463,000 | 0 | 0 | 0 |
| Idaho | 291,410 | 78,600 | 0 | 0 |
| Separations Process Research Unit | 23,700 | 0 | 0 | 0 |
| Sandia Site Office | 2,814 | 0 | 0 | 0 |
| River Protection | 0 | 520,216 | 690,000 | 0 |
| Savannah River | 564,897 | 552,560 | 92,000 | 0 |
| Carlsbad | 208,367 | 0 | 0 | 0 |
| Oak Ridge | 412,817 | 0 | 0 | 0 |
| Program Direction | 0 | 0 | 0 | 280,784 |
| West Valley Demonstration Project | 66,015 | 0 | 0 | 0 |
| Paducah | 321,525 | 0 | 0 | 0 |
| Portsmouth | 151,543 | 0 | 0 | 0 |
| Lawrence Livermore National Laboratory | 1,476 | 0 | 0 | 0 |
| Nevada | 61,897 | 0 | 0 | 0 |
| Los Alamos National Laboratory | 219,789 | 0 | 0 | 0 |
| Energy Technology Engineering Center | 9,411 | 0 | 0 | 0 |
| Moab | 35,778 | 0 | 0 | 0 |
| EM | 3,870,528 | 1,151,376 | 782,000 | 280,784 |
| Offset | -463,000 | 0 | 0 | 0 |
| Total, EM | 3,407,528 | 1,151,376 | 782,000 | 280,784 |

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

- Eliminate significant environmental, health and safety risks as soon as possible.
- Work with regulators and stakeholders to ensure compliance and timely implementation of required cleanup actions.
- 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.
- 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:

- Indeterminate 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.
- Availability and cost of Commercial Options for Waste Disposition: Risk reduction and site closure depends upon the continued availability and affordability of commercial-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 and/or waste until EM's budget can support the new activities.

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 Acquisition and Project Management. Each year, the Office of Acquisition and Project Management conducts external independent reviews of selected projects. In addition, various Operations/Field Offices commission external peer 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.

| | | | |
|---|---|---|---|
| **EM Corporate Performance Measure 1** | Liquid Waste Eliminated (thousands of gallons) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 5,684 thousands of gallons | 6,993 thousands of gallons | 8,560 thousands of gallons |
| **Result** | Not Met, at the end of FY 2012 the EM program eliminated 5,340 thousands of gallons of liquid waste. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 91,907thousands of gallons. | | |
| **EM Corporate Performance Measure 2** | Liquid Waste Tanks Closed (number of tanks) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 15 tanks closed | 17 tanks closed | 13 tanks closed |
| **Result** | Not Met, at the end of FY 2012 the EM program closed a cumulative total of 11 liquid waste tanks. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 239 tanks closed. | | |
| **EM Corporate Performance Measure 3** | High Level Waste Packaged for Disposition (number of canisters) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 3,801 canisters | 4,113 canisters | 4,283 canisters |
| **Result** | Met, at the end of FY 2012 the EM program packaged a cumulative total of 3,802 canisters of high level waste. | | |
| **Life-cycle Estimate** | This measure has a life cycle estimate of 24,183 canisters. | | |
| **EM Corporate Performance Measure 4** | Plutonium Metal or Oxide packaged for long-term storage (Number of Containers) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | Measure Completed | Measure Completed | Measure Completed |
| **Result** | N/A | | |
| **Life-cycle Estimate** | This metric has a life cycle of 5,089 containers and was completed in FY 2005. | | |
| **EM Corporate Performance Measure 5** | Enriched Uranium packaged for disposition (number of containers) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 8,016 containers | 8,016 containers | 8,016 containers |
| **Result** | Met, at the end of FY 2012 the EM program packaged a cumulative total of 8,016 canisters of enriched uranium. | | |
| **Life-cycle Estimate** | This metric has a life cycle of 8,198 containers. | | |
| **EM Corporate Performance Measure 6** | Plutonium or Uranium Residues packaged for disposition (Kilograms of Bulk) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |

| | | | |
|---|---|---|---|
| **Target** | Measure Completed | Measure Completed | Measure Completed |
| **Result** | N/A | | |
| **Life-cycle Estimate** | This metric has a life cycle of 107,828 kilograms and was completed in FY 2007. | | |
| **EM Corporate Performance Measure 7** | Depleted and Other Uranium packaged for disposition (metric tons) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 37,046 metric tons | 56,901 metric tons | 82,640 metric tons |
| **Result** | Not Met, at the end of FY 2012 the EM program eliminated a cumulative total 26,281 metric tons of Depleted and Other Uranium: 14,636 metric tons completed in the EM Base Program and an additional 11,645 metric tons completed through ARRA funding. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 736,831 metric tons. | | |
| **EM Corporate Performance Measure 8** | MAAs Eliminated (number of MAAs Eliminated) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 31 MAAs Eliminated | 31 MAAs Eliminated | 30 MAAs Eliminated |
| **Result** | Not Met, at the end of FY 2012 the EM program eliminated a cumulative total of 30 MAAs. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 35 Material Access Areas eliminated. | | |
| **EM Corporate Performance Measure 9** | Spent Nuclear Fuel packaged for final disposition (Metric Tons of Heavy Metal) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 2,128 metric tons | 2,133 metric tons | 2,128 metric tons |
| **Result** | Met, at the end of FY 2012 the EM program packaged a cumulative total of 2,128 metric tons of Spent Nuclear Fuel packaged for final disposition. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 2,450 metric tons of heavy metal. | | |
| **EM Corporate Performance Measure 10** | Transuranic Waste Dispositioned (Cubic meters) [combined Remote Handled and Contact Handled Transuranic Waste] | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 94,561 cubic meters | 89,726 cubic meters | 106,511 cubic meters |

| | | | |
|---|---|---|---|
| **Result** | Met, at the end of FY 2012, the EM program had dispositioned a cumulative total of 88,251 cubic meters of combined Remote Handled and Contact Handled Transuranic Waste:<br>81,157 cubic meters of Contact Handled and Remote Handled Transuranic Waste as an additional 7,094 cubic meters of combined Remote Handled and Contact Handled Transuranic Waste completed by the ARRA program | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 153,163 cubic meters of combined Remote Handled and Contact Handled Transuranic Waste. | | |
| **EM Corporate Performance Measure 11** | Legacy and Newly Generated low-level and Mixed low-level waste Disposed (cubic meters) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 1,224,799 cubic meters | 1,137,447 cubic meters | 1,265,032 cubic meters |
| **Result** | Met, at the end of FY 2012, the EM program had disposed a cumulative total of 1,226,504 cubic meters of legacy and newly generated low-level and mixed low-level waste: 1,128,289 cubic meters of legacy and newly generated low-level in the EM Base program and mixed low-level waste and an additional 98,215 cubic meters of legacy and newly generated low-level and mixed low-level waste completed by the ARRA program. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 1,558,958 cubic meters disposed. | | |
| **EM Corporate Performance Measure 12** | Nuclear Facility Completions (number of facilities) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 130 facilities | 104 facilities | 137 facilities |
| **Result** | Not Met, at the end of FY 2012 the EM program completed a cumulative total of 128 Nuclear Facilities: 99 Facilities completed in the EM Base Program and an additional 29 Facilities completed by the ARRA program. | | |
| **Endpoint Target (or measure lifecycle)** | This metric has a life cycle estimate of 476 nuclear facilities. | | |
| **EM Corporate Performance Measure 13** | Radioactive Facility Completions (number of facilities) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 525 radioactive facilities | 447 radioactive facilities | 542 radioactive facilities |

| | | | |
|---|---|---|---|
| **Result** | Met, at the end of FY 2012 the EM program completed a cumulative total of 520 Radioactive Facilities: 408 Facilities completed in the EM Base Program and an additional 118 Facilities completed by the ARRA program. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 984 radioactive facilities. | | |
| **EM Corporate Performance Measure 14** | Industrial Facility Completions (number of facilities) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 1,900 facilities | 1,791 facilities | 1,964 facilities |
| **Result** | Not Met, at the end of FY 2012 the EM program completed a cumulative total of 1,895 Industrial Facilities: 1752 Facilities completed in the EM Base Program and an additional 143 Facilities completed by the ARRA program. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 3,876 facilities. | | |
| **EM Corporate Performance Measure 15** | Release Site Completions (number of release sites) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 7,496 release sites | 7,455 release sites | 7,751 release sites |
| **Result** | Not Met, at the end of FY 2012 the EM program completed a cumulative total of 7,254 release sites in the EM Base Program as well as an additional 135 release sites completed by the ARRA program. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 10,572 release sites. | | |
| **EM Corporate Performance Measure 16** | Geographic Site Completions (number of geographic sites) | | |
| **Fiscal Year** | **2012** | **2013*** | **2014**** |
| **Target** | 91 sites | 91 sites | 91 sites |
| **Result** | Not Met, at the end of FY 2012 the EM program completed a cumulative total of 90 Geographic Sites. | | |
| **Life-cycle Estimate** | This metric has a life cycle estimate of 107 geographic sites. | | |

Please see Annual Performance Plan/Report (APPR) for a full list of measures and targets.

*2013 targets represent DOE's FY 2013 Budget Request to Congress. FY 2013 target updates can be found in the upcoming FY 2012-2014 Annual Performance Plan & Report.

**2014 targets represent changes from targets listed in the upcoming FY 2012-2014 Annual Performance Plan & Report.

**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.

**Costs for Direct-Funded Maintenance and Repair**

| | (Dollars in Thousands) | | | |
|---|---|---|---|---|
| | FY 2012 Actual Cost | FY 2012 Planned Cost | FY 2013 Planned Cost | FY 2014 Planned Cost |
| Carlsbad | 10,434 | 10,434 | 10,434 | 12,567 |
| Oak Ridge | 10,505 | 10,441 | 9,007 | 9,180 |
| Idaho National Laboratory | 21,328 | 22,990 | 21,776 | 22,233 |
| Moab | 243 | 243 | 211 | 195 |
| Paducah | 10,021 | 10,021 | 10,314 | 64,893 |
| Portsmouth | 10,112 | 10,112 | 36,567 | 25,891 |
| Richland Operations Office | 54,341 | 40,158 | 54,341 | 54,341 |
| Office of River Protection | 42,568 | 49,810 | 61,217 | 52,982 |
| Savannah River | 165,254 | 164,167 | 129,830 | 136,359 |
| Total, Direct-Funded Maintenance and Repair | 324,806 | 318,376 | 333,697 | 378,641 |

**Costs for Indirect-Funded Maintenance and Repair**

| | (Dollars in Thousands) | | | |
|---|---|---|---|---|
| | FY 2012 Actual Cost | FY 2012 Planned Cost | FY 2013 Planned Cost | FY 2014 Planned Cost |
| Carlsbad | 0 | 0 | 0 | 0 |
| Oak Ridge | 0 | 0 | 0 | 0 |
| Idaho National Laboratory | 0 | 0 | 0 | 0 |
| Moab | 0 | 0 | 0 | 0 |
| Pacific Northwest National Laboratory | 3,837 | 3,837 | 3,330 | 5,334 |
| Paducah | 0 | 0 | 0 | 0 |
| Portsmouth | 0 | 0 | 0 | 0 |
| Richland Operations Office | 0 | 0 | 0 | 0 |
| Office of River Protection | 0 | 0 | 0 | 0 |
| Savannah River | 16,438 | 16,438 | 18,227 | 16,876 |
| Total, Direct-Funded Maintenance and Repair | 20,275 | 20,275 | 21,557 | 22,210 |

**Construction Projects**

(Dollars in Thousands)

| | Prior Years | FY 2012 Current | FY 2013 Annualized CR | FY 2014 Request | Outyears | Total |
|---|---|---|---|---|---|---|
| 01-D-416, Waste Treatment and Immobilization Plant, Hanford, WA | | | | | | |
| TEC | 7,133,679 | 740,000 | 744,529 | 690,000 | 2,954,792 | 12,263,000 |
| OPC | 0 | 0 | 0 | 0 | 0 | 0 |
| TPC | 7,133,679 | 740,000 | 744,529 | 690,000 | 2,954,792 | 12,263,000 |
| 05-D-405, Salt Waste Processing Facility, Aiken, SC | | | | | | |
| TEC | 946,236 | 204,377 [a] | 171,112 | 92,000 | 0 | 1,413,725 |
| OPC | 103,020 | 0 | 57,963 | 5,403 | 0 | 166,386 |
| TPC | 1,049,256 | 204,377 | 229,075 | 97,403 | 0 | 1,580,111 |
| Total, Construction | | | | | | |
| TEC | | 944,377 | 915,641 | 782,000 | | |
| OPC | | 0 | 57,963 | 5,403 | | |
| TPC | | 944,377 | 973,604 | 787,403 | | |

a The DOE and its contractor are currently in contract negotiations. When completed a new scope, cost and completion date will be distributed.

**Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR)**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR | FY 2014 Request |
|---|---|---|---|
| Oak Ridge | 0 | 0 | 131 |
| Headquarters | 0 [a] | 326 | 640 |
| | 0 | 326 | 771 |

[a] In FY 2012, $608,000 ($536,000 for Small Business Innovation Research and $72,000 for Small Technical Transfer Programs) transferred to the Office of Science for award and administration of grants to small businesses.

**Funding by Budget Chapters**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Carlsbad | 213,334 | --- | 203,390 |
| Idaho | 389,800 | --- | 370,010 |
| Oak Ridge | | | |
| Oak Ridge | 399,265 | --- | 394,017 |
| Paducah | 133,647 | --- | 312,090 |
| Portsmouth | 238,115 | --- | 142,965 |
| Richland | 952,746 | --- | 924,330 |
| River Protection | 1,182,010 | --- | 1,210,216 |
| Savannah River | 1,187,782 | --- | 1,088,261 |
| Lawrence Livermore National Laboratory | 2,173 | --- | 1,476 |
| Nevada | 65,145 | --- | 61,897 |
| Los Alamos National Laboratory | | | |
| NNSA Service Center/Separations Processing Research Unit (SPRU) | 2,561 | --- | 4,103 |
| Los Alamos National Laboratory | 185,600 | --- | 215,686 |
| Subtotal, Los Alamos National Laboratory | 188,161 | --- | 219,789 |
| Sandia Site Office | 2,814 | --- | 2,814 |
| Headquarters Operations | | | |
| Headquarters | 20,380 | --- | 17,979 |
| Headquarters Operations | 10,309 | --- | 20,000 |
| Subtotal, Headquarters Operations | 30,689 | --- | 37,979 |
| Separations Process Research Unit | | | |
| SPRU | 23,700 | --- | 23,700 |
| West Valley Demonstration Project | 64,735 | --- | 64,000 |
| Brookhaven National Laboratory | 12,535 | --- | 0 |
| Energy Technology Engineering Center | 6,279 | --- | 9,411 |
| Moab | 30,625 | --- | 35,778 |
| SLAC National Accelerator Laboratory | 2,935 | --- | 0 |
| Other Sites | | --- | |
| Closure Sites Administration | 4,703 | --- | 4,702 |
| DOE-Sponsored Facilities (per P.L. 112-74) | 10,000 | --- | 0 |
| Subtotal, Other Sites | 14,703 | --- | 4,702 |
| Program Direction | 321,628 | 323,596 | 280,784 |
| Safeguards and Security | 250,968 | 252,504 | 234,079 |
| D&D Fund Deposit | 0 | --- | 463,000 |
| Subtotal, Environmental Management | 5,713,789 | 5,748,786 | 6,084,688 |
| Use of Prior Year (Defense Environmental Cleanup) | -3,381 | -3,402 | 0 |
| D&D Fund Offset | 0 | 0 | -463,000 |
| Total, Environmental Management | 5,710,408 | 5,745,384 | 5,621,688 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**ANCILLARY TABLES**

**Funding Summary by Office**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Carlsbad | 213,334 | --- | 203,390 |
| Idaho | 389,800 | --- | 370,010 |
| Oak Ridge | 399,265 | --- | 394,017 |
| Paducah | 133,647 | --- | 312,090 |
| Portsmouth | 238,115 | --- | 142,965 |
| Richland | 952,746 | --- | 924,330 |
| River Protection | 1,182,010 | --- | 1,210,216 |
| Savannah River | 1,187,782 | --- | 1,088,261 |
| Lawrence Livermore National Laboratory | 2,173 | --- | 1,476 |
| Nevada | 65,145 | --- | 61,897 |
| Los Alamos National Laboratory | 188,161 | --- | 219,789 |
| Sandia Site Office | 2,814 | --- | 2,814 |
| Headquarters Operations | 30,689 | --- | 37,979 |
| Separations Process Research Unit | 23,700 | --- | 23,700 |
| West Valley Demonstration Project | 64,735 | --- | 64,000 |
| Brookhaven National Laboratory | 12,535 | --- | 0 |
| Energy Technology Engineering Center | 6,279 | --- | 9,411 |
| Moab | 30,625 | --- | 35,778 |
| SLAC National Accelerator Laboratory | 2,935 | --- | 0 |
| Other Sites | 14,703 | --- | 4,702 |
| Program Direction | 321,628 | 323,596 | 280,784 |
| Safeguards and Security | 250,968 | 252,504 | 234,079 |
| D&D Fund Deposit | 0 | --- | 463,000 |
| Subtotal, Environmental Management | 5,713,789 | 5,748,786 | 6,084,688 |
| Offsets | -3,381 | -3,402 | -463,000 |
| Total, Environmental Management | 5,710,408 | 5,745,384 | 5,621,688 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Environmental Management Federal Staffing**

| | (Full-Time Equivalents) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
| Carlsbad | 57 | --- | 51 |
| Idaho | 50 | --- | 40 |
| Oak Ridge | 80 | --- | 72 |
| Portsmouth/Paducah Project Office | 51 | --- | 52 |
| Richland | 256 | --- | 251 |
| River Protection | 148 | --- | 137 |
| Savannah River | 303 | --- | 269 |
| Small Sites | 32 | --- | 28 |
| Nevada Site Office | 22 | --- | 19 |
| Los Alamos Site Office | 23 | --- | 22 |
| Subtotal, Field, Full-Time Equivalents | 1,022 | --- | 941 |
| Headquarters Operations | 338 | --- | 308 |
| Consolidated Business Center | 165 | --- | 149 |
| Total, Field, Full-Time Equivalents | 1,525 | 1,518 | 1,398 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

| ENVIRONMENTAL MANAGEMENT PROGRAM LIFE-CYCLE COST RANGE (Millions of Dollars) | | | |
|---|---|---|---|
| Site | LCC Total Range | | |
| Argonne National Laboratory-East | 180 | - | |
| Ashtabula | 137 | - | |
| Brookhaven National Laboratory | 497 | - | 501 |
| Columbus | 172 | - | |
| Energy Technology Engineering Center | 342 | - | 386 |
| Fernald | 3,425 | - | |
| Hanford Site | 55,230 | - | 59,848 |
| Headquarters | 2,207 | - | |
| Idaho National Laboratory | 22,473 | - | 24,672 |
| Inhalation Toxicology Laboratory | 13 | - | |
| Kansas City Plant | 30 | - | |
| Laboratory for Energy-Related Health Research | 40 | - | |
| Lawrence Berkeley National Laboratory | 36 | - | |
| Lawrence Livermore National Laboratory | 386 | - | 396 |
| Los Alamos National Laboratory | 3,212 | - | 3,606 |
| Miamisburg | 1,416 | - | |
| Moab | 915 | - | 923 |
| Nevada Test Site | 2,590 | - | |
| Oak Ridge Reservation | 11,468 | - | 11,628 |
| Office of River Protection | 67,586 | - | 75,259 |
| Other | 1,400 | - | |
| Paducah Gaseous Diffusion Plant | 11,632 | - | 18,405 |
| Pantex Plant | 196 | - | |
| Portsmouth Gaseous Diffusion Plant | 9,534 | - | 16,341 |
| Program Direction | 12,003 | - | |
| Rocky Flats Environmental Technology Site | 8,996 | - | |
| Sandia National Laboratory | 272 | - | 276 |
| Savannah River Site | 66,564 | - | 73,618 |
| Stanford Linear Accelerator Center | 70 | - | |
| Technology Development and Deployment | 3,003 | - | |
| Waste Isolation Pilot Plant | 6,710 | - | 7,219 |
| West Valley Demonstration Project | 1,836 | - | 1,954 |
| | | - | |
| TOTAL EM PROGRAM | 294,569 | - | 330,947 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 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 | 30,244 | 0 | 0 | 30,244 | 30,244 |
| Argonne National Laboratory-East | CH-ANLE-0040 | Nuclear Facility D&D-Argonne National Laboratory-East | 67,385 | 0 | 0 | 67,385 | 67,385 |
| Argonne National Laboratory-East | CH-ANLE-0040.NEW | Argonne Recovery Act Project | 81,891 | 0 | 0 | 81,891 | 81,891 |
| **Argonne National Laboratory-East Total** | | | 179,520 | 0 | 0 | 179,520 | 179,520 |
| Ashtabula | OH-AB-0030 | Soil and Water Remediation-Ashtabula | 137,431 | 0 | 0 | 137,431 | 137,431 |
| **Ashtabula Total** | | | 137,431 | 0 | 0 | 137,431 | 137,431 |
| Brookhaven National Laboratory | BRNL-0030 | Soil and Water Remediation-Brookhaven National Laboratory | 254,815 | 7,840 | 8,103 | 262,655 | 262,918 |
| Brookhaven National Laboratory | BRNL-0040 | Nuclear Facility D&D-Brookhaven Graphite Research Reactor | 150,453 | 0 | 0 | 150,453 | 150,453 |
| Brookhaven National Laboratory | BRNL-0041 | Nuclear Facility D&D-High Flux Beam Reactor | 64,329 | 13,075 | 16,826 | 77,404 | 81,155 |
| Brookhaven National Laboratory | BRNL-0041.NEW | A/B Waste Lines Removal and FHWMF Perimeter Area Soils | 3,462 | 0 | 0 | 3,462 | 3,462 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| | | Remediation | | | | | |
| Brookhaven National Laboratory | BRNL-0100 | Brookhaven Community and Regulatory Support | 2,744 | 100 | 100 | 2,844 | 2,844 |
| **Brookhaven National Laboratory Total** | | | 475,803 | 21,015 | 25,029 | 496,818 | 500,832 |
| Columbus | OH-CL-0040 | Nuclear Facility D&D-West Jefferson | 172,289 | 0 | 0 | 172,289 | 172,289 |
| **Columbus Total** | | | 172,289 | 0 | 0 | 172,289 | 172,289 |
| Energy Technology Engineering Center | CBC-ETEC-0040 | Nuclear Facility D&D-Energy Technology Engineering Center | 267,466 | 74,070 | 118,950 | 341,536 | 386,416 |
| **Energy Technology Engineering Center Total** | | | 267,466 | 74,070 | 118,950 | 341,536 | 386,416 |
| Fernald | OH-FN-0013 | Solid Waste Stabilization and Disposition-Fernald | 1,626,711 | 0 | 0 | 1,626,711 | 1,626,711 |
| 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 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Fernald | OH-FN-0100 | Fernald Post-Closure Administration | 0 | 222,045 | 222,045 | 222,045 | 222,045 |
| Fernald | OH-FN-0101 | Fernald Community and Regulatory Support | 13,902 | 0 | 0 | 13,902 | 13,902 |
| **Fernald Total** | | | 3,202,707 | 222,045 | 222,045 | 3,424,752 | 3,424,752 |
| 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 | 2,073,050 | 629,270 | 911,604 | 2,702,320 | 2,984,654 |
| Hanford Site | RL-0012 | SNF Stabilization and Disposition | 2,551,880 | 338,099 | 364,164 | 2,889,979 | 2,916,044 |
| Hanford Site | RL-0013C | Solid Waste Stabilization & Disposition | 2,576,015 | 8,674,132 | 8,886,534 | 11,250,147 | 11,462,549 |
| Hanford Site | RL-0020 | Safeguards and Security | 740,569 | 3,141,510 | 3,141,510 | 3,882,079 | 3,882,079 |
| Hanford Site | RL-0030 | Soil and Water Remediation-Groundwater/Vadose Zone | 1,588,355 | 7,561,681 | 7,869,790 | 9,150,036 | 9,458,145 |
| Hanford Site | RL-0040 | Nuclear Facility D&D-Remainder of Hanford | 1,780,200 | 15,732,298 | 19,451,856 | 17,512,498 | 21,232,056 |
| Hanford Site | RL-0041 | Nuclear Facility D&D-River | 3,634,459 | 1,396,091 | 1,396,091 | 5,030,550 | 5,030,550 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| | | Corridor Closure Project | | | | | |
| Hanford Site | RL-0042 | Nuclear Facility D&D-Fast Flux Test Facility Project | 307,017 | 1,049,596 | 1,119,067 | 1,356,613 | 1,426,084 |
| 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 | 244,650 | 995,725 | 995,725 | 1,240,375 | 1,240,375 |
| Hanford Site | RL-0900 | Pre-2004 Completions | 132,586 | 0 | 0 | 132,586 | 132,586 |
| **Hanford Site Total** | | | 15,711,410 | 39,518,402 | 44,136,341 | 55,229,812 | 59,847,751 |
| Headquarters | HQ-MS-0100 | Policy, Management, and Technical Support | 777,870 | 786,101 | 786,101 | 1,563,971 | 1,563,971 |
| Headquarters | HQ-UR-0100 | Reimbursements to Uranium/Thorium Licensees | 411,949 | 231,398 | 231,398 | 643,347 | 643,347 |
| **Headquarters Total** | | | 1,189,819 | 1,017,499 | 1,017,499 | 2,207,318 | 2,207,318 |
| 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 | 60,089 | 0 | 0 | 60,089 | 60,089 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| | | Disposition-Storage Operations Awaiting Geologic Repository | | | | | |
| 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 | 0 | 19,204 | 19,204 |
| Idaho National Laboratory | ID-0012B | SNF Stabilization and Disposition (Defense) | 521,624 | 3,793,158 | 4,635,062 | 4,314,782 | 5,156,686 |
| Idaho National Laboratory | ID-0012-N | SNF Stabilization and Disposition (Non-Defense) | 43,927 | 144,101 | 151,123 | 188,028 | 195,050 |
| Idaho National Laboratory | ID-0012C | SNF Stabilization and Disposition-2035 | 45,651 | 0 | 0 | 45,651 | 45,651 |
| Idaho National Laboratory | ID-0013B | Solid Waste Stabilization and Disposition | 2,660,028 | 1,063,784 | 1,443,147 | 3,723,812 | 4,103,175 |
| Idaho National Laboratory | ID-0013B.NEW | INL Recovery Act Project--TRU Waste | 112,333 | 0 | 0 | 112,333 | 112,333 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Idaho National Laboratory | ID-0014B | Radioactive Liquid Tank Waste Stabilization and Disposition-2012 | 1,840,653 | 5,574,492 | 6,444,262 | 7,415,145 | 8,284,915 |
| 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 | 0 | 0 | 35,498 | 35,498 |
| Idaho National Laboratory | ID-0030B | Soil and Water Remediation-2012 | 1,618,700 | 2,520,396 | 2,621,686 | 4,139,096 | 4,240,386 |
| Idaho National Laboratory | ID-0030C | Soil and Water Remediation-2035 | 7,198 | 0 | 0 | 7,198 | 7,198 |
| 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) | 84,300 | 0 | 0 | 84,300 | 84,300 |
| Idaho National Laboratory | ID-0040B | Nuclear Facility D&D-2012 | 749,157 | 0 | 0 | 749,157 | 749,157 |
| Idaho National Laboratory | ID-0040C | Nuclear Facility D&D-2035 | 0 | 0 | 0 | 0 | 0 |
| 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 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Idaho National Laboratory | ID-0100 | Idaho Community and Regulatory Support | 74,279 | 176,602 | 176,602 | 250,881 | 250,881 |
| Idaho National Laboratory | ID-0900 | Pre-2004 Completions | 310,264 | 0 | 0 | 310,264 | 310,264 |
| **Idaho National Laboratory Total** | | | 9,200,496 | 13,272,533 | 15,471,882 | 22,473,029 | 24,672,378 |
| Inhalation Toxicology Laboratory | CBC-ITL-0030 | Soil and Water Remediation-Inhalation Toxicology Laboratory | 12,541 | 0 | 0 | 12,541 | 12,541 |
| Inhalation Toxicology Laboratory | VL-ITL-0030 | Soil and Water Remediation-Inhalation Toxicology Laboratory | 13 | 0 | 0 | 13 | 13 |
| **Inhalation Toxicology Laboratory Total** | | | 12,554 | 0 | 0 | 12,554 | 12,554 |
| Kansas City Plant | VL-KCP-0030 | Soil and Water Remediation-Kansas City Plant | 30,277 | 0 | 0 | 30,277 | 30,277 |
| **Kansas City Plant Total** | | | 30,277 | 0 | 0 | 30,277 | 30,277 |
| 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)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| **Laboratory for Energy-Related Health Research Total** | | | 40,063 | 0 | 0 | 40,063 | 40,063 |
| Lawrence Berkeley National Laboratory | CBC-LBNL-0030 | Soil and Water Remediation-Lawrence Berkeley National Laboratory | 34,399 | 0 | 0 | 34,399 | 34,399 |
| Lawrence Berkeley National Laboratory | VL-LBNL-0030 | Soil and Water Remediation-Lawrence Berkeley National Laboratory | 1,539 | 0 | 0 | 1,539 | 1,539 |
| **Lawrence Berkeley National Laboratory Total** | | | 35,938 | 0 | 0 | 35,938 | 35,938 |
| 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 | 122,483 | 55,300 | 65,540 | 177,783 | 188,023 |
| **Lawrence Livermore National Laboratory Total** | | | 330,607 | 55,300 | 65,540 | 385,907 | 396,147 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Los Alamos National Laboratory | VL-FAO-0101 | Miscellaneous Programs and Agreements in Principle | 92,493 | 9,109 | 9,109 | 101,602 | 101,602 |
| Los Alamos National Laboratory | VL-LANL-0013 | Solid Waste Stabilization and Disposition-LANL Legacy | 783,666 | 383,245 | 411,122 | 1,166,911 | 1,194,788 |
| Los Alamos National Laboratory | VL-LANL-0030 | Soil and Water Remediation-LANL | 1,465,604 | 250,779 | 600,514 | 1,716,383 | 2,066,118 |
| Los Alamos National Laboratory | VL-LANL-0040-D | Nuclear Facility D&D-LANL (Defense) | 185,653 | 19,715 | 36,215 | 205,368 | 221,868 |
| Los Alamos National Laboratory | VL-LANL-0040-N | Nuclear Facility D&D-LANL (Non-Defense) | 21,858 | 0 | 0 | 21,858 | 21,858 |
| **Los Alamos National Laboratory Total** | | | 2,549,274 | 662,848 | 1,056,960 | 3,212,122 | 3,606,234 |
| Miamisburg | OH-MB-0013 | Solid Waste Stabilization and Disposition-Miamisburg | 264,692 | 0 | 0 | 264,692 | 264,692 |
| 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 | 262,450 | 0 | 0 | 262,450 | 262,450 |
| Miamisburg | OH-MB-0031 | Soil and Water Remediation - OU-1 | 43,000 | 0 | 0 | 43,000 | 43,000 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| 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 | 86,578 | 703,702 | 703,702 | 790,280 | 790,280 |
| Miamisburg | OH-MB-0101 | Miamisburg Community and Regulatory Support | 9,710 | 0 | 0 | 9,710 | 9,710 |
| **Miamisburg Total** | | | 712,614 | 703,702 | 703,702 | 1,416,316 | 1,416,316 |
| Moab | CBC-MOAB-0031 | Soil and Water Remediation-Moab | 339,529 | 575,420 | 583,650 | 914,949 | 923,179 |
| **Moab Total** | | | 339,529 | 575,420 | 583,650 | 914,949 | 923,179 |
| 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 | 977,118 | 687,135 | 687,135 | 1,664,253 | 1,664,253 |
| Nevada Test Site | VL-NV-0080 | Operate Waste Disposal Facility-Nevada | 204,858 | 517,244 | 517,244 | 722,102 | 722,102 |
| Nevada Test Site | VL-NV-0100 | Nevada Community and Regulatory Support | 55,271 | 47,062 | 47,062 | 102,333 | 102,333 |
| **Nevada Test Site Total** | | | 1,338,269 | 1,251,441 | 1,251,441 | 2,589,710 | 2,589,710 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| 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 | 52,409 | 0 | 0 | 52,409 | 52,409 |
| Oak Ridge Reservation | OR-0011Z | Downblend of U-233 in Building 3019 | 284,629 | 100,192 | 100,192 | 384,821 | 384,821 |
| Oak Ridge Reservation | OR-0013A | Solid Waste Stabilization and Disposition-2006 | 464,926 | 0 | 0 | 464,926 | 464,926 |
| Oak Ridge Reservation | OR-0013B | Solid Waste Stabilization and Disposition-2012 | 1,324,413 | 344,698 | 366,297 | 1,669,111 | 1,690,710 |
| Oak Ridge Reservation | OR-0020 | Safeguards and Security | 233,029 | 64,464 | 67,251 | 297,493 | 300,280 |
| 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 | 62,195 | 0 | 0 | 62,195 | 62,195 |
| Oak Ridge Reservation | OR-0040 | Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund) | 3,151,633 | 1,015,010 | 1,016,531 | 4,166,643 | 4,168,164 |
| Oak Ridge Reservation | OR-0041 | Nuclear Facility D&D-Y-12 | 594,333 | 538,756 | 610,736 | 1,133,089 | 1,205,069 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Oak Ridge Reservation | OR-0041.NEW | Y-12 Recovery Act Project | 166,258 | 0 | 0 | 166,258 | 166,258 |
| Oak Ridge Reservation | OR-0042 | Nuclear Facility D&D-Oak Ridge National Laboratory | 671,044 | 489,537 | 545,215 | 1,160,581 | 1,216,259 |
| Oak Ridge Reservation | OR-0042.NEW | Oak Ridge Recovery Act Project | 64,869 | 9,041 | 9,448 | 73,910 | 74,317 |
| Oak Ridge Reservation | OR-0043 | Nuclear Facility D&D-East Tennessee Technology Park (Defense) | 88,659 | 40,357 | 41,936 | 129,016 | 130,595 |
| Oak Ridge Reservation | OR-0100 | Oak Ridge Reservation Community & Regulatory Support (Defense) | 113,984 | 27,958 | 29,042 | 141,942 | 143,026 |
| Oak Ridge Reservation | OR-0101 | Oak Ridge Contract/Post-Closure Liabilities/Administration | 105,165 | 0 | 0 | 105,165 | 105,165 |
| Oak Ridge Reservation | OR-0102 | East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration | 205,495 | 81,393 | 84,900 | 286,888 | 290,395 |
| 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 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Oak Ridge Reservation | OR-0900-N | Pre-2004 Completions (Non-Defense) | 618,520 | 0 | 0 | 618,520 | 618,520 |
| **Oak Ridge Reservation Total** | | | 8,756,351 | 2,711,406 | 2,871,548 | 11,467,757 | 11,627,899 |
| 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 | 6,796,536 | 47,969,849 | 55,642,512 | 54,766,385 | 62,439,048 |
| Office of River Protection | ORP-0060 | Major Construction-Waste Treatment Plant | 7,863,036 | 4,399,963 | 4,399,963 | 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 | 1,453 | 0 | 0 | 1,453 | 1,453 |
| **Office of River Protection Total** | | | 15,094,339 | 52,492,051 | 60,164,714 | 67,586,390 | 75,259,053 |
| Other | CBC-0100-FN | CBC Post Closure Administration - Fernald | 61,378 | 0 | 0 | 61,378 | 61,378 |
| Other | CBC-0100-MD | CBC Post Closure Administration - Mound | 825 | 0 | 0 | 825 | 825 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Other | CBC-0100-RF | CBC Post Closure Administration - Rocky Flats | 12,571 | 0 | 0 | 12,571 | 12,571 |
| Other | CBC-CA-0013B-N | Solid Waste Stabilization and Disposition-California Sites-2012 (Non-Defense) | 6,226 | 0 | 0 | 6,226 | 6,226 |
| Other | CBC-CA-0100-N | Community and Regulatory Support (Non-Defense) | 2,932 | 0 | 0 | 2,932 | 2,932 |
| Other | CH-OPS-0900 | Pre-2004 Completions | 98,862 | 0 | 0 | 98,862 | 98,862 |
| Other | CH-PPPL-0030 | Soil and Water Remediation-Princeton Site A/B | 309 | 0 | 0 | 309 | 309 |
| Other | CBC-SEFOR-0040N | Southwest Experimental Fast Oxide Reactor (SEFOR) to the University of Arkansas | 0 | 0 | 0 | 0 | 0 |
| 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-Defense) | 396,924 | 0 | 0 | 396,924 | 396,924 |
| Other | VL-FAO-0100-D | Nuclear Material Stewardship | 108,725 | 0 | 0 | 108,725 | 108,725 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| | | (Defense) | | | | | |
| 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 | 92,493 | 9,109 | 9,109 | 101,602 | 101,602 |
| 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 | 14,748 | 478 | 478 | 15,226 | 15,226 |
| 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) | 89 | 0 | 0 | 89 | 89 |
| 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 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Other | VL-SPRU-0040 | Nuclear Facility D&D-Separations Process Research Unit | 157,398 | 0 | 0 | 157,398 | 157,398 |
| Other | VL-SV-0100 | South Valley Superfund | 6,061 | 0 | 0 | 6,061 | 6,061 |
| **Other Total** | | | 1,390,793 | 9,587 | 9,587 | 1,400,380 | 1,400,380 |
| 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 | 35,888 | 14,266 | 14,798 | 50,154 | 50,686 |
| Paducah Gaseous Diffusion Plant | PA-0011X | NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion | 887,588 | 1,934,293 | 1,934,293 | 2,821,881 | 2,821,881 |
| Paducah Gaseous Diffusion Plant | PA-0013 | Solid Waste Stabilization and Disposition | 286,830 | 63,447 | 63,447 | 350,277 | 350,277 |
| Paducah Gaseous Diffusion Plant | PA-0020 | Safeguards and Security | 74,716 | 76,052 | 80,921 | 150,768 | 155,637 |
| Paducah Gaseous Diffusion Plant | PA-0040 | Nuclear Facility D&D-Paducah | 1,166,393 | 1,182,250 | 1,247,097 | 2,348,643 | 2,413,490 |
| 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 | 37,601 | 4,295 | 5,115 | 41,896 | 42,716 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| | | Fund) | | | | | |
| Paducah Gaseous Diffusion Plant | PA-0103 | Paducah Community and Regulatory Support (D&D Fund) | 28,350 | 29,021 | 31,100 | 57,371 | 59,450 |
| **Paducah Gaseous Diffusion Plant Total** | | | 2,527,900 | 9,103,624 | 15,876,771 | 11,631,524 | 18,404,671 |
| 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 |
| **Pantex Plant Total** | | | 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 | 525,487 | 1,241,481 | 1,241,481 | 1,766,968 | 1,766,968 |
| 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 | 155,676 | 579,874 | 579,874 | 735,550 | 735,550 |
| Portsmouth Gaseous Diffusion | PO-0040 | Nuclear Facility D&D- | 1,527,204 | 4,374,648 | 11,181,319 | 5,901,852 | 12,708,523 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Plant | | Portsmouth | | | | | |
| Portsmouth Gaseous Diffusion Plant | PO-0041 | Nuclear Facility D&D-Portsmouth GCEP | 66,096 | 0 | 0 | 66,096 | 66,096 |
| 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) | 9,350 | 33,769 | 33,769 | 43,119 | 43,119 |
| Portsmouth Gaseous Diffusion Plant | PO-0104 | Portsmouth Community and Regulatory Support (D&D Fund) | 6,465 | 15,888 | 15,888 | 22,353 | 22,353 |
| **Portsmouth Gaseous Diffusion Plant Total** | | | 3,288,272 | 6,245,660 | 13,052,331 | 9,533,932 | 16,340,603 |
| Program Direction | HQ-PD-0100 | Program Direction | 4,880,424 | 7,122,394 | 7,122,394 | 12,002,818 | 12,002,818 |
| **Program Direction Total** | | | 4,880,424 | 7,122,394 | 7,122,394 | 12,002,818 | 12,002,818 |
| 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 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Rocky Flats Environmental Technology Site | RF-0013 | Solid Waste Stabilization and Disposition | 892,507 | 0 | 0 | 892,507 | 892,507 |
| 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 | 2,086,617 | 0 | 0 | 2,086,617 | 2,086,617 |
| Rocky Flats Environmental Technology Site | RF-0040 | Nuclear Facility D&D-North Side Facility Closures | 1,920,826 | 0 | 0 | 1,920,826 | 1,920,826 |
| 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 | 102,229 | 2,425,502 | 2,425,502 | 2,527,731 | 2,527,731 |
| Rocky Flats Environmental Technology Site | RF-0101 | Rocky Flats Community and Regulatory Support | 37,041 | 0 | 0 | 37,041 | 37,041 |
| **Rocky Flats Environmental Technology Site Total** | | | 6,570,044 | 2,425,502 | 2,425,502 | 8,995,546 | 8,995,546 |
| Sandia National Laboratory | VL-SN-0030 | Soil and Water Remediation-Sandia | 248,137 | 23,902 | 27,982 | 272,039 | 276,119 |
| **Sandia National Laboratory Total** | | | 248,137 | 23,902 | 27,982 | 272,039 | 276,119 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| 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 | 134,065 | 0 | 0 | 134,065 | 134,065 |
| 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 | 2,326,670 | 4,417,109 | 5,018,743 | 6,743,779 | 7,345,413 |
| Savannah River Site | SR-0012 | SNF Stabilization and Disposition | 453,919 | 5,522,442 | 5,982,810 | 5,976,361 | 6,436,729 |
| Savannah River Site | SR-0013 | Solid Waste Stabilization and Disposition | 1,849,614 | 5,149,620 | 5,695,380 | 6,999,234 | 7,544,994 |
| Savannah River Site | SR-0014C | Radioactive Liquid Tank Waste Stabilization and Disposition-2035 | 8,972,819 | 14,435,536 | 18,096,035 | 23,408,355 | 27,068,854 |
| 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 | 1,701,978 | 3,673,766 | 4,088,846 | 5,375,744 | 5,790,824 |
| Savannah River Site | SR-0030 | Area Completion | 2,005,136 | 10,572,307 | 11,943,217 | 12,577,443 | 13,948,353 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Savannah River Site | SR-0040 | Nuclear Facility D&D | 494,444 | 0 | 0 | 494,444 | 494,444 |
| Savannah River Site | SR-0040B | Nuclear Facility D&D-2012 | 778 | 0 | 0 | 778 | 778 |
| Savannah River Site | SR-0100 | Non-Closure Mission Support | 203,693 | 412,647 | 412,647 | 616,340 | 616,340 |
| Savannah River Site | SR-0101 | Savannah River Community and Regulatory Support | 164,742 | 0 | 0 | 164,742 | 164,742 |
| Savannah River Site | SR-0900 | Pre-2004 Completions | 198,242 | 0 | 0 | 198,242 | 198,242 |
| **Savannah River Site Total** | | | 22,380,237 | 44,183,427 | 51,237,678 | 66,563,664 | 73,617,915 |
| Stanford Linear Accelerator Center | CBC-SLAC-0030 | Soil and Water Remediation-Stanford Linear Accelerator Center | 66,168 | 3,800 | 4,145 | 69,968 | 70,313 |
| **Stanford Linear Accelerator Center Total** | | | 66,168 | 3,800 | 4,145 | 69,968 | 70,313 |
| Technology Development and Deployment | HQ-TD-0100 | Technology Development | 1,753,676 | 1,249,663 | 1,249,663 | 3,003,339 | 3,003,339 |
| **Technology Development and Deployment Total** | | | 1,753,676 | 1,249,663 | 1,249,663 | 3,003,339 | 3,003,339 |
| Waste Isolation Pilot Plant | CB-0020 | Safeguards and Security | 40,822 | 150,699 | 150,699 | 191,521 | 191,521 |
| Waste Isolation Pilot Plant | CB-0080 | Operate Waste Disposal Facility-WIPP | 2,445,024 | 2,453,099 | 2,839,072 | 4,898,123 | 5,284,096 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Waste Isolation Pilot Plant | CB-0081 | Central Characterization Project | 299,027 | 152,412 | 209,603 | 451,439 | 508,630 |
| Waste Isolation Pilot Plant | CB-0090 | Transportation-WIPP | 444,114 | 447,527 | 513,668 | 891,641 | 957,782 |
| Waste Isolation Pilot Plant | CB-0100 | US/Mexico/Border/Material Partnership Initiative | 11,405 | 0 | 0 | 11,405 | 11,405 |
| Waste Isolation Pilot Plant | CB-0101 | Economic Assistance to the State of New Mexico | 258,398 | 0 | 0 | 258,398 | 258,398 |
| Waste Isolation Pilot Plant | CB-0900 | Pre-2004 Completions | 7,137 | 0 | 0 | 7,137 | 7,137 |
| **Waste Isolation Pilot Plant Total** | | | 3,505,927 | 3,203,737 | 3,713,042 | 6,709,664 | 7,218,969 |
| 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 | 284,149 | 156,154 | 156,154 | 440,303 | 440,303 |
| West Valley Demonstration Project | OH-WV-0014 | Radioactive Liquid Tank Waste Stabilization and Disposition-West Valley High-Level Waste Storage | 0 | 0 | 0 | 0 | 0 |
| West Valley Demonstration Project | OH-WV-0020 | Safeguards and Security-West Valley | 22,784 | 40,864 | 40,864 | 63,648 | 63,648 |
| West Valley Demonstration | OH-WV-0040 | Nuclear Facility D&D-West | 670,054 | 629,419 | 748,101 | 1,299,473 | 1,418,155 |

| Lifecycle Costs by Program Baseline Summary (PBS)<br>Thousands of Dollars | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Site** | **PBS Code** | **PBS Name** | **Prior Costs (97 - 2012)** | **FY13 and Remaining Cost (Low Range)** | **FY13 and Remaining Cost (High Range)** | **Lifecycle Cost (Low Range)** | **Lifecycle Cost (High Range)** |
| Project | | Valley | | | | | |
| **West Valley Demonstration Project Total** | | | 1,009,306 | 826,437 | 945,119 | 1,835,743 | 1,954,425 |
| **Grand Total** | | | 107,593,735 | 186,975,465 | 223,353,515 | 294,569,200 | 330,947,250 |

| ENVIRONMENTAL MANAGEMENT PROJECT SCHEDULE RANGE | |
|---|---|
| Site | Completion Date |
| Stanford Linear Accelerator Center | 2013 |
| Separations Process Research Unit | 2015 - 2016 |
| Los Alamos National Laboratory | 2015[a] |
| West Valley Demonstration Project | 2040 - 2045 |
| Lawrence Livermore National Laboratory - Site 300 | 2019 |
| Sandia National Laboratories - NM | 2020 |
| Energy Technology Engineering Center | 2020 - 2025 |
| Brookhaven National Laboratory | 2019 |
| Oak Ridge Reservation | 2021 - 2022 |
| Nevada Test Site Projects | 2027 - 2038 |
| Moab | 2025[b] |
| Savannah River Site | 2042 |
| Idaho National Laboratory | 2042 - 2050 |
| Waste Isolation Pilot Plant | 2035 - 2039 |
| Paducah Gaseous Diffusion Plant | 2038 |
| Portsmouth Gaseous Diffusion Plant | 2044 - 2052 |
| River Protection | 2042 - 2050 |
| Richland | 2060 - 2066 |

[a] 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.

[b] With AARA funding, the completion date is for Moab is has been accelerated by three years to 2025.

## Carlsbad

### Funding Schedule by Activity

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Waste Isolation Pilot Plant | | | |
| CB-0080 / Operate Waste Disposal Facility-WIPP | 136,914 | --- | 134,158 |
| CB-0081 / Central Characterization Project | 37,477 | --- | 41,602 |
| CB-0090 / Transportation-WIPP | 38,943 | --- | 27,630 |
| Subtotal, Waste Isolation Pilot Plant | 213,334 | 214,640 | 203,390 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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 current approved life-cycle planning estimate range is 2035 to 2039 for decommissioning of the Waste Isolation Pilot Plant 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, as well as, other programmatic factors.

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 $12,567,000.

**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 regulates highway transportation and Type B shipping 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 received its second Compliance Recertification from the Environmental Protection Agency in March 2006, and the third in November 2010. The fourth Compliance Recertification Application will be submitted in 2014.

**Program Accomplishments and Milestones**

During FY 2013 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.
- Provide support for the capability and goal of up to 21 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 |
|---|---|
| Complete Removal of 3,706 cu meters of TRU waste from LANL as identified in Framework Agreement | June 2014 |

Current estimated Life-Cycle cost range is $6,709,664,000 to $7,218,969,000; current projected closure date is 2035 to 2039.

**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 Management and Operating contractor at the Carlsbad Field Office is Nuclear Waste Partnership, 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 2017. The Carlsbad Field Office also manages several small non-Management and Operating contracts which provide management analysis, site integration, transportation services, 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 cleanup across the DOE complex, as well as, support to other DOE mission programs.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Carlsbad | | | | |
| CB-0020 | 100.0% | 0% | 0% | 0% |
| CB-0080 | 100.0% | 0% | 0% | 0% |
| CB-0081 | 100.0% | 0% | 0% | 0% |
| CB-0090 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | **FY 2012 Current** | **FY 2014 Request** | **FY 2014 Request vs FY 2012 Current** |
| **Defense Environmental Cleanup** | | | |
| **Waste Isolation Pilot Plant** | | | |
| **CB-0080 / Operate Waste Disposal Facility-WIPP** | | | |
| • Decrease reflects reduced requirements for infrastructure investments. | 136,914 | 134,158 | -2,756 |
| **CB-0081 / Central Characterization Project** | | | |
| • Increase reflects central characterization activities in support of the Los Alamos National Laboratory Framework Agreement and re-commencement of the Central Characterization Project at Oak Ridge National Laboratory. | 37,477 | 41,602 | +4,125 |
| **CB-0090 / Transportation-WIPP** | | | |
| • Decrease reflects reductions in the level of transportation services commensurate with reduced shipping requirements. | 38,943 | 27,630 | -11,313 |
| **Total, Carlsbad** | **213,334** | **203,390** | **-9,944** |

## 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 22 sites.

Although the volume of waste emplaced each year is 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 2012 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 were 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 | 2620 | 1514 | 0 | 0 | 57 | 0 | 1469 | 0.0 | **83,488** |
| 2013* | 0 | 0 | 550 | 341 | 0 | 0 | 0 | 0 | 580 | 0.0 | **84,959** |
| **Site Totals:** | **121** | **5,061** | **40,055** | **7,485** | **146** | **405** | **415** | **15,062** | **16,206** | **4** | **84,959** |

**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 | 15.4 | 1.3 | 0.0 | 14.7 | 0.0 | 3.2 | 4.6 | 1.7 | **299.7** |
| 2013* | 3.6 | 0.0 | 0.0 | 7.1 | 0.0 | 0.0 | 0.0 | 0.0 | **310.5** |
| **Site Totals:** | **53.7** | **3.2** | **19.7** | **144.0** | **14.2** | **46.0** | **4.6** | **25.1** | **310.5** |

*Data is as of February 28, 2013

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, after careful characterization, as low-level waste which is not disposed at the Waste Isolation Pilot Plant.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• 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.<br>• 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.<br>• 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.<br>• Supported handling of contact-handled waste to receive and dispose of contact-handled transuranic waste at the Waste Isolation Pilot Plant.<br>• Supported site maintenance items such as removing exhaust shaft surface duct salt build-up and several other similar projects.<br>• A portion of the scope of work typically covered in this project was executed with American Recovery and Reinvestment Act funding. | **136,914** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain 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.<br>• 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).<br>• 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.<br>• 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.<br>• 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.<br>• Support underground fan renovation, capital equipment purchases, road maintenance, facility modifications and construction, as well as upgrade underground fiber optic cabling.<br>• Support site maintenance items; there will be an annual Waste Isolation Pilot Plant site maintenance outage to allow for maintenance functions in the underground and surface facility.<br>• Implement new panel closure design with closures installed in all filled panels. | |
| FY 2014 | • Maintain 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.<br>• 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).<br>• 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.<br>• Support handling of contact-handled waste to receive and dispose of contact-handled transuranic waste at the Waste Isolation Pilot Plant.<br>• 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.<br>• Support underground fan renovation, capital equipment purchases, road maintenance, facility modifications and construction, as well as upgrade underground fiber optic cabling.<br>• Support site maintenance items; there will be an annual Waste Isolation Pilot Plant site maintenance outage to allow for maintenance functions in the underground and surface facility.<br>• Implement new panel closure design with closures installed in all filled panels. | **134,158** |

## Central Characterization Project (PBS: CB-0081)

**Overview**

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

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.

**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 tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • 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.<br>• 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.<br>• 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.<br>• Supported Central Characterization Project for contact-handled and remote-handled transuranic waste at Los Alamos National Laboratory and the Savannah River Site for disposal at the Waste Isolation Pilot Pant. | **37,477** |

| | | |
|---|---|---|
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• 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.<br>• 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). | --- |
| FY 2014 | • 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.<br>• 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.<br>• Support Central Characterization Project for legacy transuranic waste disposition to be provided at Idaho National Laboratory, Los Alamos National Laboratory, and the Oak Ridge National Laboratory. | **41,602** |

**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 to states and communities 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.

**Benefits**

| | |
|---|---|
| Maximize Success of Construction and Operations Outcomes | • Transuranic waste disposal is an activity for which we have demonstrated high performance using proven technologies within a well-defined regulatory framework. It will enable the near-term site completions and reduce our legacy footprint further. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Supported the carrier contracts and awarded and transitioned to two new carrier contracts.<br>• Supported shipping corridor readiness, contact-handled and remote-handled waste packaging, and shipping services, including Nuclear Regulatory Commission fees.<br>• Supported the capability and goal of up to 35 shipments (contact-handled and remote-handled combined) per week for 41 weeks per year, including shipments from large and small generator sites to the Waste Isolation Pilot Plant. Packaging used in transport waste includes TRUPACT II's, Half PACTs, TRUPACT III's, and remote-handled RH-72B's (RH waste). | **38,943** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provides funding for the carrier contracts.<br>• Supports shipping corridor readiness, contact-handled and remote-handled waste packaging, and shipping services, including Nuclear Regulatory Commission fees.<br>• 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). | --- |

| | | |
|---|---|---|
| FY 2014 | • Provides funding for the carrier contracts.<br>• Supports shipping corridor readiness, contact-handled and remote-handled waste packaging, and shipping services including Nuclear Regulatory Commission fees.<br>• Supports up to 21 shipments (contact-handled and remote-handled combined) per week for 41 weeks per year. These shipments will be from generator sites, mainly Idaho, Los Alamos National Laboratory, Savannah River Site, and Oak Ridge National Laboratory, 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). | **27,630** |

## Idaho

### Funding Schedule by Activity

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Idaho National Laboratory | | | |
| Idaho Cleanup and Waste Disposition | | | |
| ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense) | 9,791 | --- | 12,500 |
| ID-0013 / Solid Waste Stabilization and Disposition | 156,532 | --- | 174,000 |
| ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012 | 115,564 | --- | 78,600 |
| ID-0030B / Soil and Water Remediation-2012 | 98,682 | --- | 97,000 |
| Subtotal, Idaho Cleanup and Waste Disposition | 380,569 | 382,898 | 362,100 |
| Idaho Community and Regulatory Support | | | |
| ID-0100 / Idaho Community and Regulatory Support | 4,100 | 4,125 | 2,910 |
| Total, Idaho National Laboratory | 384,669 | 387,023 | 365,010 |
| Non-Defense Environmental Cleanup | | | |
| Small Sites | | | |
| Idaho National Laboratory | | | |
| ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense) | 5,131 | --- | 5,000 |
| | | --- | |
| Total, Idaho | 389,800 | --- | 370,010 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

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

By FY 2018, 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, 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, calcine disposition, and final

Comprehensive Environmental Response, Compensation and Liability Act capping requirements.

Direct maintenance and repair at the Idaho National Laboratory is estimated to be $22,233,000.

**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. It also licenses the Independent Spent Fuel Storage Installation containing Three Mile Island fuel debris. The International Atomic Energy Agency also monitors via treaty. Five primary 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 the Idaho site by January 1, 2035, and treatment of liquid radioactive waste by December 31, 2014. In addition, all calcine waste must be road ready for shipment out of state by December 31, 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.

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 radioactive waste 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 2018, which will significantly reduce EM costs for infrastructure and surveillance and maintenance. The primary accomplishments for FY 2013 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 2018, Idaho National Laboratory anticipates completing decontamination and decommissioning of EM buildings and facilities, soil cleanup, and closure of underground liquid waste tanks and associated piping and infrastructure. Following FY 2018, 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 and demolition of Nuclear Energy facilities no longer having a mission.

During FY 2013 it is expected that the Idaho Site will complete the following major accomplishments:

- Ship 4,500 cubic meters of contact-handled transuranic waste to the Waste Isolation Pilot Plant.

Current estimated Life-Cycle cost range $22,473,029,000 to $24,672,378,000; current projected closure date FY 2042 to FY 2050.

Below are the milestones that for this budget window:

| Milestones | Date |
|---|---|
| Commence Sodium-Bearing Waste Treatment Operations | June 2013 |
| Maintain an average of 2,000 cubic meters over 3 years of Transuranic Waste Shipped Out of Idaho | September 2013 |
| Site Treatment Plan Disposition of 4,500 cubic meters of contact-handled transuranic waste | September 2013 |
| Site Treatment Plan - Remote Handled-Repackaging - 2.0 Cubic Meters | September 2014 |

**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. The current contract expires on September 30, 2015. This contract covers spent (used) nuclear fuel and high-level waste storage and disposition, sodium bearing tank waste disposition, soil and groundwater remediation, and decommissioning work at the site through 2015.
- The Idaho Treatment Group, LLC performs waste processing at the Advanced Mixed Waste Treatment Project. This contract will run through 2015. The Idaho Treatment Group is responsible for processing and disposing of transuranic waste and mixed low-level waste retrievably stored at the Idaho site's transuranic waste 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 spent (used) nuclear fuel data and inter-site coordination for foreign and domestic research reactor receipts;
3. Off-site disposition of the high-level waste and spent (used) nuclear fuel.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Idaho | | | | |
| ID-0012B-D | 100.0% | 0% | 0% | 0% |
| ID-0012B-N | 100.0% | 0% | 0% | 0% |
| ID-0013 | 100.0% | 0% | 0% | 0% |
| ID-0014B | 0% | 100.0% | 0% | 0% |
| ID-0030B | 100.0% | 0% | 0% | 0% |
| ID-0100 | 100.0% | 0% | 0% | 0% |

## Explanation of Funding Changes

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
| **Defense Environmental Cleanup** | | | |
| **Idaho National Laboratory** | | | |
| **Idaho Cleanup and Waste Disposition** | | | |
| **ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)** | | | |
| • The increase supports the retrieval of EBR II fuel from storage for transfer to the Materials and Fuel Complex. The increase also reflects the ability to receive and store up to 15 shipments of Advanced Test Reactor spent (used) nuclear fuel. | 9,791 | 12,500 | +2,709 |
| **ID-0013 / Solid Waste Stabilization and Disposition** | | | |
| • The increase supports increased transuranic shipments to the Waste Isolation Pilot Plant and the capability to treat sodium bonded transuranic remote-handled waste. | 156,532 | 174,000 | +17,468 |
| **ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012** | | | |
| • The decrease reflects the nearing completion of Sodium Bearing waste treatment operations which are expected to be completed by December 31, 2014. | 115,564 | 78,600 | -36,964 |
| **ID-0030B / Soil and Water Remediation-2012** | | | |
| • No significant change. | 98,682 | 97,000 | -1,682 |
| **Idaho Community and Regulatory Support** | | | |
| **ID-0100 / Idaho Community and Regulatory Support** | | | |
| • The decrease reflects a reduction in groundwater monitoring and sub-surface investigations. | 4,100 | 2,910 | -1,190 |
| **Non-Defense Environmental Cleanup** | | | |
| **Small Sites** | | | |
| **ID-0012B-N / SNF Stabilization and Disposition-2012 (Non-Defense)** | | | |
| • No significant change. | 5,131 | 5,000 | -131 |
| **Total, Idaho** | **389,800** | **370,010** | **-19,790** |

**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 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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Maintained the Chemical Processing Plant building-666 with accompanying spent (used) nuclear fuel.<br>• Maintained all dry spent (used) nuclear fuel storage facilities.<br>• Received and unloaded one shipment of domestic research reactor spent (used) nuclear fuel.<br>• Stored incoming shipments of Advanced Test Reactor fuel in Chemical Processing Plant building-666.<br>• Conducted scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel. | **9,791** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain the Chemical Processing Plant building-666 with accompanying spent (used) nuclear fuel.<br>• Maintain all dry spent (used) nuclear fuel storage facilities.<br>• Receive and unload one shipment of Domestic or Foreign Research Reactor spent (used) nuclear fuel.<br>• Retrieve EBR II fuel from storage for transfer to the Materials and Fuels Complex.<br>• Conduct scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel . | --- |
| FY 2014 | • Maintain the Chemical Processing Plant building-666 with accompanying spent (used) nuclear fuel. | **12,500** |

| | | |
|---|---|---|
| | • Maintain all dry spent (used) nuclear fuel storage facilities.<br>• Retrieve EBR II fuel from storage for transfer to the Materials and Fuels Complex.<br>• Conduct scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel.<br>• Receive and store up to 15 shipments of Advanced Test Reactor spent (used) nuclear fuel. | |

**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 Installation 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 (used) nuclear fuel presently stored on-site in the Three Mile Island Independent Spent (Used) Nuclear Fuel Storage Installation and payment of licensing fees for the Idaho Spent (Used) Fuel Facility that is designed and licensed, but not yet built.

**Benefits**

| | |
|---|---|
| Proliferation Benefits | • The EM program has been successfully mitigating the technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup, including safely storing tons of used nuclear fuel. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Provided payments to the Nuclear Regulatory Commission for licensing-related activities related to Fort St. Vrain and Three Mile Island-2 Spent (Used) Nuclear Fuel and the Idaho Spent Fuel Facility.<br>• Provided security for Fort St. Vrain Spent (Used) Nuclear Fuel.<br>• Continued to monitor Three Mile Island-2 Spent (Used) Nuclear Fuel. | **5,131** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Provide security for Fort St. Vrain Spent (Used) Nuclear Fuel.<br>• Continue to monitor Three Mile Island-2 Spent (Used) Nuclear Fuel.<br>• Implement Nuclear Regulatory Commission license renewal for Three Mile Island-2. | **---** |
| FY 2014 | • 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.<br>• Provide security for Fort St. Vrain Spent (Used) Nuclear Fuel.<br>• Continue to monitor Three Mile Island-2 Spent (Used) Nuclear Fuel.<br>• Implement Nuclear Regulatory Commission license renewal for Three Mile Island-2. | **5,000** |

**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.

**Benefits**

| | |
|---|---|
| Waste Disposition and Disposal | • Transuranic waste and low-level waste disposal are activities for which EM has 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. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Provided for site-wide environmental compliance.<br>• 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.<br>• 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 facility; characterized and certified remote-handled transuranic waste at the Idaho Nuclear Technology and Engineering Center in preparation for shipment to the Waste Isolation Pilot Plant; and received, characterized, certified, transuranic waste from other DOE sites in preparation for shipment to the Waste Isolation Pilot Plant.<br>• Packaged and shipped 3,000 cubic meters of contact-handled transuranic waste to the Waste Isolation Pilot Plant.<br>• Disposed mixed low-level and low-level waste off-site. | **156,532** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide for site-wide environmental compliance.<br>• 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 (plant and animal life) | --- |

| | | |
|---|---|---|
| | surveillance.<br>• 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.<br>• Ship 4,500 cubic meters of contact-handled transuranic waste to the Waste Isolation Pilot Plant.<br>• Dispose mixed low-level and low-level waste off-site. | |
| FY 2014 | • Provide for site-wide environmental compliance.<br>• 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.<br>• 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 facility; repackage and characterize remote-handled transuranic waste at the Idaho Nuclear Technology and Engineering Center in preparation for shipment to the Waste Isolation Pilot Plant; continue preparation of 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.<br>• Prepare approximately 4,500 cubic meters of contact-handled transuranic waste for shipment to the Waste Isolation Pilot Plant.<br>• Dispose mixed low-level and low-level waste off-site.<br>• Retrofit an existing facility to increase the capability for treating sodium bonded transuranic waste and mixed low-level waste as required by the Site Treatment Plan.<br>• Repackage and characterize remote-handled transuranic waste for shipment to the Waste Isolation Pilot plant. | **174,000** |

**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.

**Benefits**

| | |
|---|---|
| Maximize Success of Construction and Operations Outcomes | • High-level waste disposal activities using proven technologies within a well-defined regulatory framework. It will enable the near-term site completions and reduce our legacy footprint further. |
| Develop novel methods for addressing high-level waste that can accelerate progress and reduce cost | • Improved solutions in waste disposal and modular tank waste treatment, and enhance safety and operating efficiency, and/or technical alternatives that reduce cost, schedule, or performance risks. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Conducted calcine waste formulation and design activities to ensure submittal of a Resource Conservation and Recovery Act Part B permit to the State by December 2012.<br>• Conducted operational readiness review in preparation for hot start-up of the Sodium Bearing Waste facility.<br>• Maintained tank farm and systems necessary for safe delivery of sodium bearing waste until treatment is complete.<br>• Provided acceptable Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for the process waste system, support laboratories, and existing process facilities. | **115,564** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Maintain tank farm and systems necessary for safe delivery of sodium bearing waste until treatment is complete.<br>• Continue providing acceptable Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for the process waste system, support laboratories, and existing process facilities. | --- |

| | | |
|---|---|---|
| FY 2014 | • Continue Sodium Bearing waste treatment operations.<br>• Maintain tank farm and systems necessary for safe delivery of sodium bearing waste until treatment is complete.<br>• Continue providing acceptable Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for the process waste system, support laboratories, and existing process facilities. | **78,600** |

**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. 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.

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Retrieved characterized/treated and disposed of targeted buried waste.<br>• Continued groundwater treatment and monitoring at Waste Area Group 1 (Test Area North).<br>• Maintained remedies at Waste Area Group 2 (Test Reactor Area); Waste Area Group 4 (Central Facilities Area); Waste Area Group 5 (Power Burst Facility/Auxiliary Reactor Area); and Waste Area Group 6 (Experimental Breeder Reactor/BORAX).<br>• 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.<br>• 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.<br>• Implemented the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit-10-04) unexploded ordinances.<br>• Completed buried waste retrieval operations in Accelerated Retrieval Project-IV over Pit 5 (0.79 acres).<br>• Completed 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).<br>• Completed the FY 2010 Comprehensive Environmental Response, Compensation, and Liability Act remediation effectiveness Site-wide five-year review. | **98,682** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations | --- |

| | | |
|---|---|---|
| | have not yet been determined):<br>• 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.<br>• Ship retrieved Waste Area Group 7 buried targeted waste to the Waste Isolation Pilot Plant.<br>• 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).<br>• 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.<br>• 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.<br>• Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit 10-04) unexploded ordinance.<br>• Maintain Radioactive Waste Management Complex infrastructure.<br>• Retrieve buried waste from the Subsurface Disposal Area (0.20 acres). | |
| FY 2014 | • 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.<br>• Ship retrieved Waste Area Group 7 buried targeted waste to the Waste Isolation Pilot Plant.<br>• Maintain the remedies at Waste Area Group 2 (Test Reactor Area); Waste Area Group 4 (Central Facilities Area); Waste Area Group 5 (Power Burst Facility/Auxiliary Reactor Area); and Waste Area Group 6 (Experimental Breeder Reactor/BORAX).<br>• 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.<br>• Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit 10-08) site wide ground water, miscellaneous sites, and future sites.<br>• Implement the Comprehensive Environmental Response, Compensation, and Liability Act Record of Decision for Waste Area Group 10 (Operable Unit 10-04) unexploded ordinance.<br>• Maintain Radioactive Waste Management Complex infrastructure. | **97,000** |

## 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.

**Benefits**

| | |
|---|---|
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitment to integrating environmental justice principles into our mission. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • 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.<br>• Paid fees for the Title V Air Permit and technical assistance for air quality compliance.<br>• 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. | **4,100** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue groundwater monitoring and subsurface investigation with analysis of contaminants and transport mechanisms affecting the Snake River Aquifer, both on-site and off-site.<br>• Payment of fees for the Title V Air Permit and technical assistance for air quality compliance.<br>• Provide grant to the State of Idaho Department of Environmental Quality. | --- |
| FY 2014 | • Continue groundwater monitoring and subsurface investigation with analysis of contaminants and transport mechanisms affecting the Snake River Aquifer, both on-site and off-site.<br>• Payment of fees for the Title V Air Permit and technical assistance for air quality compliance.<br>• Provide grant to the State of Idaho Department of Environmental Quality. | **2,910** |

**Oak Ridge**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Oak Ridge | | | |
| Building 3019 | | | |
| OR-0011Z / Downblend of U-233 in Building 3019 | 37,000 | 37,226 | 0 |
| OR Cleanup and Disposition | | | |
| OR-0013B / Solid Waste Stabilization and Disposition-2012 | 80,900 | --- | 115,855 |
| OR Nuclear Facility D&D | | | |
| OR-0041 / Nuclear Facility D&D-Y-12 | 30,406 | --- | 35,229 |
| OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory | 43,694 | --- | 38,387 |
| OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense) | 0 | --- | 100 |
| Subtotal, OR Nuclear Facility D&D | 74,100 | 69,523 | 73,716 |
| OR Reservation Community and Regulatory Support | | | |
| OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense) | 6,409 | 6,448 | 4,365 |
| Total, Oak Ridge | 198,409 | 199,623 | 193,936 |
| Technology Development and Deployment | | | |
| Oak Ridge | | | |
| OR-TD-0100 / Technology Development Activities - Oak Ridge | 0 | --- | 4,091 |
| Total, Defense Environmental Cleanup | 198,409 | --- | 198,027 |
| Uranium Enrichment Decontamination and Decommissioning Fund | | | |
| Oak Ridge | | | |
| Oak Ridge | | | |
| OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund) | 182,056 | --- | 177,064 |
| OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration | 18,800 | --- | 0 |
| Subtotal, Oak Ridge | 200,856 | 202,085 | 177,064 |

| | | | |
|---|---|---|---|
| Pension and Community and Regulatory Support | | | |
| Oak Ridge | | | |
| OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration | 0 | 0 | 18,926 |
| Total, Uranium Enrichment Decontamination and Decommissioning Fund | 200,856 | 202,085 | 195,990 |
| Total, Oak Ridge | 399,265 | --- | 394,017 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

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 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Oak Ridge | | | |
| Building 3019 | | | |
| OR-0011Z / Downblend of U-233 in Building 3019 | 37,000 | 37,226 | 0 |
| OR Cleanup and Disposition | | | |
| OR-0013B / Solid Waste Stabilization and Disposition-2012 | 80,900 | --- | 115,855 |
| | | --- | |
| OR Nuclear Facility D&D | | --- | |
| OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory | 43,694 | --- | 38,387 |
| OR-0041 / Nuclear Facility D&D-Y-12 | 30,406 | --- | 35,229 |
| OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense) | 0 | --- | 100 |
| Subtotal, OR Nuclear Facility D&D | 74,100 | 69,523 | 73,716 |
| OR Reservation Community and Regulatory Support | | | |
| OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense) | 6,409 | 6,448 | 4,365 |
| Total, Oak Ridge | 198,409 | 199,623 | 193,936 |

| | | | |
|---|---|---|---|
| Technology Development and Deployment | | | |
| Oak Ridge | | | |
| OR-TD-0100 / Technology Development Activities - Oak Ridge | 0 | --- | 4,091 |
| Total, Defense Environmental Cleanup | 198,409 | --- | 198,027 |
| Uranium Enrichment Decontamination and Decommissioning Fund | | | |
| Oak Ridge | | | |
| Oak Ridge | | | |
| OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund) | 182,056 | 183,865 | 177,064 |
| Pension and Community and Regulatory Support | | | |
| Oak Ridge | | | |
| OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration | 18,800 | 18,220 | 18,926 |
| Total, Uranium Enrichment Decontamination and Decommissioning Fund | 200,856 | 202,085 | 195,990 |
| Total, Oak Ridge | 399,265 | --- | 394,017 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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 $9,180,000 in FY 2014.

**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 in the Site Treatment Plan 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 and Milestones**

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 2013, it is expected that the Oak Ridge EM Program will complete the following major accomplishments:

- Continue structural demolition of the North End of Building K-25 at the East Tennessee Technology Park.
- Complete demolition preparation for final five units of the East Wing of K-25 building.
- Complete demolition preparation of Building K-27.
- Complete processing of 113 cubic meters of remote-handled and 102 cubic meters of contact-handled transuranic waste.
- Initate the disposition of the uranium-233 inventory.
- Complete decommissioning of Central Neutralization Facility at the East Tennessee Technology Park.

| Milestones | Date |
|---|---|
| Begin construction of Sludge Processing Annex for TRU Sludge | June 2014 |

Current estimated Life-Cycle cost range $11,467,757,000 - $11,627,899,000; current projected closure dates 2021.

**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, Inc. 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 LLC contract for decontamination and decommissioning of surplus buildings and legacy soil and groundwater remediation at the East Tennessee Technology Park (former uranium-enrichment gaseous diffusion plant), covering the period 2011 – 2016, with an option to 2020;
- Isotek Systems LLC 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.

**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 Transuranic Waste Processing Center located at the Oak Ridge National Laboratory in preparation of final characterization of the waste for disposition; (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.

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.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Oak Ridge | | | | |
| OR-0013B | 100.0% | 0% | 0% | 0% |
| OR-0020 | 100.0% | 0% | 0% | 0% |
| OR-0040 | 100.0% | 0% | 0% | 0% |
| OR-0041 | 100.0% | 0% | 0% | 0% |
| OR-0042 | 100.0% | 0% | 0% | 0% |
| OR-0043 | 100.0% | 0% | 0% | 0% |
| OR-0100 | 100.0% | 0% | 0% | 0% |
| OR-0102 | 100.0% | 0% | 0% | 0% |
| OR-TD-0100 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Defense Environmental Cleanup** | | | |
| **Oak Ridge** | | | |
| **Building 3019** | | | |
| **OR-0011Z / Downblend of U-233 in Building 3019** | | | |
| • Decrease reflects the transfer of the Uranium-233 disposition activities to the Solid Waste Stabilization and Disposition-2012 Project, PBS OR-0013B. | 37,000 | 0 | -37,000 |

| | | | |
|---|---|---|---|
| **OR Cleanup and Disposition** | | | |
| **OR-0013B / Solid Waste Stabilization and Disposition-2012** | | | |
| • Increase reflects the transfer of Uranium-233 disposition activities from the Downblend of Uranium-233 Project in Building 3019, PBS OR-0011Z. | 80,900 | 115,855 | +34,955 |
| **OR Nuclear Facility D&D** | | | |
| **OR-0041 / Nuclear Facility D&D-Y-12** | | | |
| • The increase reflects interim capping of the onsite Comprehensive Environmental Response, Compensation, and Liability Act disposal facility and planning for a follow-on disposal facility at Y-12. | 30,406 | 35,229 | +4,823 |
| **OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory** | | | |
| ▪ Decrease is the result of completion of removal action for the most significant groundwater contamination source at Oak Ridge National Laboratory (Tank W-1A). | 43,694 | 38,387 | -5,307 |
| **OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)** | | | |
| ▪ No significant change. | 0 | 100 | +100 |
| **OR Reservation Community and Regulatory Support** | | | |
| **OR-0100 / Oak Ridge Reservation Community & Regulatory Support (Defense)** | | | |
| • Decrease reflects reduced support for environmental oversight grants for the State of Tennessee maintenance and operations and Federal Facility Agreement regulators. | 6,409 | 4,365 | -2,044 |
| **Technology Development and Deployment** | | | |
| **OR-TD-0100 / Technology Development Activities - Oak Ridge** | | | |
| • Increase reflects initiation of mercury detection technology applications. | 0 | 4,091 | +4,091 |
| **Uranium Enrichment Decontamination and Decommissioning Fund** | | | |
| **OR-0040 / Nuclear Facility D&D-East Tennessee Technology Park (D&D Fund)** | | | |
| • Decrease reflects completion of K-25 North End building activities and a reduction in historical preservation activities. | 182,056 | 177,064 | -4,992 |
| **Pension and Community and Regulatory Support** | | | |
| **OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration** | | | |
| ▪ No significant change. | 18,800 | 18,926 | +126 |
| **Total, Oak Ridge** | **399,265** | **394,017** | **-5,248** |

**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 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. Furthermore, the balance of the inventory will be downblended and dispositioned with other site liquid low-level wastes funded within this project.

**Benefits**

| | |
|---|---|
| Waste and Nuclear Disposition and Disposal | • 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. |
| Benefits to the Department for Footprint Reduction | • 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. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• Completed the Phase I and Phase II alternatives analysis in support of the identification of any potentially more efficient disposition pathways for the inventory.<br>• 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. | **37,000** |

| | | |
|---|---|---|
| | • Completed 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 at the Nevada National Security Site in Nevada. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• The scope for the Uranium-233 disposition project will be transferred and funded out of PBS OR-0013B. | --- |
| FY 2014 | • The Uranium-233 disposition activities were transferred to the Solid Waste Stabilization and Disposition-2012 Project, PBS OR-0013B. | **0** |

**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. In FY 2014, processing of contact-handled and remote-handled Transuranic debris will continue, supporting final certification of waste for disposal at the Waste Isolation Pilot Plant or the Nevada National Security Site. In addition, planning and design of the systems necessary to support processing of transuranic sludge will continue in order to support a construction schedule which will allow for sludge processing to begin in FY 2018.

Beginning in FY 2013, this PBS funds the processing and disposition of the Oak Ridge Reservation uranuim-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 2014, Oak Ridge will continue to make shipments of the Consolidation Edison Uranium Solidification Project material to the Nevada National Security Site; initiate transfer of remaining canisters to Building 2026 for processing, and achieve a cumulative disposition of approximately 25% of the entire uranium-233 inventory in Building 3019. 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.

**Benefits**

| | |
|---|---|
| Waste and Nuclear Material Disposition and Disposal | • Transuranic waste and low-level waste disposal are activities—for which the Department has 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. |
| Benefits to the Department for Footprint Reduction | • 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. |

| Funding and Activity Schedule | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Managed and stored mixed low-level waste in compliance with regulations.<br>• Maintained regulatory safety basis documents and permits and operated waste storage facilities.<br>• Continued to process, store and transfer remote-handled and contact-handled transuranic waste at the Transuranic Waste Processing Center.<br>• Continued shipment of Polychlorinated biphenyls contaminated waste in accordance with the Federal Facility Compliance Agreement.<br>• Developed a processing strategy for approximately 2,000 cubic meters of remote-handled sludge inventory.<br>• Partially executed the transuranic waste disposition activities. (This activity was partially covered with American Reinvestment and Recovery Act of 2009 funding.) | **80,900** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue to manage and store mixed low-level and transuranic waste in compliance with regulations.<br>• Maintain regulatory safety basis documents and permits and operate waste storage facilities at the East Tennessee Technology Park and the Oak Ridge National Laboratory.<br>• Continue retrieval, treatment, packaging and shipment for disposal of Solid Waste Storage Area 5 waste.<br>• Continue transfers of transuranic waste bound for the Transuranic Waste Processing Facility.<br>• Continue processing and disposal of contact-handled and remote-handled transuranic waste to meet regulatory milestones.<br>• Treat and ship mixed low-level waste to off-site disposal.<br>• Initiate construction of the sludge build-out capital project.<br>• Initiate shipments of Consolidated Edison Uranium Solidification Project material from the uranium-233 inventory to offsite disposal.<br>• Continue required surveillance and maintenance and other activities at Building 3019 to maintain a safe and secure condition.<br>• Initiate planning for processing of the remaining uranium-233 inventory. | --- |
| FY 2014 | • Continue to manage and store mixed low-level and transuranic waste in compliance with regulations.<br>• Maintain regulatory safety basis documents and permits and operate waste storage facilities at the East Tennessee Technology Park and the Oak Ridge National Laboratory.<br>• Continue planning for retrieval, treatment, packaging and shipment for disposal of Solid Waste Storage Area 5 Trench 13 waste.<br>• Continue transfers of transuranic waste to the Transuranic Waste Processing Facility located at the Oak Ridge National Laboratory.<br>• Continue processing and disposal of contact-handled and remote-handled transuranic waste to meet regulatory milestones.<br>• Treat and ship mixed low-level waste to off-site disposal.<br>• Continue design, conceptual planning, and prepare for construction of the Sludge Build-out capital asset project at the Transuranic Waste Processing | **115,855** |

| | | |
|---|---|---|
| | Center.<br>• Continue required surveillance and maintenance and other activities at Building 3019 to maintain a safe and secure condition.<br>• Complete shipments of Consolidated Edison Uranium Solidification Project material from the uranium-233 inventory to offsite disposal.<br>• Complete planning and readiness activities for processing of the remaining uranium-233 inventory from building 3019-A and initiate processing of the waste in Building 2026 and transfers of down-blended solutions to the Melton Valley Storage Tanks.<br>• Complete and submit plan to the Tennessee Department of Environment and Conservation for disposition of Trench 13 transuranic waste. | |

**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 former 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.

**Benefits**

| | |
|---|---|
| Waste and Nuclear Material Disposition and Disposal | • 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.<br>• Completion of the K-25 building will result in disposal of approximately 280,000 cubic meters of mixed low-level waste. |
| Benefits to the Department for Footprint Reduction | • 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). |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Conducted base operation activities at the East Tennessee Technology Park to provide infrastructure and support to the cleanup project.<br>• Maintained East Tennessee Technology Park in a safe and secure condition.<br>• Conducted pre-demolition activities in preparation for demolition of the East Wing and North End of the K-25 Building.<br>• Removed transite siding from the K-25 North End.<br>• Continued structural demolition of the K-25 East Wing (non-Technetium-99-contaminated Units). | **182,056** |

| | | |
|---|---|---|
| | • Mobilized the K-27 Deactivation Project.<br>• Initiated characterization activities in the K-27 building in support of accelerated decontamination and decommissioning.<br>• Completed National Historical Preservation Act negotiations consultation for the K-25 North End.<br>• Provided infrastructure support for decontamination and decommissioning and remedial action projects. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain East Tennessee Technology Park in a safe and secure condition.<br>• Continue base operations activities at the East Tennessee Technology Park to provide infrastructure and support to cleanup projects.<br>• Continue characterization of K-25 East Wing Technetium 99 area in support of K-25 East Wing gaseous diffusion equipment removal and demolition.<br>• Continue High Risk Equipment removal in the K-25 East Wing and North End.<br>• Continue removal of gaseous diffusion equipment from the North End of K-25.<br>• Continue demolition of the K-25 Building and dispose of associated wastes.<br>• Continue demolition of remaining high risk Poplar Creek facilities, in accordance with the milestone. | --- |
| FY 2014 | • Maintain East Tennessee Technology Park in a safe and secure condition.<br>• Conduct base operations activities at the East Tennessee Technology Park to provide infrastructure and support to cleanup projects.<br>• Continue high risk equipment removal and demolition activities in the K-25 East Wing.<br>• Initiate K-27 decontamination and decommissioning activities. | **177,064** |

## 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 contributor of mercury, radionuclides, 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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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. |
| Reduce transfer of onsite contaminants to offsite surface water systems. | • 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. |
| Operate safe, compliant waste disposal operations in support of Oak Ridge Reservation deactivation and decommissioning and cleanup activities. | • Operations at multiple landfills at Y-12 will continue to service the disposal needs for cleanup operations, principally for the East Tennessee Technology Park Site. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Complied with legal agreements between the DOE; the United States Environmental Protection Agency, Region 4; and the State of Tennessee; environmental laws and regulation, 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 prepared the annual remediation effectiveness report.<br>• Operated Environmental Management Waste Management Facility and other Oak Ridge Reservation Landfills to receive wastes from demolition and remedial | **30,406** |

| | | |
|---|---|---|
| | activities in accordance with DOE Order requirements for groundwater and surface water monitoring, including Environmental Management Waste Management Facility waste acceptance criteria attainment activities.<br>• Completed characterization of the Exposure of Unit 9 containing the 81-10 Mercury Area.<br>• Executed the Old Salvage Yard remediation and West End Mercury Area storm water remediation. A portion of this scope of work was executed with American Recovery and Reinvestment Act of 2009 funding. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• 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.<br>• 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. | --- |
| FY 2014 | • 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.<br>• 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.<br>• Conduct interim capping of the Comprehensive Environmental Response, Compensation, and Liability Act disposal facility (e.g., the Environmental Management Waste Management Facility at the Y-12 National Security Complex and conduct planning for a follow-on Comprehensive Environmental Response, Compensation, and Liability Act disposal facility at Y-12 National Security Complex. | **35,229** |

## 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.

**Benefits**

| | |
|---|---|
| Waste and Nuclear Material Disposition and Disposal | • 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. |
| Benefits to the Department for Footprint Reduction | • 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. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Monitored groundwater and surface water in accordance with the Melton Valley and Bethel Valley Records of Decision.<br>• Performed surveillance and maintenance for Environmental Management inactive facilities and reactors at the Oak Ridge National Laboratory to maintain a safe and compliant condition.<br>• Maintained liquid, gaseous and process waste operations systems in support of the missions of the Offices of Environmental Management and Science.<br>• 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.<br>• Completed removal action for the most significant groundwater contamination source at Oak Ridge National Laboratory (Tank W-1A). | **43,694** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain liquid, gaseous and process waste operations systems in support of the Office of Science and Environmental Management missions. | --- |

| | | |
|---|---|---|
| | • 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.<br>• Monitor groundwater and surface water in accordance with the Melton Valley and Bethel Valley Comprehensive Environmental Response Compensation and Liability Act Records of Decision. | |
| FY 2014 | • Monitor groundwater and surface water in accordance with the Melton Valley and Bethel Valley Comprehensive Environmental Response Compensation and Liability Act Records of Decision.<br>• Maintain liquid, gaseous and process waste operations systems in support of the Office of Science and Environmental Management missions.<br>• 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. | **38,387** |

**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.

**Benefits**

| | |
|---|---|
| Waste and Nuclear Material Disposition and Disposal | • The demolition of the facilities is driven by the East Tennessee Technology Park Remaining Facilities removal action decision document. Completion of the scope associated with this PBS will result in reduction of risks to the environment and the public.<br>• Completion of the Centrifuge facilities will result in disposal of approximately 14,000 cubic meters of mixed low-level waste. |
| Benefits to the Department for Footprint Reduction | • 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.<br>• 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. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • No activities performed in FY 2012. | **0** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Perform surveillance and maintenance of the Centrifuge Facilities complex, to maintain it in a safe and secure condition in accordance with DOE orders. | --- |
| FY 2014 | • Perform surveillance and maintenance of the Centrifuge Facilities complex, to maintain it in a safe and secure condition in accordance with DOE Orders. | **100** |

**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, the 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 Federal Facility Agreement regulatory grant also provides oversight requirements of the interagency Federal Facility Agreement under the Comprehensive Environmental Response, Compensation, and Liability Act. 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 emergency preparedness activities. The support for the Site Specific Advisory Board is chartered under the Federal Advisory Committee Act.

**Benefits**

| | |
|---|---|
| Improve and Maintain Positive Stakeholder and Regulator Relationships | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitment to integrating environmental justice principles into our mission. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• Continued activities by the Site Specific Advisory Board sponsored by DOE-EM to assist in public participation activities and out-reach assistance. | **6,409** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Continue activities by the Site Specific Advisory Board sponsored by DOE-EM to assist in public participation activities and out reach assistance. | --- |

| | | |
|---|---|---|
| FY 2014 | • 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.<br>• Continue activities by the Site Specific Advisory Board sponsored by DOE-EM to assist in public participation activities and outreach assistance. | **4,365** |

**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.

**Benefits**

| | |
|---|---|
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitment to integrating environmental justice principles into our mission. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Continued funding of contractor liabilities associated with post-retirement life, medical benefits and pensions. | **18,800** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue funding of contractor liabilities associated with post-retirement life, medical benefits and pensions. | --- |
| FY 2014 | • Continue funding of contractor liabilities associated with post-retirement life, medical benefits and pensions. | **18,926** |

**Technology Development Activities - Oak Ridge (PBS: OR-TD-0100)**

**Overview**

This PBS is within the Defense Environmental Cleanup appropriation.

The largest environmental risks on the Department of Energy Oak Ridge Reservation stem from ongoing offsite release of mercury from the Y-12 National Security Complex. Downstream bioaccumulation of mercury in fish adds additional risk to the public. To protect human health and the environment, the Department of Energy is initiating a series of early actions that can be taken pending demolition of the process buildings. The challenges associated with the remediation of mercury in soil and water is unique across the complex in both scale and complexity. Current mercury discharges from the Y-12 National Security Complex exceed regulatory standards. Early actions are required in order to address mercury sources, characterize areas that are accessible pending building demolition and treat surface water to meet regulatory standards at the site boundary. This investment focuses on opportunities to reduce the overall scope, schedule and cost for this work through development of characterization removal and waste treatment/disposition techniques.

**Benefits**

| | |
|---|---|
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitment to integrating environmental justice principles into our mission.<br>• Reduce cost of mercury remediation; Technology Development will reduce the cost of decontamination and decommissioning and remediation by developing cost-effective and faster methods for treatment of mercury-contaminated building debris and soil, thereby reducing overall project cost and schedule. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • No planned activities in FY 2012. | **0** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• No planned activities in FY 2013. | --- |
| FY 2014 | • Develop a non-intrusive, surface scanning technology to detect mercury in concrete and other porous building materials.<br>• Evaluate scabbing techniques to remove the top layer of mercury that has penetrated into the concrete.<br>• Evaluate and screen multiple technologies to solidify/stabilize mercury debris, to be performed in conjunction with the HQ-led Applied Field Research Initiative for remediation of mercury and industrial contaminants.<br>• Perform a comprehensive field-scale demonstration of characterization, stabilization, segregation, demolition, treatment and disposal of the Alpha 5 COLEX (column exchange) process equipment. | **4,091** |

**Paducah**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| Gaseous Diffusion Plants | | | |
| Paducah Gaseous Diffusion Plant | | | |
| PA-0011 / NM Stabilization and Disposition-Paducah Uranium Facilities Management | 11,369 | --- | 1,369 |
| PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion | 40,921 | --- | 45,501 |
| Subtotal, Paducah Gaseous Diffusion Plant | 52,290 | --- | 46,870 |
| Uranium Enrichment Decontamination and Decommissioning Fund | | | |
| Paducah | | | |
| Paducah Gaseous Diffusion Plant | | | |
| PA-0013 / Solid Waste Stabilization and Disposition | 7,665 | --- | 0 |
| PA-0040 / Nuclear Facility D&D-Paducah | 70,665 | --- | 262,057 |
| PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration | 502 | --- | 0 |
| PA-0103 / Paducah Community and Regulatory Support | 2,525 | --- | 0 |
| Subtotal, Paducah Gaseous Diffusion Plant | 81,357 | 81,855 | 262,057 |
| Pension and Community and Regulatory Support | | | |
| Paducah Gaseous Diffusion Plant | | | |
| PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration | 0 | --- | 1,438 |
| PA-0103 / Paducah Community and Regulatory Support | 0 | --- | 1,725 |
| Subtotal, Paducah Gaseous Diffusion Plant | 0 | --- | 3,163 |
| Total, Uranium Enrichment Decontamination and Decommissioning Fund | 81,357 | 81,855 | 265,220 |
| Total, Paducah | 133,647 | --- | 312,090 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

In FY 2013, new control points were established within the Uranium Enrichment Decontamination and Decommissioning Fund 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 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| Gaseous Diffusion Plants | | | |
| Paducah Gaseous Diffusion Plant | | | |
| PA-0011 / NM Stabilization and Disposition-Paducah Uranium Facilities Management | 11,369 | --- | 1,369 |
| PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion | 40,921 | --- | 45,501 |
| Subtotal, Paducah Gaseous Diffusion Plant | 52,290 | --- | 46,870 |
| Uranium Enrichment Decontamination and Decommissioning Fund | | | |
| Paducah | | | |
| Paducah Gaseous Diffusion Plant | | | |
| PA-0013 / Solid Waste Stabilization and Disposition | 7,665 | --- | 0 |
| PA-0040 / Nuclear Facility D&D-Paducah | 70,665 | --- | 262,057 |
| Subtotal, Paducah Gaseous Diffusion Plant | 78,330 | --- | 262,057 |
| Pension and Community and Regulatory Support | | | |
| Paducah Gaseous Diffusion Plant | | | |
| PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration | 502 | --- | 1,438 |
| PA-0103 / Paducah Community and Regulatory Support | 2,525 | --- | 1,725 |
| Subtotal, Paducah Gaseous Diffusion Plant | 3,027 | --- | 3,163 |
| Total, Uranium Enrichment Decontamination and Decommissioning Fund | 81,357 | 81,855 | 265,220 |
| Total, Paducah | 133,647 | --- | 312,090 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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 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 will operate uranium hexafluoride conversion facility. DOE anticipates the depleted uranium hexafluoride conversion operations will continue approximately thirty years.

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 $64,893,000 in FY 2014.

**Regulatory Framework**

In May 1994, the Paducah site was placed on the United States 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 United States 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 United States 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.

**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 2013 involve assigning priority to and achieving significant progress in disposition of depleted uranium hexafluoride, and completing deactivation and decommissioning of two large complexes. For the life-cycle, Paducah anticipates completing decontamination and decommissioning of 21 contaminated inactive nuclear production and support facilities; completing remediation of 8 contaminated groundwater sources; 2 watersheds including 6 miles of publically accessible creeks; over 200 acres of potentially contaminated soil areas; and 8 unlined historical disposal areas; install final treatment systems for 2 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. Note: The life-cycle mentioned above does not include the 161 buildings associated with the transfer of the Gaseous Diffusion Plant of which there are 4 large process buildings on approximately 750 acres of land.

During FY 2013, it is expected that the Paducah Site will complete the following major accomplishments:

- Operate depleted uranium hexafluoride conversion facility.
- Complete 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.
- Continue remedy implementation for Phase IIa trichloroethylene source treatment system located near C-400.

Current estimated Life-Cycle cost range $11,631,524,000 to $18,404,671,000; current projected closure date is 2038. Note: The life-cycle mentioned above does not include the

life-cycle cost associated with the transfer of the Gaseous Diffusion Plant.

| Milestones | Date |
|---|---|
| Issue C-400 - Phase IIb D1 Record of Decision D1 to Regulators | February 2013 |
| Issue Southwest Plume D1 Solid Waste Management Unit 1 Remedial Action Work Plan to Environmental Protection Agency/Kentucky | March 2013 |
| Issue Onsite Waste Disposal Facility Proposed Plan D1 to Regulators | July 2013 |
| Issue Burial Grounds SWMUs 5 and 6 Remedial Action D1 Record of Decision to Environmental Protection Agency/Kentucky | December 2013 |
| Issue Burial Grounds Solid Waste Management Unit 5&6 D1 Remedial Design Work Plan to Environmental Protection Agency/Kentucky | January 2014 |
| Issue Onsite Waste Disposal Facility Record of Decision D1 to Regulators | February 2014 |
| Issue C-400 - Phase IIb D1 Remedial Design Report D1 to Regulators | April 2014 |
| Issue C-400 - Phase IIb D1 Remedial Action Work Plan D1 to Regulators | May 2014 |
| Issue Onsite Waste Disposal Facility Remedial Design Work Plan D1 to Regulators | May 2014 |

**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:

- Babcock and Wilcox 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 the United States 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 factors that could have significant impact on individual projects and may impact the overall cleanup scope, schedule, and costs are identified below:

- DOE does not have a regulatory agreement on final cleanup levels, which remains a long-term, end-state issue.
- 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.
- 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.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Paducah | | | | |
| PA-0011 | 100.0% | 0% | 0% | 0% |
| PA-0011X | 100.0% | 0% | 0% | 0% |
| PA-0020 | 100.0% | 0% | 0% | 0% |
| PA-0040 | 100.0% | 0% | 0% | 0% |
| PA-0102 | 100.0% | 0% | 0% | 0% |
| PA-0103 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | **FY 2012 Current** | **FY 2014 Request** | **FY 2014 Request vs FY 2012 Current** |
| **Non-Defense Environmental Cleanup** | | | |
| **Gaseous Diffusion Plants** | | | |
| **Paducah Gaseous Diffusion Plant** | | | |
| **PA-0011 / NM Stabilization and Disposition-Paducah Uranium Facilities Management** | | | |
| • Decrease reflects completion of inspection activities associated with maintaining polychlorinated biphenyl spill collection and containment systems. | 11,369 | 1,369 | -10,000 |
| **PA-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion** | | | |
| • Increase reflects successful corrective actions to restore steady state operations of the DUF6 project and supports goal of nominal conversion capacity. | 40,921 | 45,501 | +4,580 |
| **Uranium Enrichment Decontamination and Decommissioning Fund** | | | |
| **Paducah** | | | |
| **PA-0013 / Solid Waste Stabilization and Disposition** | | | |
| • Decrease reflects the transfer of solid waste stabilization and disposition activities to Nuclear Facility Decontamination and Decommissioning, PBS PA-0040. | 7,665 | 0 | -7,665 |
| **PA-0040 / Nuclear Facility D&D-Paducah** | | | |
| • Increase supports the transition of the Gaseous Diffusion Plant (in a cold and dry state) from the United States Enrichment Corporation to the Department of Energy and the start of operations of C-400 Phase IIb Trichloroethylene Source Area Remedial Treatment System. This increase also reflects the transfer of solid waste stabilization and disposition activities from PBS PA-0013. | 70,665 | 262,057 | +191,392 |
| **Pension and Community and Regulatory Support** | | | |

| | | | |
|---|---|---|---|
| **PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration** | | | |
| • Increase supports continuation of litigation and contract liability and closure activities. | 502 | 1,438 | +936 |
| **PA-0103 / Paducah Community and Regulatory Support** | | | |
| • Decrease reflects reduced grant requirements. | 2,525 | 1,725 | -800 |
| **Total, Paducah** | **133,647** | **312,090** | **+178,443** |

**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.

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Continued to maintain cleanup, sampling, and decontamination of polychlorinated spills and leaks, and monitoring activities related to polychlorinated biphenyls.<br>• Inspected and maintained polychlorinated biphenyl collection and containment systems.<br>• Conducted cleanup, sampling and disposal of polychlorinated biphenyl spills. | **11,369** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue to maintain cleanup, sampling, and decontamination of polychlorinated spills, leaks, and monitoring activities related to polychlorinated biphenyls.<br>• 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). | **---** |
| FY 2014 | • Continue to maintain cleanup, sampling, and decontamination of polychlorinated spills and leaks, and monitoring activities related to polychlorinated biphenyls.<br>• 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). | **1,369** |

**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. The facility converts depleted uranium hexafluoride into a more stable chemical form (depleted uranium oxide) suitable for beneficial reuse or disposition. The depleted uranium oxide and cylinders will initially be stored on-site and ultimately sent to a disposal facility if beneficial reuses are not realized. The hydrogen fluoride co-product will be sold on the commercial market for unrestricted use. The proceeds from the sale of hydrogen fluoride are used to offset project operating costs.

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

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Maintained safe DUF6 conversion operations with a gradual ramp up to steady-state operations.<br>• Packaged converted depleted uranium oxide for beneficial reuse or disposal.<br>• Conducted cylinder surveillance and maintenance to keep existing material in a safe, stable condition. | **40,921** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Conduct cylinder surveillance and maintenance, to keep existing material in a safe stable condition.<br>• Maintain safe DUF6 conversion operations at full capacity.<br>• Package 18,000 metric tons of depleted uranium for disposition, and defer off-site disposal. | **---** |
| FY 2014 | • Continue steady state operations of the DUF6 conversion facility with emphasis on plant availability and achieving nominal conversion capacity.<br>• Package converted depleted uranium oxide for beneficial reuse or disposal and store on site.<br>• Conduct cylinder surveillance and maintenance, to keep existing material in a safe stable condition. | **45,501** |

**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.

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Continued landfill operations and maintenance.<br>• Constructed cells 6 through 11 for the C-746-U on-site sanitary landfill, consistent with the waste generation estimates.<br>• Characterized, treated, and disposed of any newly-generated waste.<br>• Conducted surveillance and maintenance of the waste storage buildings. | **7,665** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• No activities planned for FY 2013. All remaining work scope will be conducted in PBS PA-0040. | **---** |
| FY 2014 | • All remaining work scope will be transferred and conducted in PBS PA-0040. | **0** |

**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 the C-340, Uranium Metal Production facility and the C-410, Feed Plant facility abandoned in the mid 1970s. In addition, Paducah will conduct landfill operations and maintenance activities previously included in PBS PA-0013.

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

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Continued deactivation of the C-410 Feed Plant Complex.<br>• Continued deactivation of C-340 A/B/C Uranium Metal Production Complex.<br>• Submitted Northeast Plume Optimization Pump and Treat System D1 Remedial Action Work Plan.<br>• Initiated operations of C-400 Phase IIa trichloroethylene source treatment system.<br>• Continued pump-and-treat operations and environmental surveillance, monitoring, and reporting.<br>• Conducted management and infrastructure surveillance and maintenance. | **70,665** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Complete demolition of C-340 complex and C-410 complexes.<br>• Dispose of all demolition waste from C-340 and C-410 complexes and complete site restoration activities.<br>• Complete C-400 Trichloroethylene Source Area Remedial Treatment System (Phase IIa) demobilization.<br>• Complete C-400 Trichloroethylene Source Area Remedial Treatment System (Phase IIb) construction and initiate operations.<br>• Complete Southwest Plume Trichloroethylene Source Area Remedial Treatment | --- |

| | | |
|---|---|---|
| | System construction and initiate operations.<br>• Complete Northeast Plume Pump and Treat System optimization construction and testing. | |
| FY 2014 | • Continue operations of C-400 Phase IIb Trichloroethylene Source Area Remedial Treatment System.<br>• Complete Southwest Plume Trichloroethylene Source Area Remedial Treatment System.<br>• Continue pump-and-treat operations and environmental surveillance, monitoring, and reporting.<br>• Conduct management and infrastructure surveillance and maintenance.<br>• Continue landfill operations and maintenance.<br>• Characterize, treat and dispose of newly-generated waste.<br>• Initiate the transition of the Gaseous Diffusion Plant (in a cold and dark state) from the United States Enrichment Corporation to the Department of Energy, which includes one-time facility improvements and modifications, and surveillance and maintenance until decontamination and decommissioning is completed. | **262,057** |

**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.

This PBS scope also supports severance and the administration of post retirement life and medial support.

**Benefits**

| | |
|---|---|
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitments to integrating environmental justice principles into our mission. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Provided support to DOE and Department of Justice for all investigations and litigation.<br>• 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. | **502** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• No planned activities due to a reduction in post-closure contract requirements. | **---** |
| FY 2014 | • Continue to provide support to DOE and Department of Justice for all investigations and litigation.<br>• 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. | **1,438** |

**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.

**Benefits**

| | |
|---|---|
| Improve Contract and Project management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitment to integrating environmental justice principles into our mission. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Supported the Citizens Advisory Board to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.<br>• Continued to ensure requirements are met regarding the grants. | **2,525** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue support to the Citizens Advisory Board to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.<br>• Continue to ensure requirements are met regarding the grants. | **---** |
| FY 2014 | • Continue support to the Citizens Advisory Board to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.<br>• Continue to ensure requirements are met regarding the grants. | **1,725** |

**Portsmouth**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| Gaseous Diffusion Plants | | | |
| Portsmouth Gaseous Diffusion Plant | | | |
| PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion | 48,148 | --- | 49,352 |
| Uranium Enrichment Decontamination and Decommissioning Fund | | | |
| Portsmouth | | | |
| Portsmouth Gaseous Diffusion Plant | | | |
| PO-0013 / Solid Waste Stabilization and Disposition | 5,900 | --- | 0 |
| PO-0040 / Nuclear Facility D&D-Portsmouth | 182,273 | --- | 91,818 |
| PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration | 775 | --- | 0 |
| PO-0104 / Portsmouth Community and Regulatory Support | 1,019 | --- | 0 |
| Subtotal, Portsmouth Gaseous Diffusion Plant | 189,967 | 191,130 | 91,818 |
| 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 | 189,967 | --- | 93,613 |
| | | --- | |
| Total, Portsmouth | 238,115 | --- | 142,965 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

In FY 2013, new control points were established within the Uranium Enrichment Decontamination and Decommissioning Fund 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 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| Gaseous Diffusion Plants | | | |
| Portsmouth Gaseous Diffusion Plant | | | |
| PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion | 48,148 | --- | 49,352 |
| Uranium Enrichment Decontamination and Decommissioning Fund | | | |
| Portsmouth | | | |
| Portsmouth Gaseous Diffusion Plant | | | |
| PO-0013 / Solid Waste Stabilization and Disposition | 5,900 | --- | 0 |
| PO-0040 / Nuclear Facility D&D-Portsmouth | 182,273 | --- | 91,818 |
| Subtotal, Portsmouth Gaseous Diffusion Plant | 188,173 | 189,325 | 91,818 |
| Pension and Community and Regulatory Support | | | |
| Portsmouth Gaseous Diffusion Plant | | | |
| PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration | 775 | --- | 775 |
| PO-0104 / Portsmouth Community and Regulatory Support | 1,019 | --- | 1,020 |
| Subtotal, Portsmouth Gaseous Diffusion Plant | 1,794 | 1,805 | 1,795 |
| Total, Uranium Enrichment Decontamination and Decommissioning Fund | 189,967 | 191,130 | 93,613 |
| Total, Portsmouth | 238,115 | --- | 142,965 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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 transition from enrichment operations to environmental cleanup, waste management, depleted uranium conversion, decontamination and decommissioning and long-term stewardship.

Portsmouth will operate the depleted uranium hexafluoride conversion facility. DOE anticipates depleted uranium hexafluoride conversion operations at Portsmouth to continue approximately twenty years.

To complete cleanup, Portsmouth will maintain a safe, secure, and compliant posture; support full-scale decontamination and decommissioning of the Gaseous Diffusion Plant; dispose of all low-level and mixed low-level waste; dispose of all excess materials; and perform groundwater trichloroethylene source removal.

Direct maintenance and repair at the Portsmouth Site is estimated to be $25,891,000.

**Regulatory Framework**

Oversight of cleanup activities at the Portsmouth site is the responsibility of the Ohio Environmental Protection Agency and the United States 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.

**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 2013 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 2013 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 building X-326 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.
- Complete deactivation and decommissioning of the X-600 steam plant.

Current estimated Life-Cycle cost range $9,533,932,000 to $16,340,603,000; current projected closure date FY 2044 to 2052.

| Milestones | Date |
|---|---|
| Complete decontamination and decommissioning of 27 industrial facilities and 7 radioactive facilities | September 2013 |
| Continue deactivation and shipment process gas equipment from X-326, 47 of 200 cells deactivated. | September 2013 |
| Issue Record of Decision for waste disposition | September 2013 |
| Initiate On-Site Disposal Cell Construction, if selected. Pending approval-Record of Decision. | September 2013 |

| Milestones | Date |
|---|---|
| Issue Record of Decision for Decontamination and Decommissioning of the Process Buildings | September 2013 |
| Continued deactivation and shipment process gas equipment from X-326, 112 of 200 cells deactivated. | September 2014 |
| Continue Operation / Construction of OSDC, if selected. Pending approval of the Record of Decision. | September 2014 |

**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 2011 – 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 continue process building equipment removal actions and hazardous material abatement and deactivation activities. In addition, Portsmouth will operate the depleted uranium hexafluoride conversion facility. DOE anticipates the depleted uranium hexafluoride conversion operations to continue for approximately twenty years.

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

- DOE is developing the required regulatory 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.
- 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.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Portsmouth | | | | |
| PO-0011X | 100.0% | 0% | 0% | 0% |
| PO-0020 | 100.0% | 0% | 0% | 0% |
| PO-0040 | 100.0% | 0% | 0% | 0% |
| PO-0103 | 100.0% | 0% | 0% | 0% |
| PO-0104 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
| **Non-Defense Environmental Cleanup** | | | |
| **Gaseous Diffusion Plants** | | | |
| **Portsmouth Gaseous Diffusion Plant** | | | |
| **PO-0011X / NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion** | | | |
| • Increase supports steady state operations of the DUF6 conversion facility to maintain optimum throughput. | 48,148 | 49,352 | +1,204 |
| **Uranium Enrichment Decontamination and Decommissioning Fund** | | | |
| **Pension and Community and Regulatory Support** | | | |
| **PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration** | | | |
| • No change. | 775 | 775 | 0 |
| **PO-0104 / Portsmouth Community and Regulatory Support** | | | |
| • No significant change. | 1,019 | 1,020 | +1 |
| **Portsmouth** | | | |
| **PO-0013 / Solid Waste Stabilization and Disposition** | | | |
| • Decrease reflects the transfer of all waste management activities related to facility decontamination and decommissioning to Nuclear Facility Decontamination and Decommissioning, PBS PO-0040. | 5,900 | 0 | -5,900 |
| **PO-0040 / Nuclear Facility D&D-Portsmouth** | | | |
| • Decrease reflects completion of preparatory work for removal and disposition of excess equipment/hazardous materials from building X-326 and decommissioning and demolition of X-100, X-100B, X-101 and 109C buildings. Also completed Remedial Investigation/Feasibility Studies for decontamination and decommissioning of process buildings and waste disposition. This decrease is partially offset by the transfer of all waste management activities related to facility decontamination and decommissioning from PBS PO-0013. | 182,273 | 91,818 | -90,455 |
| **Total, Portsmouth** | **238,115** | **142,965** | **-95,150** |

**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 chemical form (depleted uranium oxide) suitable for beneficial reuse or disposition. The depleted uranium oxide and cylinders will initially be stored on-site and ultimately sent to a disposal facility if beneficial reuses are not realized. The hydrogen fluoride co-product will be sold on the commercial market for unrestricted use. The proceeds from the sale of hydrogen fluoride are used to offset project operating costs.

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

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant and cost-effective measure. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Continued to maintain safe DUF6 conversion operations with a gradual ramp up to steady-state operations.<br>• Packaged converted depleted uranium oxide for beneficial reuse or disposition.<br>• Continued cylinder maintenance and surveillance to maintain existing material in safe, stable condition. | **48,148** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue to operate the DUF6 conversion facility at full capacity and package 13,500 metric tons of depleted uranium for disposal.<br>• Conduct cylinder surveillance and maintenance, to keep existing material in a safe stable condition. | **---** |
| FY 2014 | • Continue steady state operations of the DUF6 conversion facility with emphasis on plant availability and maintain optimum throughput.<br>• Package converted depleted uranium oxide for beneficial reuse or disposal and store on site.<br>• Conduct cylinder surveillance and maintenance, to keep existing material in a safe and stable condition. | **49,352** |

**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 Portsmouth waste management scope (excluding DUF6 facility) will be managed in PBS PO-0040.

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Dispositioned Orphan Converter Shells and associated material as waste. | **5,900** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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. | --- |
| FY 2014 | • All waste management activities related to facility decontamination and decommissioning will be managed within Nuclear Facility Decontamination and Decommissioning, PBS PO-0040 scope. | **0** |

## 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. In FY 2012, Portsmouth initiated process gas equipment removal from X-326 and 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. For FY 2013, Portsmouth will continue removal of process gas equipment from X-326 and anticipates deactivation and decommissioning of the X-600 coal fired steam plant and selected balance of plant facilities. Also, by 2013, Portsmouth is planning to complete the Records of Decision for both the Process Building decontamination and decommissioning (for all three major 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 funding on the cleanup effort. Eventual completion of all decontamination and decommissioning activities will contribute to reducing the footprint and total cleanup of the site.

### Benefits

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Completed preparatory work to remove and dispose of excess equipment/hazardous materials from buildings X-326.<br>• Began removal of building X-326 process equipment.<br>• Completed decommissioning and demolition of the X-100, X-100B, X-101, and the X-109C buildings.<br>• Issued Remedial Investigation/Feasibility Study for decontamination and decommissioning of the process buildings.<br>• Issued Remedial Investigation/Feasibility Study for waste disposition.<br>• Continued unit remediation activities (buildings for which Resource Conservation and Recovery Act facility investigation had been deferred) in accordance with the deferred unit strategy.<br>• Disposed 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).<br>• Continued site-wide infrastructure surveillance and maintenance to maintain compliance.<br>• Initiated infrastructure optimizations.<br>• Performed facility site services, programmatic safety and environmental technical oversight. | **182,273** |

| | | |
|---|---|---|
| | • Conducted soil and groundwater environmental monitoring and reporting and associated sample collection.<br>• Performed characterization, treatment, and disposition of waste associated with deactivation and decommissioning. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Conduct X-326 deactivation work, including hazardous material removal, isolations, and targeted equipment removal.<br>• Perform facility site services, programmatic safety and environmental technical oversight.<br>• Conduct soil and groundwater environmental monitoring and reporting and associated sample collection.<br>• Conduct surveillance and maintenance of DOE facilities to maintain compliance.<br>• Conduct characterization, treatment, and disposition of waste associated with deactivation and decommissioning. | --- |
| FY 2014 | • Continue removal of building X-326 process equipment.<br>• Perform facility site services, programmatic safety and environmental technical oversight.<br>• Conduct soil and groundwater environmental monitoring and reporting and associated sample collection.<br>• Conduct surveillance and maintenance of DOE facilities to maintain compliance.<br>• Conduct characterization, treatment, and disposition of waste associated with deactivation and decommissioning.<br>• Initiate On-Site Waste Disposal Cell construction, if selected. | **91,818** |

**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.

**Benefits**

| | |
|---|---|
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitments to integrating environmental justice principles into our mission. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Provided defense against legal claims filed against the Government and its contractors.<br>• 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.<br>• Provided payment into the Portsmouth pension program to remain in compliance with the Employee Retirement Income Security Act, DOE 350.1 and other applicable laws. | **775** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue to provide defense against legal claims filed against the Government and its contractors.<br>• 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.<br>• 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. | --- |
| FY 2014 | • Continue to provide defense against legal claims filed against DOE and its contractors.<br>• 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.<br>• 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. | **775** |

**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.

**Benefits**

| | |
|---|---|
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitment to integrating environmental justice principles into our mission. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Supported oversight activities of the Ohio Environmental Protection Agency.<br>• Supported the designated Site Specific Advisory Board.<br>• Supported technical/scientific activities for the Ohio University. | **1,019** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide support for oversight activities of the Ohio Environmental Protection Agency.<br>• Support the designated Site Specific Advisory Board.<br>• Support technical/scientific activities for the Ohio University. | **---** |
| FY 2014 | • Support oversight activities of the Ohio Environmental Protection Agency.<br>• Support the designated Site Specific Advisory Board. | **1,020** |

**Richland**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Hanford Site | | | |
| Central Plateau Remediation | | | |
| RL-0011 / NM Stabilization and Disposition-PFP | 99,195 | --- | 142,890 |
| RL-0012 / SNF Stabilization and Disposition | 111,952 | --- | 98,518 |
| RL-0013C / Solid Waste Stabilization and Disposition- 2035 | 143,482 | --- | 130,322 |
| RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone– 2035 | 190,705 | --- | 141,720 |
| Subtotal, Central Plateau Remediation | 545,334 | 548,671 | 513,450 |
| Richland Community and Regulatory Support | | | |
| RL-0100 / Richland Community and Regulatory Support | 19,540 | 19,660 | 14,701 |
| River Corridor and Other Cleanup Operations | | | |
| RL-0040 / Nuclear Facility D&D-Remainder of Hanford– 2035 | 56,121 | --- | 65,992 |
| RL-0041 / Nuclear Facility D&D-River Corridor Closure Project | 329,048 | --- | 327,642 |
| Subtotal, River Corridor and Other Cleanup Operations | 385,169 | 387,526 | 393,634 |
| Total, Hanford Site | 950,043 | 955,857 | 921,785 |
| 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 | 2,703 | 2,720 | 2,545 |
| Total, Richland | 952,746 | --- | 924,330 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012
P.L. 112-175, Continuing Appropriations Resolution 2013

**Overview**

The cleanup of 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 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 $54,341,000.

**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 milestones have been updated in accordance with the Consent Decree.

It should be noted that the second half of the 200 West groundwater operable unit proposed plan is currently out for public comment. The 300 Area groundwater operable unit proposed plan was issued for public comment during the winter of 2012 and the 100-K Area groundwater operable unit proposed plan will be issued for public comment in 2013. The Comprehensive Environmental Response, Compensation, and Liability Act Records of Decisions are expected on all three operable units by the fall of 2013 or in 2014.

Tri-Party Agreement/Compliance Milestones:

Tri-Party Agreement significant milestones for Plutonium Finishing Plant Project:

- M-083-44: Complete Transition of the Plutonium Conversion Facility (234-5Z ) and Plutonium Conversion Support Facility (234- 5ZA), Low Level Waste Treatment Facility (243-Z), Exhaust Building (291-Z), and Exhaust Stack (291-Z-1) to support Plutonium Finishing Plant decommissioning. Deactivate and prepare for dismantlement of the above grade portions of 234-5Z , 234-5ZA, 243-Z, 291-Z and 291-Z-1 by September 2015.
- M-083-00A: Complete Plutonium Finishing Plant facility transition and selected disposition activities by September 2016.

Tri-Party Agreement significant milestones for Solid Waste Stabilization and Disposition:

- M-026-07C: Submit to U. S. Environmental Protection Agency and the State of Washington Department of Ecology an evaluation of development status of tritium treatment technology by March 2014.
- M-091-03: Submit Annual Revision of Transuranic Mixed Waste and Mixed-Low Level Waste Project Management Plan to the State of Washington Department of Ecology by June 2014.

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. Milestone is being revised to reflect expanded work scope (deep soil chromium contamination) and newly discovered waste sites in the 100 Area.
- M-089-00: Complete the closure of non-permitted mixed waste units in the 324 Building REC B-cell, REC D-cell, and high level vault by September 2012. Milestone is being revised to address delays due to high soil contamination found under the B-cell that was not part of the original milestone.
- 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-094-00: Complete the 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 except for the 618-10 and 618-11 burial grounds by September 2015.
- M-016-176: Complete sludge removal from the 105-KW Fuel Storage Basin by December 2015.
- M-016-00B: Complete all Interim 300 Area Remedial Actions including the 618-10 and 618-11 Burial Grounds but not including sites associated with retained 300 Area facilities and utility corridors by September 2018.

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-024-64: DOE shall complete the construction of all wells listed for calendar year 2013 by December 2013.
- M-015-113: Submit Draft B, 200-SW-2 Radioactive Landfills Group Remedial Investigation /Corrective Measures Study/Remedial Investigation/Feasibility Study Work Plan to the State of Washington Department of Ecology, including a schedule of completion dates for major tasks and deliverables by February 2014.
- M-015-21A: Submit 200-BP-5 and 200-PO-1 OU Feasibility Study Report and Proposed Plan to the State of Washington Department of Ecology by June 2015.

**Program Accomplishments**

The Richland Operations Office has implemented a strategy to reduce the Hanford footprint 90 percent by FY 2015, which will reduce Richland lifecycle costs for infrastructure, surveillance, and maintenance. The primary accomplishments for FY 2012-2013 include the following significant activities: decontamination and decommissioning along the River Corridor and on the Central Plateau; soil and groundwater remediation across the entire site; and progress toward removal of contaminated basin sludge away from the river.

During FY 2012-2013 it is expected that the Richland Site will complete the following major accomplishments:

- Perform deactivation and decommissioning activities to support 'ready-for-demolition' of 234-5Z, Plutonium Reclamation Facility (236-Z ), 242-Z, and ancillary facilities.
- 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.
- Continue sludge removal design and construction activities.
- 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.
- Continue integration of Site-Wide groundwater and vadose zone cleanup activities, groundwater contamination monitoring, maintenance, and modification of existing remediation systems.
- Begin Phase 1 operations of 200W Pump and Treat System.
- Initiate substantial and continuous remediation of the 309 facility dedicated Radioactive Liquid Waste Sewer (300RLWS) and the 300 Area Process Sewer (300-15) systems.
- Complete interim remedial actions for 100-IU-2 and 100-IU-6.

- 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 13 of the high priority facilities in the 300 Area.

The current estimated life-cycle cost range is $55,229,812,000 - $59,847,751,000; current projected closure dates are FY 2050 to FY 2070.

| Milestones | Date |
|---|---|
| Complete selected removal and/or remedial actions for 13 high priority facilities in 300 Area. | September 2013 |
| M-016-174, Complete final design of sludge retrieval and transfer system. | September 2013 |

**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 majority of the cleanup of the Hanford's Columbia River Corridor by 2015. The next focus is on cleanup of the Central Plateau which includes 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).

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Richland | | | | |
| RL-0011 | 100.0% | 0% | 0% | 0% |
| RL-0012 | 100.0% | 0% | 0% | 0% |
| RL-0013C | 100.0% | 0% | 0% | 0% |
| RL-0020 | 100.0% | 0% | 0% | 0% |
| RL-0030 | 100.0% | 0% | 0% | 0% |
| RL-0040 | 100.0% | 0% | 0% | 0% |
| RL-0041 | 100.0% | 0% | 0% | 0% |
| RL-0042 | 100.0% | 0% | 0% | 0% |
| RL-0100 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | **FY 2012 Current** | **FY 2014 Request** | **FY 2014 Request vs FY 2012 Current** |
| **Defense Environmental Cleanup** | | | |
| **Hanford Site** | | | |
| **Central Plateau Remediation** | | | |
| **RL-0011 / NM Stabilization and Disposition-PFP** | | | |
| • Increase reflects the initiation of deactivation and decommissioning activities of highly contaminated areas of the Plutonium Finishing Plant, including removal of gloveboxes and other facilities. | 99,195 | 142,890 | +43,695 |
| **RL-0012 / SNF Stabilization and Disposition** | | | |
| • Decrease reflects the completion of Containerized Sludge procurements, construction, and installation activities. | 111,952 | 98,518 | -13,434 |
| **RL-0013C / Solid Waste Stabilization and Disposition- 2035** | | | |
| • The decrease reflects the reduction of characterization activities, completion of Knock-Out Pot material removal, and reduced construction activities associated with sludge transfer and storage containers. | 143,482 | 130,322 | -13,160 |
| **RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone– 2035** | | | |
| • Decrease reflects the completion and start-up of the 200 West pump and treat system and the completion of several Central Plateau Remedial Investigation/Feasibility Study activities, work plans and Records of Decision. | 190,705 | 141,720 | -48,985 |
| **Richland Community and Regulatory Support** | | | |
| **RL-0100 / Richland Community and Regulatory Support** | | | |
| • The decrease reflects efficiencies in discretionary activities | 19,540 | 14,701 | -4,839 |

sponsored by DOE.

| | | | |
|---|---|---|---|
| **River Corridor and Other Cleanup Operations** | | | |
| **RL-0040 / Nuclear Facility D&D-Remainder of Hanford- 2035** | | | |
| • Increase reflects increased surveillance and maintenance for surplus facilities and waste sites, and for increased infrastructure upgrades, replacement and repairs. | 56,121 | 65,992 | +9,871 |
| **RL-0041 / Nuclear Facility D&D-River Corridor Closure Project** | | | |
| • Decrease reflects completion of interim remedial actions for the 100-IU-2 and 100-IU-6. | 329,048 | 327,642 | -1,406 |
| **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 | 2,545 | -158 |
| **Total, Richland** | **952,746** | **924,330** | **-28,416** |

**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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Provided 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.<br>• Provided 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.<br>• Provided program management, quality assurance; management assessments and corrective action development; regulatory compliance monitoring; performance assessment support; and records management.<br>• Continued deactivation and decontamination activities in the Plutonium Finishing Plant, including the Plutonium Reclamation Facility and Balance of Building 234-5Z decommissioning activities. | **99,195** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide for site-wide services for day-to-day operations of general utilities, fire department, and analytical services.<br>• Maintain Plutonium Finishing Plant nuclear safety; maintain, manage and | --- |

| | | |
|---|---|---|
| | administer radiological control, fire protection, occupational safety and health, and the training program.<br>• 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.<br>• Decontaminate and decommission the 242-A Waste Treatment Facility and 236-Z Plutonium Reclamation Facility.<br>• Deactivate and prepare for dismantlement the above grade portions of the 234-5Z, 243-Z and other facilities in the Plutonium Finishing Plant complex. | |
| FY 2014 | • 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.<br>• Maintain Plutonium Finishing Plant nuclear safety; maintain, manage and administer radiological control, fire protection, occupational safety and health, and the training program.<br>• 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.<br>• Initiate deactivation activities to include removal of gloveboxes from 234-5Z, 236-Z, 242-Z and other facilities in the Plutonium Finishing Plant complex.<br>• Initiate decontamination and decommission the 234-5Z Plutonium Finishing Plant, 242-A Waste Treatment Facility and 236-Z Plutonium Reclamation Facility and other facilities in the Plutonium Finishing Plant complex.<br>• Continue to deactivate and prepare for dismantlement the above grade portions of the 234-5Z, 243-Z and other facilities in the Plutonium Finishing Plant complex. | **142,890** |

## 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.

**Benefits**

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|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Provided 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.<br>• Operated and maintained K-West Basin and associated structures in a safe and compliant manner and support required surveillance and maintenance activities.<br>• Sampled and characterized the Settler Tube sludge and K-West Basin floor sludge in Engineer Container 210).<br>• Completed Knock-Out Pot material removal from 105KW Fuel storage basin.<br>• Initiated construction of the Sludge Transfer and Storage container Annex at the K West Basin.<br>• Supported the Engineer Container/Settler Tube Phase 1 Project Critical Decision 2/3. | **111,952** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide site-wide services of day-to-day operations of general utilities, fire department, and analytical services.<br>• Operate and maintain K-West Basin and associated structures in a safe and | --- |

| | | |
|---|---|---|
| | compliant manner and support required surveillance and maintenance activities.<br>• Process the last Multi Canister Over pack of found spent nuclear fuel and ship to the Canister Storage Building for storage.<br>• 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.<br>• Provide engineering, design, procurement to support continued work towards Critical Decision 2/3 for the Engineered Container/Settler Tube Sludge Disposition Subproject.<br>• Begin construction of the sludge transfer and storage container annex at the K West Basin. | |
| FY 2014 | • Provide site-wide services of day-to-day operations of general utilities, fire department, and analytical services.<br>• Operate and maintain K-West Basin and associated structures in a safe and compliant manner and support required surveillance and maintenance activities.<br>• Complete testing and operational readiness reviews of containerized Sludge Equipment in the KW Basin.<br>• Begin sludge removal from 105KW Fuel Storage Basin. | **98,518** |

**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.

**Benefits**

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|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |
| Waste Disposition and Disposal | • 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. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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 are prorated across the PBS's.<br>• 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.<br>• Provided core management and expertise to ensure compliance with Tri-Party Agreement M-91 and scope performed under the American Recovery and Reinvestment Act.<br>• 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. | **143,482** |

| | | |
|---|---|---|
| | • Provided base operations to support safe and compliant interim storage of Irradiated Nuclear Fuel.<br>• Operated and maintained the Waste Encapsulation and Storage Facility and associated structures, operating systems, equipment, and monitoring systems.<br>• Supported transuranic waste retrieval capability under the American Recovery and Reinvestment Act in order to meet Tri-Party Agreement M-91-40. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Support interim storage of cesium and strontium capsules at the Waste Encapsulation and Storage Facility.<br>• 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.<br>• Treat and dispose liquid wastes from the generators and dispose of treated liquid effluents from the 200 Area Liquid Effluent Facility.<br>• Provide waste acceptance services, interface with regulators, and project management, risk management, planning, and performance reporting. Also, provide administration and coordination of programs such as Transportation and Packaging, Emergency Preparedness, Quality Assurance, Corrective Action Management, Safety Basis development and implementation, and Criticality and Nuclear Safety programs. | --- |
| FY 2014 | • 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.<br>• Support interim storage of cesium and strontium capsules at the Waste Encapsulation and Storage Facility.<br>• Maintain the T-Plant, the Integrated Disposal Facility, the Waste Receiving and Processing Facility, and the Central Waste Complex in safe and compliant conditions.<br>• Treat and dispose liquid wastes from the generators and dispose of treated liquid effluents from the 200 Area Liquid Effluent Facility.<br>• Provide waste acceptance services, interface with regulators, and project management, risk management, planning, and performance reporting.<br>• Provide administration and coordination of programs such as Transportation and Packaging, Emergency Preparedness, Quality Assurance, Corrective Action Management, Safety Basis development and implementation, and Criticality and Nuclear Safety programs.<br>• Maintain a waste management program to support all Hanford projects and operations and provide base operations for solid waste activities. | **130,322** |

**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.

**Benefits**

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|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• 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.<br>• 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.<br>• Completed Acceptance Test Plan, Operations Test Plan, and operational startup | **190,705** |

| | | |
|---|---|---|
| | for new 100-HX Pump and Treat Facility and operational testing of the groundwater system for treating Tc-99 at S-SX tank farm.<br>• Completed installation and testing of new groundwater 200W pump and treatment systems.<br>• Began Phase 1 operations of 200W pump and treat system. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• 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.<br>• 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. | --- |
| FY 2014 | • 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.<br>• 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.<br>• Progress toward completion of decision documentation needed to complete the Comprehensive Environmental Response, Compensation, and Liability Act Remedial Investigation/Feasibility Study process and to obtain the final Record of Decision for the 100 Area located in the River Corridor and the 200 Area located in the Central Plateau. | **141,720** |

**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.

**Benefits**

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| Benefits to the Department for Footprint Reduction | • 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.<br>• 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. |
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• Maintained Richland Operation Office integrated baseline.<br>• Provided site infrastructure upgrades; replacements and repairs such as cranes; general plant facility heating, ventilation and air conditioning replacements; fire truck and mobile response unit replacement; Hanford Local Area Network upgrades; roadway repair and sealing; and water line replacement/refurbishment.<br>• 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. | **56,121** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined): | --- |

| | | |
|---|---|---|
| | • 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.<br>• Maintain Richland Operation Office integrated baseline.<br>• 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.<br>• 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.<br>• Provide steam for critical site heating systems, occupational medicine, Bonneville Power Administration electricity, litigation support and General Services Administration office space rent. | |
| FY 2014 | • 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.<br>• Maintain Richland Operation Office integrated baseline.<br>• Provide site infrastructure upgrades; replacements and repairs such as cranes; general plant facility heating, ventilation and air conditioning replacements; fire truck and mobile response unit replacement; Hanford Local Area Network upgrades; roadway repair and sealing; and water line replacement/refurbishment.<br>• 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.<br>• Provide steam for critical site heating systems, occupational medicine, Bonneville Power Administration electricity, litigation support and General Services Administration office space rent. | **65,992** |

**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.

**Benefits**

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|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• 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. |
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Provided 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.<br>• Completed excavation, load-out, and backfill of 47 waste sites and burial grounds in the 100, 300, and 600 Areas.<br>• Completed 105-N reactor interim safe storage.<br>• Completed the selected removal and/or remedial actions for 11 of the high priority facilities in the 300 Area.<br>• Completed deactivation, decontamination, decommissioning and demolition of 37 facilities in the 100, 300, 400, and 600 Areas of the Hanford site.<br>• Completed interim remediation for all 300 area "inside the fence" waste sites north of Apple Street. | **329,048** |

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|---|---|---|
| | • 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.<br>• Disposed of over 1,500,000 tons of waste at the Environmental Restoration Disposal Facility during the Hanford Site demolition and remediation activities.<br>• Continued remediation of the 618-10 burial grounds.<br>• Completed interim remedial actions for 100-IU-2 and 100-IU-6.<br>• Continued remediation of the deep chromium contamination waste site 100-C-7, 100-C-7:1, and other high priority chromium sites in the 100-D Area. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Operate the Environmental Restoration Disposal Facility in support of Hanford Site demolition and remediation activities.<br>• Complete the interim response actions for the 100 N Area.<br>• Complete the interim remedial actions for the 300-FF-2 Waste Sites.<br>• Continue field remediation and facility disposition other areas along the Columbia River Corridor.<br>• Continue Interim Safe Storage of the K-East Reactor.<br>• Complete the selected removal and/or remedial actions for 13 high priority facilities in the 300 Area.<br>• Continue remediation of the 618-10 and 618-11 burial grounds. | --- |
| FY 2014 | • 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.<br>• Operate the Environmental Restoration Disposal Facility in support of Hanford Site demolition and remediation activities.<br>• Continue field remediation and facility disposition other areas along the Columbia River Corridor.<br>• Continue Interim Safe Storage of the K-East Reactor.<br>• Complete remediation of the 618-10 burial ground and continue remediation of the 618-11 burial ground.<br>• Initiate deactivation/decontamination/decommissioning/demolition of the high risk Building 324 and the remediation site below it.<br>• Initiate the remediation of both deep chromium contamination in the 300 Area. | **327,642** |

**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.

**Benefits**

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|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• Provided surveillance and maintenance activities necessary to ensure safety for Fast Flux Test Facility and support facilities. | **2,703** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services.<br>• Provide surveillance and maintenance activities necessary to ensure safety for Fast Flux Test Facility and support facilities. | **---** |
| FY 2014 | • Provide site-wide services for day-to-day operations of general utilities, fire department, and analytical services.<br>• Provide surveillance and maintenance activities necessary to ensure safety for Fast Flux Test Facility and support facilities. | **2,545** |

**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; and 4) funding to support the Hanford Advisory Board and related activities. This PBS scope will end upon completion of the Hanford EM mission.

**Benefits**

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|---|---|
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitment to integrating environmental justice principles into our mission. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Supported Washington and Oregon States' emergency preparedness, environmental oversight, and other related activities.<br>• 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. | **19,540** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Support Washington and Oregon States' emergency preparedness, environmental oversight, Hanford Advisory Board and other related activities.<br>• 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. | **---** |
| FY 2014 | • Support Washington and Oregon States' emergency preparedness, environmental oversight, Hanford Advisory Board and other related activities.<br>• 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 payment-in-lieu-of-taxes to Grant, Benton, and Franklin Counties. | **14,701** |

**River Protection**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Office of River Protection | | | |
| Tank Farm Activities | | | |
| ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition | 442,010 | 444,504 | 520,216 |
| Waste Treatment and Immobilization Plant | | | |
| ORP-0060 / Major Construction-Waste Treatment Plant | 740,000 | 744,529 | 690,000 |
| Total, Office of River Protection | 1,182,010 | --- | 1,210,216 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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.

Direct maintenance and repair at the Office of River Protection is estimated to be $52,982,000.

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.

The lifecycle planning range estimate is 2042 to 2050 and a total cost of $67,586,390,000 to $75,259,053,000.

**Program Accomplishments**

The Office of River Protection's cleanup strategy focuses on achieving significant environmental risk reduction by the retrieval and treatment of Hanford's tank waste and the closure of the tank farms to protect the Columbia River. The primary accomplishments for FY 2013 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 Consent Decree milestones.

During FY 2013 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 design, engineering, construction and commissioning of the Waste Treatment Plant's facilities.

| Milestones | Date |
|---|---|
| Consent Decree Milestone D-00B-01 Complete Retrieval of Tank Wastes from Remaining 10 SSTs in WMA-C | September 2014 |

**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 2009 through 2013, with option period one 2014 – 2016 and option period two 2017 – 2018.
- Advanced Technologies and Laboratories International, Inc. to operate the laboratory complex for analysis of highly radioactive samples in support of all Hanford projects. The contract covers the period from 2010 through 2015, with 2013, 2014 and 2015 being one year extension options.

**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, complete the cleanup mission, and achieve the program's strategic goal, including:

- 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.
- Availability of supplemental treatment to immobilize a portion of the low-activity waste.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| River Protection | | | | |
| ORP-0014 | 0% | 100.0% | 0% | 0% |
| ORP-0060 | 0% | 0% | 100.0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
| **Defense Environmental Cleanup** | | | |
| **Office of River Protection** | | | |
| **Waste Treatment and Immobilization Plant** | | | |
| **ORP-0060 / Major Construction-Waste Treatment Plant** | | | |
| • The decrease reflects the project's focus on resolving technical issues in pretreatment while maintaining progress on construction of the Low Activity Waste Facility, Analytical Laboratory, High Level Waste Facility, and the Balance of Facilities. | 740,000 | 690,000 | -50,000 |
| **ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition** | | | |
| • The increase reflects tank integrity workscope, the support of ventilation system upgrades to support DNSFB Recommendation 2012-2, increased support to waste feed delivery activities, and the initiation of transuranic waste retrieval. | 442,010 | 520,216 | +78,206 |
| **Total, River Protection** | **1,182,010** | **1,210,216** | **+28,206** |

**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 approximately 56 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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Tank waste stabilization and disposition | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Maintained Hanford Tank Farms in a safe and compliant manner.<br>• Conducted 222-S Laboratory operations and upgrades.<br>• Conducted 242-A Evaporator campaigns and upgrades.<br>• Completed bulk retrieval of C-107 and C-112 Single-Shell Tanks.<br>• Initiated design and procurement activities to retrieve three Single-Shell Tanks.<br>• Continued removal of hose-in-hose transfer lines.<br>• Continued Single-Shell Integrity activities.<br>• Completed hard heel removal from three C Farm Single-Shell Tanks.<br>• Completed Critical Decision-1 documentation for the Interim Hanford Storage Facility and Secondary Liquid Waste Treatment Project.<br>• Initiated AY and AZ Farm Feed Delivery system design.<br>• Initiated the Supplemental Treatment Technology Report.<br>• Conducted scientific applied research and technology development activities to advance solutions for the pre-treatment of radioactive waste (i.e., Large Scale Integrated Testing).<br>• Completed long term performance testing and characterization of the Fluidized Bed Stem Reforming waste form.<br>• Compiled and analyzed data from testing with simulants and three actual waste samples representing a range of Hanford Low Activity Waste compositions.<br>• Updated reports on the Fluidized Bed Stem Reforming process and waste form | **442,010** |

| | | |
|---|---|---|
| | performance testing results.<br>• Performed Limits of Performance testing on Small Scale Mixing, Remote Sampler, and Full-Scale Slurry Pump.<br>• Performed solids accumulation testing on Small Scale Mixing.<br>• Performed scale/system performance testing on Small Scale Mixing and Remote Sampler.<br>• Managed the Technology Development and Deployment for the Office of River Protection. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain Tank Farms in a safe and compliant manner.<br>• Complete Report on Testing for Ionic Conductivity of Single Shell Tanks.<br>• Complete Bulk Retrieval of one C Farm Single Shell Tank.<br>• Initiate Hard Heel design/construction in one C Farm Single Shell Tank.<br>• Initiate MARS Vacuum retrieval operations in C-105.<br>• Complete Hard Heel Removal of two C Farm Single Shell Tanks.<br>• Continue AY and AZ Farm Feed Delivery System activities including design and procurement.<br>• Operate the 222-S laboratory and 242-A evaporator.<br>• Continue activities for tank waste mixing. | --- |
| FY 2014 | • Maintain Tank Farms in a safe and compliant manner.<br>• Conduct 222-S Laboratory operations and upgrades.<br>• Conduct 242-A Evaporator campaigns and upgrades.<br>• Continue Single-Shell Integrity activities.<br>• Complete C-Farm retrieval activities.<br>• Continue removal of hose-in-hose transfer lines.<br>• Continue AY/AZ Farm ventilation system upgrades.<br>• Continue AY and AZ Farm Feed Delivery System activities.<br>• Initiate transuranic waste retrieval.<br>• Complete Supplemental Treatment Technology Report. | **520,216** |

**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 37 percent of the low-activity waste fraction will be transferred and immobilized in the Low Activity Waste Facility, with the balance immobilized using an additional 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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Major Construction – Waste Treatment Plant | • Treatment of radioactive liquid waste contained in the Hanford tanks. Previous leakage of nearly one million gallons of waste from these tanks has contaminated soils and groundwater. 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. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | **Low Activity Waste, Analytical Laboratory, and Balance of Facilities –**<br>Design Activities:<br>• Completed Low Activity Waste facility mechanical system confirmed (design assumption verification) calculations and piping and isometric drawings.<br>• Completed Analytical Lab pipe confirmed (design assumption verification) stress/support final calculations.<br>• Selected Emergency Turbine Generators as the preferred emergency power technology for the Waste Treatment and Immobilization Plant Project.<br>Procurement Activities:<br>• 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.<br>• Received two Balance of Facilities anhydrous ammonia vessels along with the ammonia vaporizer skid.<br>• Awarded the Analytical Lab Architectural Specialties subcontract.<br>Construction Activities:<br>• Completed approximately 80 percent of Low Activity Waste facility bulk heating, ventilation, and air conditioning duct installation.<br>• Installed the Analytical Lab Auto-sample Equipment above the Hot Cell.<br>• Completed construction of the Balance of Facilities Water Treatment | **740,000** |

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|---|---|---|
| | Building which supplies de-mineralized water to plant processes.<br>Startup Activities:<br>• Mobilized Facilities completion and Start-up team (27 employees) at the site to facilitate efficient Startup activities.<br>• Implemented Phased Operational Readiness Reviews for the Waste Treatment and Immobilization Plant in order to minimize Startup risk.<br>• Completed Commissioning Strategy Document.<br>• Completed Operational Readiness Reviews Strategy Document.<br>• Set up the DOE Integration team to oversee Startup and commissioning activities.<br>• Completed detailed planning for Startup of the Balance of Facilities Switchgear building.<br>**High-Level Waste Facility –**<br>Design Activities:<br>• Completed civil engineering design (Title II) issue for construction design for all piping and supports at all facility elevations for the first and second stories (elevation +14 to +37).<br>Procurement Activities:<br>• Received High-Level Waste Facility remote change air filter housings and dampers for the Filter Cave.<br>• Received High-Level Waste Facility Rinse Vessel and Canister Decontamination Vessels.<br>Construction Activities:<br>• Completed structural steel installation from the second to the third story, elevation +14 to +37.<br>Startup Activities:<br>• On hold.<br>**Pretreatment Facility –**<br>Design Activities:<br>• Completed design of Cesium Ion Exchange Process systems.<br>Procurement Activities:<br>• Issued material requisitions for 28 major jumper frames in hot cells.<br>Construction Activities:<br>• Installed horizontal and vertical shield doors in the hot cell.<br>• Installed 30-ton and 5-ton hot cell operations cranes.<br>• Set two pipe modules in black cell.<br>Startup Activities:<br>• On hold. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>The following list of activities is subject to change based on the results of the re-planning effort.<br>**Low Activity Waste, Analytical Laboratory, and Balance of Facilities -**<br>Design Activities:<br>• Complete Balance of Facilities Plant Design Engineering.<br>Procurement Activities:<br>• Complete shipment of Low Activity Waste Facility steel discharge monitor.<br>• Complete Analytical Laboratory mechanical systems procurement.<br>Construction Activities:<br>• Low Activity Waste Facility Start-Up: Final System Scoping of Multi System.<br>• Install Low Activity Waste Facility instrumentation EL +48. | --- |

| | | |
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| | • Complete Analytical Laboratory Electrical Terminations.<br>• Pull all Analytical Laboratory Scheduled Bulk Cable.<br>• Install balance of Analytical Laboratory Auto sampling Systems – Instrumentation.<br>• Complete construction of the Balance of Facilities Anhydrous Ammonia system vessel structure.<br>• Complete and turnover Balance of Facilities steam plant facility systems.<br>Startup Activities:<br>• 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.<br>**For the High-Level Waste Facility –**<br>Design Activities:<br>• Complete issuance of High-Level Waste Facility plant design isometrics drawings.<br>Procurement Activities:<br>• Receive and set High Efficiency Mist Eliminator Vessels.<br>• Receive Submerged Bed Scrubber Vessels.<br>Construction Activities:<br>• 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.<br>• Complete High-Level Waste Facility wall placement to the fourth story.<br>• Commence Installation of High-Level Waste Facility piping, Heating, Ventilation, and Air Conditioning and electrical tray at full production rates.<br>Startup Activities:<br>• Commissioning and startup procedural development.<br>• Training plan development.<br>• Initiate activities to transition to and implement an approved Documented Safety Analysis.<br>**For the Pretreatment Facility –**<br>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. | |
| | The following list of activities is subject to change based on the results of the re-planning effort.<br>**Low Activity Waste -**<br>Design Activities:<br>• Continue engineering support to Construction, Engineering & Nuclear Safety & Commissioning<br>• Continue planning for Low Activity Waste direct feed<br>• Continue working towards design completion<br>• Complete Safety System Requirements Specification design verification<br>• Complete confirmed stress/support final calculations for plant design<br>• Continue Permitting Dangerous Waste Permit Application agency packages for Ecology public reviews<br>Procurement Activities:<br>• Deliver major permanent plant equipment:<br>– Mechanical Handling & System<br>o Melter Offgas Caustic Scrubber | |
| FY 2014 | | **690,000** |

| | | |
|---|---|---|
| | – Thermal Catalytic Oxidizer<br>– In Cell Containers (Grapples)<br>– Electrical Equipment System<br>– Communication Equipment<br>– Power, Control, Instrumentation, Fiber Optic Cable<br>– Control & Instrumentation<br>– Various Instrumentation Items (Thermocouples/Thermowells/Pitot Tubes)<br>Construction Activities:<br>• Complete partition wall (drywall) installation<br>• Finish +48-foot elevation piping installation<br>• Install remaining +48-foot elevation large equipment<br>• Complete subcontract for melter refractory<br>• Complete melter 1 & 2 installation<br>• Continue construction to satisfy Tri Party Agreement for "LAW Construction Substantially Complete"<br>Startup Activities:<br>• Begin System Startup Scoping and Design Completion List<br>• Continue drafting test procedures for systems and begin review & approval<br>• Begin turnover of systems from Construction to Startup<br>**Analytical Laboratory, and Balance of Facilities -**<br>Design Activities:<br>• Continue engineering support to Construction, Engineering & Nuclear Safety, & Commissioning.<br>• Issue Design Completion List for all systems in Analytical Laboratory.<br>Procurement Activities:<br>• Balance of Facilities major plant equipment deliveries:<br>– Communications equipment<br>– Emergency Turbine Generators<br>– Q Isolation Tripping Devices<br>• Analytical Laboratory major plant equipment deliveries:<br>– Shield Windows<br>– Batteries<br>– Differential Thermal Analysis<br>– Mercury Analyzer<br>– HEPA Filters<br>– Removal Weirs<br>Construction Activities:<br>• Analytical Laboratory<br>– Attain Lab construction complete status<br>– Complete installation of penetration seals and insulation<br>• Balance Of Facilities<br>– Complete construction of the Balance of Facilities Anhydrous Ammonia system vessel structure.<br>– Complete installation of the standby generator<br>– Complete Cathodic Protection<br>– Provide permanent power to site main switchgear<br>Startup Activities:<br>• Balance of Facilities<br>– Perform system testing and accept all systems from construction | |

| | | |
|---|---|---|
| | ○ Water Treatment<br>○ Cooling Tower<br>○ Main Switchgear<br>○ Non-Radioactive Liquid Waste Disposal Pump House<br>○ BOF Switchgear<br>– Startup and introduce power to the Waste Treatment and Immobilization Plant via the main switchgear building<br>– Low Activity Waste simulator ready for training<br>• Analytical Laboratory<br>– Complete system scoping<br>– Perform System Testing<br>– Begin development of laboratory methods to support sample analysis<br>– Start system Training<br>**High-Level Waste Facility –**<br>Design Activities:<br>• Complete safety system requirements specification<br>• Complete design of electrical motor control centers and load control centers<br>• Complete uninterruptable power supply system design<br>• Perform supporting calculations for selected instruments related to analytic limit set-points<br>• Close out actions associated with jumper design through piping and instrumentation diagram updates<br>• Complete all Melter Cave jumper system calculations, nominal designs and prepare all jumper drawings based on nominal designs<br>• Complete engineering to support procurement for High Integrity Fans shaker table testing<br>• Issue HLW piping and process equipment heat gain calculations<br>• Confirm design of C2 Ventilation (C2V) and C3 Ventilation (C3V) Heating, Ventilation, and Air Conditioning systems<br>• Complete isometric drawings for the Melter Offgas Treatment Process, Pulse Jet Ventilation, Stack Discharge Monitoring systems<br>• Complete (PDSA) and (ABAR) update<br>Procurement Activities:<br>• Deliver process racks<br>• Deliver auto sampler units<br>• Deliver 6 ton canister handling crane<br>• Deliver 6 ton canister storage crane<br>• Deliver glove box posting port<br>• Deliver filter cave power manipulator<br>• Deliver melter cave feed preparation vessels HFP-VSL-001, 002, 005,006<br>• 480V Load and Motor Control Centers<br>Melter Feed Process Agitators and Centrifugal Pumps Construction Activities:<br>• Provide care and maintenance of the building areas where construction has paused<br>• Complete walls around both melters to elevation +58 ft<br>• Continue commodity installation (HVAC, pipe, electrical raceway, liner plate, coatings)<br>Startup Activities: | |

| | | |
|---|---|---|
| | • No Scope.<br>**For the Pretreatment Facility –**<br>Design Activities:<br>• Complete Hydrogen Piping and Ancillary Vessels Qualitative Risk Analysis, and route analysis<br>• Complete Erosion/Corrosion testing, analysis, and reports<br>• Completion of integrated design reviews<br>• PVP/PVV/C5 Ventilation (C5V) issue closure<br>• Revise DNFSB Board Recommendation 2010-02 deliverables<br>• Complete development of Vessel mixing testing strategies and detailed planning - agreed<br>• Performance of full-Scale testing and reporting for two vessels<br>• Care and maintenance of the Pretreatment building during construction pause<br>Procurement Activities:<br>• Deferred Scope.<br>Construction Activities:<br>• Care and maintenance of the Pretreatment building.<br>Startup Activities:<br>• No Scope. | |

**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 PDS does not include a new start for the budget year.

This Project Data Sheet is an update to the FY 2013 Project Data Sheet for FY 2014. The FY 2013 annualized Continuing Resolution provides $744,529,000 in funding for the Waste Treatment and Immobilization Plant under two Congressional control points. The FY 2014 budget request reflected in this project data sheet is $690,000,000 and proposes one control point in order to effectively manage changing conditions and mitigate financial risks.

In the second quarter of fiscal year 2012, the Waste Treatment and Immobilization Plant began a process of developing a revised performance baseline. However, in the interim, the current approved performance baseline total project cost of $12,263,000,000 and Critical Decision-4 of November 2019 are utilized for the preparation of this data sheet.

During the third quarter of fiscal year 2012 several safety, quality and technical issues caused the Department to review the approach of the re-baseline effort. In the fourth quarter of fiscal year 2012 the Department provided additional guidance to refocus its efforts on the completion of the Low-Activity Waste Facility, Balance of Facilities, and Analytical Laboratory, and the near-term activities needed to resolve the safety, quality and technical issues at the Pretreatment and High-Level Waste Facilities. Instead of continuing the current level of construction work on Pretreatment and High Level Waste facilities focus has been shifted to resolving the remaining safety, quality and technical issues, which are primarily associated with these two facilities.

As the Waste Treatment and Immobilization Plant completes the assessment and planning of the safety, quality and technical issues related to the Pretreatment and High Level Waste facilities the focus for these facilities will transition to execution and resolution of the issues for those facilities. Funding for Pretreatment and High Level Waste facilities will be critical during this time to ensure timely closure of the open safety, quality and technical issues and represent the last piece to completion of the Waste Treatment and Immobilization Plant.

Once complete, the new proposed performance baseline will be available for validation based on the results of an Independent Cost Estimate and an External Independent Review, and then will be presented for approval by the Secretarial 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 has been assigned to this project.

**Status of Major Technical and Performance Issues**

As of the end of December 2012, the WTP project is making considerable progress in developing the framework and approach for resolving the safety, quality, and technical issues that have been identified as a result of multiple internal and external reviews of the project over the past two years. These reviews have resulted in a series of management actions to assess the root causes of the issues and implement management and process changes that, combined with resolution of

technical issues, will allow the project to complete the design of the facility and move forward with major procurements and construction of the WTP. The major safety, quality assurance, and technical issues are summarized below.

**Safety Culture:** Concerns with the safety culture at the WTP project were identified and detailed in Defense Nuclear Facility Safety Board Recommendation 2011-1, and further developed in independent assessments conducted by the Department of Energy's Office of Health, Safety and Security in 2011 and 2012. The WTP project has developed comprehensive plans and management actions to address the findings of the Safety Culture reviews which included:

- Management processes of the Waste Treatment and Immobilization Plant nuclear safety and quality culture
- Misalignment between the WTP safety basis documentation and the design
- Timeliness of issues identification and resolution
- Lack of clarity in roles, responsibilities, authorities and accountabilities
- Perception of safety culture and work environment specific to the WTP construction site

**Quality and Management Processes:** Department of Energy internal assessments conducted in 2012 identified a number of issues associated with engineering, procurement quality and management processes. The WTP project has taken positive and aggressive action to address and resolve these issues by conducting a series of root cause analyses and subsequently implementing a Reliability Verification Program that addresses DOE assessment issues including management of design/safety margin and flow-down of nuclear quality assurance requirements to subcontractors.

**Technical Issues:**

The majority of the WTP technical issues are associated with the performance and sustainability of systems and components contained in the WTP Black Cells. The Black Cell concept is a key part of the facility design for the Pretreatment and High-Level Waste facilities. Black Cells contain certain equipment in closed, shielded spaces for which no maintenance or entry is planned for the 40-year design life of the plant. In the summer of 2012 the Secretary of Energy convened a panel of experts to evaluate adequacy of the Black Cell design. The objectives of the Black Cell technical review were to:

- Assess the diagnostics capability to detect equipment vulnerabilities and/or failures in the Pretreatment Facility and High-Level Waste Facility Black Cells;
- Assess the provisions to follow up and repair failed or vulnerable systems and components in the Black Cells, and
- Recommend any design changes or operational enhancements. This effort is intended to achieve a more systematic approach to safety, reliability and defense-in-depth for design, construction and operability of the WTP.

The Secretary's review identified five major areas of technical uncertainty that required resolution in order to resolve the associated technical issues and move forward to complete the design and construction of the High Level Waste and Pretreatment facilities. As a result of the findings from his review, the Secretary formed a Design Completion Team and five Technical Teams to address and resolve the technical uncertainties and associated technical issues. The five Technical Teams and their charters are described below:

**a. Identification of Waste Pre-conditioning Requirements and Facilities**

The charter of this team is to bridge the gap between the chemical and physical constituency of the 56-million gallons of tank waste in the Hanford Tank Farms and the ability of the WTP to safely and effectively process that waste. This team is tasked to identify the appropriate Waste Acceptance Criteria (WAC) for the waste that is to be fed to the WTP, document capabilities necessary to sample and fully characterize the waste before it is sent to WTP to ensure it complies with the WAC, and to identify what, if any, pre-conditioning of the waste will be required to ensure that WTP can safely process the waste. Pre-conditioning may require new processes and/or facilities to mix, blend and sample the waste prior to sending it to WTP.

**b. Full Scale Vessel Testing**

On December 17, 2010, the Defense Nuclear Facilities Safety Board (DNFSB) provided to the Secretary of Energy its Recommendation 2010-2, which commented on the technical and safety issues related to performance of the pulse jet mixing and transfer systems relied upon in the WTP. The Secretary of Energy accepted Recommendation 2010-2 on February 10, 2011 and again on June 20, 2011; and on November 10, 2011, formally submitted the DOE Implementation Plan for this Recommendation. This implementation plan provided the details of a Large Scale Integrated Test program that would fully test and demonstrate the performance of the WTP mixing, sampling and transport systems needed to complete the design of the WTP vessels and related systems.

On November 8, 2012 the Secretary of Energy informed the Chairman of the Defense Nuclear Facilities Safety Board (DNFSB) that the Department of Energy (DOE) envisioned that a full scale vessel qualification test program would replace the current design verification strategy for vessels with pulse jet mixers in the WTP. The full scale qualification testing approach using actual WTP vessel sizes and configurations reduces the uncertainty associated with testing scaled and prototypic vessels.

The Full Scale Vessel Technical Team is chartered to plan, conduct, and report on the results of WTP vessel mixing tests to be conducted at a newly constructed test facility in Richland, WA. The scope of the full scale vessel qualification testing program includes the verification of the operational and performance requirements of the pulse jet mixed (PJM) vessels in the Pretreatment (PT) and High Level Waste (HLW) facilities. There are 38 PJM vessels in the PT and HLW facilities, sharing 22 unique designs. The vessels will be grouped into like (common) designs, and a subset of the vessels that represent the most bounding operational conditions will be selected for Full Scale Vessel Testing (FSVT). In most cases, the actual WTP production vessels will be used for the FSVT program. The qualification testing will include test objectives to support qualification of the vessel level PJM control systems.

The scope of the FSVT program consists of the following key elements:

- Definition of the test requirements,
- Establishment of the test program,
- Preparation and commissioning of the test platform and vessels,
- Conduct of the testing,
- Evaluation of test results, and
- Identification of any required design changes or verification of the current vessel designs.

At present, the preliminary test strategy consists of testing six vessels at full scale: one vessel from HLW and five vessels from PT. Full scale testing is currently planned to start late in CY 2013. The test vessel for the High Level Waste facility (RLD-VSL-8) will be tested first in order to resolve pulse jet mixing issues for High Level Waste and facilitate resuming full construction of the High Level Waste wet process cell (black cell) as early as practical. Testing of Pretreatment Facility vessels will follow completion of the High Level Waste vessel in alignment with technical priorities.

**c. In-Service Inspection/Redundancy**

The charter of the In-Service Inspection and Redundancy Team is to perform a risk-informed assessment of Black Cell and hard-to-reach components, with the purpose of providing the capability to inspect Black Cell piping and vessels as required to ensure those components will remain operable and serviceable over the 40-year operating life of the plant. Specific activities that will be conducted by this team include:

- Identifying instrumentation, locations and methods for performing periodic or continuous monitoring and inspection of critical components
- Conducting Failure Modes and Effects Analysis to identify areas of vulnerability (high-risk)
- Identify potential design changes for the high-risk components or systems
- Identifying necessary repair capabilities for Black Cell piping and components

**d. Black Cell Analysis**

The Black Cell Analysis Team is responsible for assessing and providing technical recommendations to ensure that specific black cell structures, systems, components and processes are adequately designed to meet their designated functional and safety requirements over the 40-year design life of the plant. Some of the specific issues that the Black cell Analysis Team will address include:

- Resolve black cell piping and equipment specific system and structural design issues
- Review the need and current plans for performing structural modifications of installed vessels
- Charter independent expert technical reviews for issues pertinent to vessel mixing:
    - Hydrogen gas release
    - Criticality
- Ensure that vessel and piping designs comply with the nuclear safety basis
- Finalize sampling and waste transfer system designs

**e. Erosion/Corrosion**

The material allowance for erosive wear for vessels mixed with pulse jets has been determined based on calculation that include assumptions such as particle size distribution and hardness, expected fluid velocities, solids concentration, duty cycles, etc. Recent DOE reviews of WTP Black cell components documented concerns regarding the application of wear allowances and safety factors to account for uncertainty in wear rate projections. The in-service inspection program for the vessels and the operating control requirements have not yet been fully developed, and the procedures for waste feed control and measurement of waste characteristics important to erosion wear for waste feed to the WTP have not been developed. On January 20, 2012 the DNFSB transmitted a letter to DOE identifying erosion and corrosion issues similar to those contained in the DOE surveillance reports.

In addition to the concerns related to erosion and the generalized corrosion that could result from erosion, DOE engineering surveillances conducted in 2011 identified that the design for WTP lacked adequate documentation for treatment of localized corrosion (e.g., pitting, crevice corrosion, and stress corrosion cracking) in establishing materials design, operating, and safety margins for the selected materials of construction used in WTP process piping and vessels.

One of the five sub-teams of the WTP Design Completion Team is specifically focused on resolution of the erosion and corrosion issues described above. The objectives of the Erosion/Corrosion team are to:

- Resolve outstanding issues associated with WTP design basis for materials selection and wear allowances for erosion and corrosion for vessels, components and piping
- Define operating basis (e.g., temperature, chemistry and pH) to ensure that localized corrosion (e.g., pitting, crevice cracking and stress cracking) is prevented
- Define long-term testing requirements to support the WTP in-service inspection program

The Erosion/Corrosion team is currently focused on defining and establishing the bounding waste property characteristics that will be used for analyses and testing, establishing test plans, conducting tests, identifying necessary design changes, and establishing tests needed to support the In-Service Inspection program requirements.

**Other Technical Issues**

Other technical and engineering issues that are currently being addressed by the WTP project include uncertainties associated with the safety controls for spray leaks from WTP process piping and components, heat transfer analysis for WTP process vessels, engineering issues with design and construction of the electrical distribution system, and the potential for line plugging in WTP process piping.

**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 | SEP 1995 | SEP 1996 | 4Q FY2005 | 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 |
|---|---|---|---|---|---|---|---|---|
| Reprogramming | | | | | | | | |
| 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 Request | SEP 1995 | SEP 1996 | 4Q FY2007 | 04/21/2003 | 04/21/2003 | 3Q FY2008 | N/A | N/A |
| 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 |
| FY 2014 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 Waste Treatment and Immobilization Plant 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. | 0 | 5,781,000 | 5,781,000 | 0 | 0 | 0 | 5,781,000 |

(Fiscal Quarter)

| | TEC, PED | TEC, Construction | TEC, Total | OPC Except D&D | OPC, D&D | OPC, Total | Total Project Cost |
|---|---|---|---|---|---|---|---|
| Notification | | | | | | | |
| 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 |
| 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[1] | 0 | 12,263,000 | 12,263,000 | 0 | 0 | 0 | 12,263,000 |
| FY 2014[1] | 0 | 12,263,000 | 12,263,000 | 0 | 0 | 0 | 12,263,000 |

1) The project performance baseline will be updated and 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 re-baselining effort commenced in the second quarter of fiscal year 2012.

**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 56,000,000 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 retrieved). 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 for the minimum treatment capacity. 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. 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.

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[a] | 401,171 | 401,171 | 226,311 |
| FY 2002 | 665,000 | 665,000 | 488,469 |
| FY 2003[bc] | 671,898 | 671,898 | 621,574 |
| FY 2004[d] | 697,530 | 682,402 | 725,246 |
| FY 2005[e] | 684,480 | 695,552 | 812,811 |
| FY 2006 | 521,180 | 525,236 | 516,003 |
| FY 2007[fgh] | 690,000 | 621,000 | 551,013 |
| FY 2008[i] | 683,721 | 752,721 | 727,766 |
| FY 2009 | 690,000 | 690,000 | 716,613 |
| FY 2010 | 690,000 | 690,000 | 790,485 |
| FY 2011[j] | 738,699 | 738,699 | 794,734 |
| FY 2012[k] | 740,000 | 740,000 | 820,000 |
| FY 2013[l] | 744,529 | 744,529 | 690,000 |
| FY 2014 | 690,000 | 690,000 | 690,000 |
| Outyears | 2,954,792 | 2,954,792 | 3,091,975 |
| Total, Construction[n] | 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 Waste Treatment and Immobilization Plant 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 Waste Treatment and Immobilization Plant Earned Value Management System. In March of 2008 the Waste Treatment and Immobilization Plant 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 Waste Treatment and Immobilization Plant line-item, 01-D-416.

[l] 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 commenced in the second quarter fiscal year 2012.

[l] The FY 2013 appropriated TEC amount in this table, $744,529,000, is the amount calculated for the FY 2013 annualized Continuing Resolution. The calculation was in accordance with the level of legal control mandated by Section 301(c) of Division B of the Consolidated Appropriations Act 2012 (Public Law 112-74). The amount in the FY 2013 budget request was $690,000,000.

**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) | | | |
| 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[a] | 2,380,748 | 2,380,748 | 1,125,000 |
| Facility Construction[b] | 3,720,637 | 3,720,637 | 2,155,000 |
| Commissioning[c] | 1,409,428 | 1,409,428 | 876,000 |
| Technical Support/Transition[d] | 185,000 | 185,000 | 50,000 |
| Contingency/Fee[e] | 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 commenced in the second quarter FY 2012.

## 7. Schedule of Appropriation Requests

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

| Request | | ($K) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Prior Years | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY2017 | FY2018 | 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 | 7,819,520 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 303,480 | 12,263,000 |
| | OPC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TPC | 7,819,520 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 303,480 | 12,263,000 |
| FY 2009 | TEC | 7,780,838 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 342,162 | 12,263,000 |
| | OPC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TPC | 7,780,838 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 342,162 | 12,263,000 |
| FY 2010 | TEC | 7,774,559 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 348,441 | 12,263,000 |
| | OPC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | TPC | 7,774,559 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 348,441 | 12,263,000 |
| FY 2011 | TEC | 7,825,158 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 297,842 | 12,263,000 |
| | OPC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TPC | 7,825,158 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 690,000 | 297,842 | 12,263,000 |
| FY 2012[a] | TEC | 7,973,678 | 970,000 | 890,000 | 790,000 | 600,000 | 380,000 | 355,000 | 304,322 | 12,263,000 |
| | OPC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | TPC | 7,973,678 | 970,000 | 890,000 | 790,000 | 600,000 | 380,000 | 355,000 | 304,322 | 12,263,000 |
| FY 2013[b] | TEC | 7,873,679 | 690,000 | 690,000 | | | | | 3,009,321 | 12,263,000 |
| | OPC | 0 | 0 | 0 | | | | | 0 | 0 |
| | TPC | 7,873,679 | 690,000 | 690,000 | | | | | 3,009,321 | 12,263,000 |
| FY 2014 | TEC[c] | 7,873,679 | 744,529 | 690,000 | | | | | 2,954,792 | 12,263,000 |
| | OPC | 0 | 0 | 0 | | | | | 0 | 0 |
| | TPC[d] | 7,873,679 | 744,529 | 690,000 | | | | | 2,954,792 | 12,263,000 |

[a] A project rebaselining effort commenced 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.

[b] FY2013 Budget reflects the annualized continuing resolution funding.

[c] The FY 2013 appropriated TEC amount in this table, $744,529,000, is the amount calculated for the FY 2013 annualized Continuing Resolution. The calculation was in accordance with the level of legal control mandated by Section 301(c) of Division B of the Consolidated Appropriations Act, 2012 (Public Law 112-74). The amount in the FY2013 budget request was $690,000,000.

**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 commenced 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 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Savannah River Site | | | |
| Radioactive Liquid Tank Waste Stabilization and Disposition | | | |
| SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035 | 827,552 | 843,684 | 644,560 |
| Savannah River Risk Management Operations | | | |
| SR-0011C / NM Stabilization and Disposition | 221,104 | --- | 272,000 |
| SR-0012 / SNF Stabilization and Disposition | 41,112 | --- | 44,684 |
| SR-0013 / Solid Waste Stabilization and Disposition | 45,276 | --- | 60,369 |
| SR-0030 / Soil and Water Remediation | 43,154 | --- | 55,438 |
| Subtotal, Savannah River Risk Management Operations | 350,646 | 341,725 | 432,491 |
| SR Community and Regulatory Support | | | |
| SR-0100 / Savannah River Community and Regulatory Support | 9,584 | 9,643 | 11,210 |
| Total, Savannah River Site | 1,187,782 | --- | 1,088,261 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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, 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 was reduced 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.

Direct maintenance and repair at the Savannah River Site is estimated to be $136,359,000.

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 will continue its strategy to accelerate the cleanup of legacy nuclear materials, waste and waste units and facilities. By the end of FY 2013, legacy contact-handled transuranic waste will be dispositioned or remediated and stored awaiting final disposition, and progress continued towards closing four non-compliant high-level waste tanks.

In FY 2013 the primary accomplishments are:

- Continue progress on Salt Waste Processing Facility construction.
- Continue receipt of foreign and domestic research reactor spent (used) fuel.
- Complete disposition or remediation of contact-handled legacy transuranic waste.
- Receive, store, and dispose of all waste generated by Site waste generators.

The current estimated Life-Cycle cost range for the Savannah River Site is $66,563,664,000 - $73,617,915,000. The current projected closure date is 2042.

| Milestones | Date |
|---|---|
| Complete Design of Final Storage / Presentation Vault Area in K-Area | July 2013 |
| Produce 50 kgs of Aqueous/Manufacturing Process Specification Oxide from Alternate Feed Stock 2 (AFS2) Plutonium Metal or Oxide Metal or Oxide in HB-Line | September 2013 |
| Complete all FY13 Recommendation 2012-1 Implementation Plan Milestones (235-F) | September 2013 |
| Complete two 70-ton cask shipments of Sodium Reactor Experiment (SRE) campaign fuels to H-Canyon | September 2013 |

| Milestones | Date |
|---|---|
| Complete Dissolution of all SRE Campaign Items in H-Canyon and Transfer to Liquid Waste System | September 2014 |
| Produce 130 kgs of Manufacturing Process Specification Oxide from AFS2 Plutonium Metal or Oxide in HB-Line | September 2014 |
| Complete all remaining Sodium Reactor Experiment (SRE) campaign fuels cask shipments to H-Canyon | September 2014 |
| Complete TRUPACT III Shipments | September 2014 |
| Initiate closure of Legacy TRU PAD 16 | September 2014 |

**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; and
- 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:

- 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; and
- Off-site disposition of the high-level waste and Spent (Used) Nuclear Fuel is required.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Savannah River | | | | |
| SR-0011C | 100.0% | 0% | 0% | 0% |
| SR-0012 | 100.0% | 0% | 0% | 0% |
| SR-0013 | 100.0% | 0% | 0% | 0% |
| SR-0014C | 0% | 86.0% | 14.0% | 0% |
| SR-0020 | 100.0% | 0% | 0% | 0% |
| SR-0030 | 100.0% | 0% | 0% | 0% |
| SR-0100 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | **FY 2012 Current** | **FY 2014 Request** | **FY 2014 Request vs FY 2012 Current** |
| **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 primarily attributable to reductions due to Salt Waste Processing Facility construction delays. | 827,552 | 644,560 | -182,992 |
| **Savannah River Risk Management Operations** | | | |
| **SR-0011C / NM Stabilization and Disposition** | | | |
| • The increase reflects the resumption to base funding of F Canyon surveillance and maintenance formally funded by the American Recovery and Reinvestment Act; risk reduction activities in Building 235-F as committed in DNSFB Recommendation 2012-1; and the processing of Sodium Reactor Experimental vulnerable fuel. | 221,104 | 272,000 | +50,896 |
| **SR-0012 / SNF Stabilization and Disposition** | | | |
| • The increase is attributed to supporting spent (used) nuclear fuel receipts and L-Basin life extension activities including activities to expand storage capacity in L-Basin. | 41,112 | 44,684 | +3,572 |
| **SR-0013 / Solid Waste Stabilization and Disposition** | | | |
| • Increase reflects the return of the transuranic waste program into the base program from the American Recovery and Reinvestment Act. | 45,276 | 60,369 | +15,093 |
| **SR-0030 / Soil and Water Remediation** | | | |
| • The increase reflects the return of soil and groundwater monitoring activities into the base program from the American Recovery and Reinvestment Act. | 43,154 | 55,438 | +12,284 |

| | | | |
|---|---|---|---|
| **SR Community and Regulatory Support** | | | |
| **SR-0100 / Savannah River Community and Regulatory Support** | | | |
| • The increase reflects additional support for state regulatory review and oversight. | 9,584 | 11,210 | +1,626 |
| **Total, Savannah River** | **1,187,782** | **1,088,261** | **-99,521** |

## NM Stabilization and Disposition (PBS: SR-0011C)

**Overview**

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

H-Canyon/HB-Line will continue to operate to process vulnerable aluminum-clad spent (used) nuclear fuel.

The FY 2013 scope of work for H-Canyon/HB-Line includes:

- Perform proficiency runs to maintain operator qualification and exercise process equipment;
- Initiate processing of vulnerable spent (used) nuclear fuel;
- Continue receipt and processing of sample return materials from both the Savannah River National Laboratory and the F/H Process laboratory.

HB-Line will package non-MOXable plutonium for disposition to the Waste Isolation Pilot Plant in FY 2013.

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 necessary surveillance in accordance with DOE Standard-3013.

**Benefits**

| | |
|---|---|
| Enhance nuclear security through environmental efforts | • Continue the safe storage and final disposition of nuclear materials, as well as the cleanup of our Cold War legacy. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Continued to receive weapons grade surplus non-pit plutonium from the Los Alamos National Laboratory, and Lawrence Livermore National Laboratory to be stored in the K Area.<br>• 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 in K Area.<br>• Continued surveillance and maintenance of the F Area Complex Facilities as well as for the Receiving Basin for Off-Site Fuels Facility (F Canyon surveillance and maintenance funded by the American Recovery and Reinvestment Act).<br>• Initiated program to reduce the risk to personnel and the environment by | **221,104** |

| | | |
|---|---|---|
| | reducing the residual plutonium-238 contamination in the F Area Materials Storage Facility (235-F).<br>• Performed preparation and initiated processing of vulnerable SRE spent (used) nuclear fuel.<br>• Completed the Tennessee Valley Authority contract commitments.<br>• Performed preparation for processing of non-pit plutonium to produce plutonium oxide suitable for use in the Mixed Oxide Fuel Fabrication Facility (funded by NNSA).<br>• Continued to package non-MOXable plutonium in HB-Line for disposal at WIPP. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Perform surveillance of special nuclear materials in storage by destructive means in accordance with DOE-STD-3013 and the surveillance and monitoring plan.<br>• Perform proficiency runs in H Canyon/HB-Line to maintain operator qualification and exercise process equipment.<br>• Continue receipt and processing of sample return materials from both the Savannah River National Laboratory and the F/H Process laboratory.<br>• HB-Line will package non-MOXable plutonium for disposition to the Waste Isolation Pilot Plant.<br>• Initiate program to reduce the risk to personnel and the environment by reducing the residual plutonium-238 contamination in the F Area Materials Storage Facility (235-F).<br>• 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.<br>• Initiate processing of non-pit plutonium to produce plutonium oxide suitable for use in the Mixed Oxide Fuel Fabrication Facility. | --- |
| FY 2014 | • 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.<br>• Perform surveillance of special nuclear materials in storage by destructive means in accordance with DOE-STD-3013 and the surveillance and monitoring plan in K Area.<br>• Perform proficiency runs in H Canyon/HB-Line to maintain operator qualification and exercise process equipment.<br>• Continue receipt and processing of sample return materials from both the Savannah River National Laboratory and the F/H Process laboratory.<br>• Perform activities to reduce the risk to personnel and the environment by reducing the residual plutonium-238 contamination in the F Area Materials Storage Facility (235-F) as committed in Defense Nuclear Safety Facilities Board Recommendation 2012-1.<br>• Complete processing at-risk Sodium Reactor Experimental vulnerable fuel. | **272,000** |

## 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 nuclear fuel originating from Atomic Energy Commission and DOE activities, and spent (used) nuclear fuel originating in both foreign and domestic research reactors being transferred to the Savannah River Site for safe, secure storage pending disposition. All spent 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 nuclear fuel facilities have been deactivated and turned over for final disposition. Activities include: receipt of spent nuclear fuel in L-Disassembly Basin; cask unloading and preparation for underwater storage; cask loading; and shipments of irradiated and non-irradiated spent nuclear fuel and miscellaneous legacy materials for disposition. A basin de-ionization system will be operated in support of fuel storage and water chemistry control requirements.

**Benefits**

| | |
|---|---|
| Enhance nuclear security through environmental efforts | • Continue the safe storage and final disposition of nuclear fuels, as well as the cleanup of our Cold War legacy. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Provided safe storage for all spent (used) nuclear fuel stored in L Area.<br>• Continued facility surveillance and maintenance activities, including maintenance of equipment, facility, grounds, instrumentation, and infrastructure.<br>• Prepared to ship vulnerable spent (used) nuclear fuel to H-Canyon for disposition and initiated shipments.<br>• Continued receipt of foreign and domestic research reactor spent (used) nuclear fuel.<br>• Conducted scientific applied research and technology development activities to assure safe extended storage of spent nuclear fuel and stabilization of degraded fuel.<br>• Initiated research for dry storage capabilities for aluminum clad spent (used) nuclear fuel. | **41,112** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide safe storage for all spent (used) nuclear fuel stored in L Area.<br>• Continue facility surveillance and maintenance activities, including maintenance of equipment, facility, grounds, instrumentation, and infrastructure. | --- |

| | | |
|---|---|---|
| | • Continue receipt of foreign and domestic research reactor spent (used) fuel except for HFIR fuel.<br>• Conduct scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel and stabilization of degraded fuel.<br>• Continue expansion of spent (used) nuclear fuel storage areas for Spent (Used) Nuclear Fuel Program. | |
| FY 2014 | • Provide safe storage for all spent (used) nuclear fuel stored in L Area.<br>• Perform L-Basin life extension activities in support of planned spent (used) nuclear fuel receipts and initiate activities to provide additional storage capacity.<br>• Continue facility surveillance and maintenance activities, including maintenance of equipment, facility, grounds, instrumentation, and infrastructure.<br>• Continue receipt of foreign and domestic research reactor spent (used) nuclear fuel except for the High Flux Isotope Reactor fuel.<br>• Conduct scientific applied research and technology development activities to assure safe extended storage of spent (used) nuclear fuel and stabilization of degraded fuel.<br>• Continue research for dry storage capabilities for aluminum clad spent (used) nuclear fuel. | **44,684** |

## 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 (e.g. roof repairs; outfalls; facility upgrades; etc.).

**Benefits**

| | |
|---|---|
| Waste Disposition and Disposal | • 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 near-term site completions and further reduce our legacy footprint. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |
| Critical Infrastructure Needs | • Completion of critical infrastructure projects to support site mission priorities. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Maintained Solid Waste management facilities to support site operations, including the construction debris landfill.<br>• Disposed of up to 6,900 $m^3$ of newly generated low-level waste.<br>• Disposed of 20 $m^3$ of mixed low-level waste inventory.<br>• Disposed of up to 50 $m^3$ of hazardous waste inventory.<br>• Disposed of sanitary waste.<br>• Managed waste certification program.<br>• TRU waste disposition activities were supported with ARRA funds.<br>• Completed critical infrastructure projects from the Site's Critical Infrastructure Plan. | **45,276** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain Solid Waste management facilities to support site operations.<br>• Disposal of up to 7,100 $m^3$ of newly generated low-level waste.<br>• Ship up to 300 kilograms of non-MOXable plutonium to WIPP.<br>• Disposal of up to 30 $m^3$ of mixed low-level waste inventory.<br>• Disposal of up to 85 $m^3$ of hazardous waste inventory.<br>• Disposal of sanitary waste.<br>• Management of waste certification program. | --- |

| | | |
|---|---|---|
| | • Disposal of up to 800 $m^3$ of legacy TRU waste not shipped with ARRA funding due to delay in TRUPACT-III delivery.<br>• Complete critical infrastructure projects. | |
| FY 2014 | • Maintain Solid Waste management facilities to support site operations, including the construction debris landfill.<br>• Disposal of up to 7,100 $m^3$ of newly generated low-level waste.<br>• Ship up to 300 kilograms of non-MOXable plutonium to WIPP.<br>• Disposal of up to 30 $m^3$ of mixed low-level waste inventory.<br>• Disposal of up to 85 $m^3$ of hazardous waste inventory.<br>• Disposal of sanitary waste.<br>• Continue waste certification program.<br>• Complete disposal of up to 800 $m^3$ of legacy TRU waste.<br>• Disposition plutonium and other waste from 235-F.<br>• Complete critical infrastructure projects from the Site's Critical Infrastructure Plan.<br>• Initiate closure of legacy TRU-waste pads under Federal and State regulations. | **60,369** |

**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 liquid waste program at the Savannah River Site, to safely and efficiently treat, stabilize, and dispose of approximately 39,000,000 gallons of remaining legacy radioactive waste currently stored in 47 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 was 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.

The late receipt of the Large ASME vessels (approximately 18 months) has impacted construction completion and Total Project Cost. An Independent Government Cost Estimate is currently being conducted. When completed, the project will be rebaselined and a new scope, cost and completion date will be established.

PBS SR-0014C includes the design of a vitrified high level waste canister storage alternative. Preliminary Engineering and Design funds were appropriated in FY 2012 to investigate alternatives to the existing design of the facility which stores vitrified canisters of high level waste glass produced by the Defense Waste Processing Facility. During FY 2014, further planning, development, and design of an interim storage capability for vitrified waste canisters will occur.

**Benefits**

| | |
|---|---|
| Develop novel methods for addressing high-level waste that can accelerate progress and reduce cost | • 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.<br>o Successful deployment of melter bubblers has increased Defense Waste Processing Facility production from 200 canisters per year to 276 canisters in FY 2012. |

| | |
|---|---|
| | o Saltstone Disposal Unit design has been revised to significantly increase the size of the unit with significant cost savings to the liquid waste program. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Operated the Defense Waste Processing Facility and produce 276 canisters.<br>• Continued the Effluent Treatment Facility operations.<br>• Continued operation of F and H Tank Farms.<br>• Continued construction of the Salt Waste Processing Facility (05-D-405).<br>• Continued modifications to liquid waste facilities, systems, and waste transfer lines in support of the Salt Waste Processing Facility project.<br>• Operated Actinide Removal Process and Modular Caustic Side Extraction at planned rates to enable feed preparation for the Salt Waste Processing Facility.<br>• Operated the Saltstone Facility at planned rates.<br>• Completed construction on Saltstone Disposal Unit 2.<br>• Continued construction of Saltstone Disposal Unit 3-5 as planned.<br>• Completed Actinide Removal Process and Modular Caustic Side Solvent Extraction life extension modifications to improve reliability.<br>• Completed closure of two non-compliant tanks in FY 2012 meeting ahead of schedule two Federal Facility Agreement tank closure commitments not due until the 1st Qtr of FY 2013. | **827,552** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue operation of F and H Tank Farms.<br>• Continue construction of Salt Waste Processing Facility (05-D-405).<br>• Operate the Defense Waste Processing Facility and produce 312 canisters.<br>• Continue the Effluent Treatment Facility operations.<br>• Operate Actinide Removal Process and Modular Caustic Side Solvent Extraction at planned rates.<br>• Operate the Saltstone Facility at planned rates.<br>• Complete fabrication of Defense Waste Processing Facility Melter #4.<br>• Continue construction of Saltstone Disposal Units 3-5.<br>• Continue work on Saltstone Disposal Unit 6 based on the new SDU design.<br>• Continue minimal 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.<br>• Continue tank farm modifications to support Salt Waste Processing Facility startup.<br>• Continue development and implementation interim storage capability for vitrified waste. | --- |
| FY 2014 | • Continue operation of F and H Tank Farms.<br>• Continue construction of Salt Waste Processing Facility (05-D-405).<br>• Operate the Defense Waste Processing Facility at a reduced rate to produce 100 canisters.<br>• Continue the Effluent Treatment Facility operations.<br>• Operate Actinide Removal Process and Modular Caustic Side Solvent Extraction | **644,560** |

| | | |
|---|---|---|
| | at planned rates.<br>• Continue operations of the Saltstone Facility.<br>• Complete fabrication of Defense Waste Processing Facility Melter #4.<br>• Continue waste removal activities in support of sludge and salt batch preparation to feed the Defense Waste Processing Facility.<br>• Continue closure activities for Tanks 5 and 6.<br>• Continue activities on a saltstone disposal alternative.<br>• Continue planning activities for an interim storage capacity for vitrified waste canisters. | |

## 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 from 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 decontamination and decommissioning – 2035, but has been combined with the work scope in PBS SR-0030, Soil and Water Remediation.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Maintained safe and stable facility conditions by performing surveillance and maintenance.<br>• Provided sound management of and support to the project (safety and health, coordination, environmental compliance, waste management, quality assurance, project controls, estimating, finance, and engineering).<br>• Operated and maintain regulatory required soil and groundwater remedial systems to protect human health and the environment.<br>• Monitored groundwater and streams to demonstrate to the regulators remedial systems' effectiveness and improvement of groundwater quality.<br>• Attained approximately 88 enforceable Federal Facility Agreement milestones (major and minor) and Resource Conservation and Recovery Act commitments.<br>• A portion of scope was funded by the American Recovery and Reinvestment Act. | **43,154** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain safe and stable facility conditions by performing surveillance and maintenance.<br>• 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).<br>• Operate and maintain regulatory required soil and groundwater remedial systems to protect human health and the environment.<br>• Monitor groundwater and streams to demonstrate to the regulators remedial systems' effectiveness and improvement of groundwater quality.<br>• Attainment of 75 enforceable Federal Facility Agreement milestones (major and | --- |

| | | |
|---|---|---|
| | minor) and Resource Conservation and Recovery Act commitments. | |
| FY 2014 | • Maintain safe and stable facility conditions by performing surveillance and maintenance.<br>• 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).<br>• Operate and maintain regulatory required soil and groundwater remedial systems to protect human health and the environment.<br>• Monitor groundwater and streams to demonstrate to the regulators remedial systems' effectiveness and improvement of groundwater quality.<br>• Attainment of enforceable Federal Facility Agreement milestones (major and minor) and Resource Conservation and Recovery Act commitments due in FY 2014. | **55,438** |

**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. Activities include 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. The scope of this project also includes activities for geological surveys and natural resource management.

**Benefits**

| | |
|---|---|
| Improve Transparency | • We are committed to making the Department more open and more accessible to the American people.<br>• Increase transparency of operations and performance to educate external stakeholders. |
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship.<br>• We will work to strengthen our commitment to integrating environmental justice principles into our mission. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Conducted land management activities to sustain the Savannah River Sites natural resources.<br>• Supported Payments-in-Lieu-of-Taxes to Aiken, Allendale, and Barnwell counties.<br>• Provided technical expertise in the conduct of geological surveys and natural resource management.<br>• Provided support to South Carolina Department of Health Environmental Control for oversight of environmental monitoring, Federal Facility Agreement, Agreement in Principle and Site Treatment Plan.<br>• Provided support for Georgia and South Carolina Emergency Management Support.<br>• Supported Interagency Agreement for EPA Region 4 oversight of the Federal Facility Agreement.<br>• Supported the Site Specific Advisory Board (SR Citizen's Advisory Board) and the public reading room. | **9,584** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Support Payments-in-Lieu-of-Taxes to Aiken, Allendale, and Barnwell counties.<br>• Conduct forest management activities to sustain the Savannah River Sites natural resources. | --- |

| | | |
|---|---|---|
| | • Provide technical expertise in the conduct of geological surveys and natural resource management.<br>• 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.<br>• Provide support for Georgia and South Carolina Emergency Management Support.<br>• Support Interagency Agreement for EPA Region 4 oversight of the Federal Facility Agreement.<br>• Support the Site Specific Advisory Board (SR Citizen's Advisory Board), and the public reading room.<br>• Execute the DOE Scholars Program. | |
| FY 2014 | • Support Payments-in-Lieu-of-Taxes to Aiken, Allendale, and Barnwell counties.<br>• Provide technical expertise in the conduct of geological surveys and natural resource management.<br>• 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.<br>• Provide support for Georgia and South Carolina Emergency Management Support.<br>• Support Interagency Agreement for EPA Region 4 oversight of the Federal Facility Agreement.<br>• Support the Site Specific Advisory Board (SR Citizen's Advisory Board). | **11,210** |

**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 Total Project Cost of $1,339,548,000 and a CD-4, Start of Radioactive Operations, date in FY 2016.

A Federal Project Director has been assigned to this project.

This PDS does not include a new start for the budget year.

This PDS is an update of the FY 2013 PDS.

The project will breach its Total Project Cost. As a result, the DOE and its contractor are currently in negotiations to determine the new contract value and subsequent revised Total Project Cost. This change represents the forecasted funding needs for FY 2014, and subsequent funding year needs are to be determined.

The project experienced delays in receipt of a critical procurement of 10 large ASME vessels which has significantly impacted both cost and schedule, resulting in a delay in the completion of construction and a corresponding delay in commissioning activities.

This data sheet is intended to provide information for FY 2014 funding needs while the Department conducts an Independent Government Cost Estimate, Independent Cost Estimate, and External Independent Review as required under the Energy System Acquisition Advisory Board approval process. Additional funding is needed to continue construction at a reasonable rate.

## 2. Critical Decision (CD) 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 2005 | 06/25/2001 | 4Q FY2004 | 4Q FY2005 | 4Q FY2005 | 4Q FY2005 | 4Q FY2008 | N/A | N/A |
| FY 2006 | 06/25/2001 | 4Q FY2004 | 3Q FY2006 | 3Q FY2006 | 3Q FY2006 | 4Q FY2009 | N/A | N/A |
| FY 2007 | 06/25/2001 | 4Q FY2004 | 1Q FY2008 | 3Q FY2007 | 3Q FY2007 | 1Q FY2011 | N/A | N/A |
| FY 2008 | 06/25/2001 | 4Q FY2004 | 1Q FY2008 | 3Q FY2007 | 3Q FY2007 | 1Q FY2011 | N/A | N/A |
| FY 2007 Notification | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 4Q FY2008 | 1Q FY2014 | N/A | N/A |
| FY 2009 | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 4Q FY2008 | 1Q FY2014 | N/A | N/A |
| FY 2008 Reprogramming | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 1Q FY2009 | 1Q FY2014 | N/A | N/A |
| FY 2010 | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 1Q FY2009 | 1Q FY2016 | N/A | N/A |
| FY 2011 | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 1Q FY2009 | 1Q FY2016 | N/A | N/A |
| FY 2012 | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 1Q FY2009 | 1Q FY2016 | N/A | N/A |
| FY 2013 | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 1Q FY2009 | 1Q FY2016 | N/A | N/A |
| FY 2012 Reprogramming | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 1Q FY2009 | 1Q FY2016 | 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 |
|---|---|---|---|---|---|---|---|---|
| FY 2014 Request | 06/25/2001 | 4Q FY2004 | 4Q FY2008 | 4Q FY2007 | 1Q FY2009 | TBD | 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 | | | | |
| FY 2012 Reprogramming | 4Q2007 | 4Q2007 | 4Q2008 | 1Q2009 | | | | |
| FY 2014 Request | 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 |

| | (Fiscal Quarter) | | | | | | |
|---|---|---|---|---|---|---|---|
| | TEC, PED | TEC, Construction | TEC, Total | OPC Except D&D | OPC, D&D | OPC, Total | TPC |
| 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 |
| FY 2012 Reprogramming | 243,705 | 929,457 | 1,173,162 | 166,386 | 0 | 166,386 | 1,339,548[a] |
| FY 2014 Request | 243,705 | 929,457 | 1,173,162 | 166,386 | 0 | 166,386 | 1,339,548[a] |

[a] The DOE and its Contractor are currently in contract negotiations. When completed, the project will be rebaselined and a new scope, cost and completion date will be established.

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

**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 39,000,000 gallons of the remaining waste is being stored on an interim basis in 47 underground waste storage tanks. Of the 39,000,000 gallons, approximately 5,000,000 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 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 7,300,000 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 $220,000,000 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.

In early FY 2012, the project began experiencing significant impacts associated with the delay in fabrication and delivery of a critical procurement of 10 large ASME vessels. These ongoing delays drove the Federal Project Director to require the contractor to develop a bottoms-up Estimate at Completion to quantify the cost and schedule impacts. Upon receipt of this estimate, the DOE commissioned an independent government cost estimate and independent cost estimate which will support an external independent review prior to a decision from the Acquisition Executive on project path forward. The DOE and its Contractor are currently in negotiations to revise the contract. Once this is complete a new Total Project Cost will be established and a formal baseline change will be implemented.

**5. Financial Schedule**

(dollars in thousands)

| | Appropriations | Obligations | Costs |
|---|---|---|---|
| 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 |
| Total, PED | 243,705 | 243,705 | 243,705 |
| 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 | 204,377 | 204,377 | 345,438 |
| FY 2013[c] | 171,112 | 171,112 | 107,271 |
| FY 2014 | 92,000 | 92,000 | 190,563 |
| Total, Construction | 1,170,020 | 1,170,020 | 1,170,020 |
| 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[b] | 204,377 | 204,377 | 345,438 |
| FY 2013[c] | 171,112 | 171,112 | 107,271 |
| FY 2014 | 92,000 | 92,000 | 190,563 |
| Total, TEC | 1,413,725 | 1,413,725 | 1,413,725 |
| 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 |

(dollars in thousands)

| | Appropriations | Obligations | Costs |
|---|---|---|---|
| FY 2009 | 13,133 | 13,133 | 9,729 |
| FY 2010 | 25,202 | 25,202 | 12,672 |
| FY 2011 | 23,475 | 23,475 | 15,361 |
| FY 2012[b] | 0 | 0 | 8,770 |
| FY 2013 | 57,963 | 57,963 | 18,793 |
| FY 2014 | 5,403 | 5,403 | 61,851 |
| Total, OPC except D&D | 166,386 | 166,386 | 166,386 |
| | | | |
| 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 | 23,475 | 23,475 | 15,361 |
| FY 2012[b] | 0 | 0 | 8,770 |
| FY 2013 | 57,963 | 57,963 | 18,793 |
| FY 2014 | 5,403 | 5,403 | 61,851 |
| Total, OPC | 166,386 | 166,386 | 166,386 |
| | | | |
| 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[a] | 106,824 | 106,824 | 129,218 |
| FY 2009 | 168,657 | 168,657 | 119,684 |
| FY 2010 | 259,320 | 259,320 | 168,131 |
| FY 2011 | 257,878 | 257,878 | 231,452 |
| FY 2012[b] | 204,377 | 204,377 | 354,208 |
| FY 2013 | 229,075 | 229,075 | 126,064 |
| FY 2014 | 97,403 | 97,403 | 252,414 |
| Total, TPC[d] | 1,580,111 | 1,580,111 | 1,580,111 |

[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] FY 2012 includes a reduction in OPC funds and a corresponding increase in Total Estimated Cost funds of $34,305,510.

[c] The FY 2013 appropriated TEC amount in this table, $171,112,000, is the amount calculated for the FY 2013 annualized Continuing Resolution. The calculation was in accordance with the level of legal control mandated by Section 301(c) of Division B of the Consolidated Appropriations Act, 2012 (Public Law 112-74). The amount in the FY2013 budget request was $22,549,000.

[d] An Independent Government Cost Estimate is currently being conducted. When completed, the project will be rebaselined and a new scope, cost and completion date will be established.

**6. Details of Project Cost Estimate**

| | (dollars in thousands) | | |
|---|---|---|---|
| | Current Total Estimate | Previous Total Estimate | Original Validated Baseline |
| 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 | 526,434 | 526,434 | 316,428 |
| Contingency | 234,760 | 234,760 | 49,000 |
| Total, Construction | 929,457 | 929,457 | 482,199 |
| Total, TEC | 1,173,162 | 1,173,162 | 725,904 |
| Contingency, TEC | 244,380 | 244,380 | 86,000 |
| Other Project Cost (OPC) | | | |
| OPC except D&D | | | |
| Conceptual Planning | 0 | 0 | 0 |
| Conceptual Design | 14,133 | 14,133 | 14,445 |
| Start-Up | 83,418 | 83,418 | 96,940 |
| Contingency | 30,450 | 30,450 | 22,000 |
| Other OPC | 38,385 | 38,385 | 40,048 |
| Total, OPC except D&D | 166,386 | 166,386 | 173,433 |
| D&D | | | |
| D&D | 0 | 0 | 0 |
| Contingency | 0 | 0 | 0 |
| Total, OPC | 166,386 | 166,386 | 173,433 |
| Contingency, OPC | 30,450 | 30,450 | 22,000 |
| Total, TPC [a] | 1,339,548 | 1,339,548 | 899,337 |
| Total, Contingency | 274,830 | 274,830 | 108,000 |

[a] An Independent Government Cost Estimate is currently being conducted. When completed, the project will be rebaselined and a new scope, cost and completion date will be established.

## 7. Schedule of Appropriation Requests

| Request | | Prior Years | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Out-years | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| FY 2004 | TEC | 69,000 | N/A | 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 | N/A | TBD | 11,967 |
| | TPC | 80,967 | N/A | 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 | N/A |
| | OPC | 11,967 | N/A | 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 | N/A |
| FY 2006 | TEC | 336,040 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 336,040 |
| | OPC | 103960 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 103,960 |
| | TPC | 440,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 440,000 |
| FY 2007 Performance Baseline | TEC | 559,600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 559,600 |
| | OPC | 120,400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120,400 |
| | TPC | 680,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 680,000 |
| FY 2008 | TEC | 559,600 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 559,600 |
| | OPC | 120,400 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120,400 |
| | TPC | 680,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 680,000 |
| FY 2007 Congressional Notification | TEC | 688,908 | 28,532 | 8,556 | 0 | 0 | 0 | 0 | 0 | 725,996 |
| | OPC | 101,439 | 56,887 | 11,960 | 3,055 | 0 | 0 | 0 | 0 | 173,341 |
| | TPC | 790,347 | 85,419 | 20,516 | 3,055 | 0 | 0 | 0 | 0 | 899,337 |
| FY 2009 | TEC | 688,816 | 28,532 | 8,556 | 0 | 0 | 0 | 0 | 0 | 725,904 |
| | OPC | 101,439 | 56,887 | 11,960 | 3,147 | 0 | 0 | 0 | 0 | 173,433 |
| | TPC | 790,255 | 85,419 | 20,516 | 3,147 | 0 | 0 | 0 | 0 | 899,337 |
| FY 2010 | TEC | 968,784 | 170,071 | 1 | 0 | 0 | 0 | 0 | 0 | 1,138,856 |
| | OPC | 110,150 | 32,579 | 57,963 | 0 | 0 | 0 | 0 | 0 | 200,692 |
| | TPC | 1,078,934 | 202,650 | 57,964 | 0 | 0 | 0 | 0 | 0 | 1,339,548 |
| FY 2011 | TEC | 946,236 | 170,071 | 22,549 | 0 | 0 | 0 | 0 | 0 | 1,138,856 |
| | OPC | 104,747 | 32,579 | 57,963 | 5,403 | 0 | 0 | 0 | 0 | 200,692 |
| | TPC | 1,050,983 | 202,650 | 80,512 | 5,403 | 0 | 0 | 0 | 0 | 1,339,548 |
| FY 2012 | TEC | 946,236 | 204,377 | 22,549 | 0 | 0 | 0 | 0 | 0 | 1,173,162 |
| | OPC | 103,020 | 0 | 57,963 | 5,403 | 0 | 0 | 0 | 0 | 166,386 |
| | TPC | 1,049,256 | 204,377 | 80,512 | 5,403 | 0 | 0 | 0 | 0 | 1,339,548 |
| FY 2013 | TEC | 946,236 | 204,377 | 72,549 | 0 | 0 | 0 | 0 | 0 | 1,173,162 |
| | OPC | 103,020 | 0 | 7,963 | 5,403 | 0 | 0 | 0 | 0 | 166,386 |
| | TPC [a] | 1,049,256 | 204,377 | 80,512 | 5,403 | 0 | 0 | 0 | 0 | 1,339,548 |
| FY 2012 Reprogramming | TEC | 946,236 | 204,377 | 72,549 | 0 | 0 | 0 | 0 | 0 | 1,173,162 |
| | OPC | 103,020 | 0 | 7,963 | 5,403 | 0 | 0 | 0 | 0 | 166,386 |
| | TPC | 1,049,256 | 204,377 | 80,512 | 5,403 | 0 | 0 | 0 | 0 | 1,339,548 |
| FY 2014 | TEC | 946,236 | 204,377 | 171,112[b] | 92,000 | 0 | 0 | 0 | 0 | 1,413,725 |
| | OPC | 103,020 | 0 | 57,963 | 5,403 | 0 | 0 | 0 | 0 | 166,386 |
| | TPC [a] | 1,049,256 | 204,377 | 229,075 | 97,403 | 0 | 0 | 0 | 0 | 1,580,111 |

[a] An Independent Government Cost Estimate is currently being conducted. When completed, the project will be rebaselined and a new scope, cost and completion date will be established.
[b] The FY 2013 appropriated TEC amount in this table, $171,112,000, is the amount calculated for the FY 2013 annualized Continuing Resolution. The calculation was in accordance with the level of legal control mandated by Section 301(c) of Division B of the Consolidated Appropriations Act, 2012 (Public Law 112-74). The amount in the FY2013 budget request was $22,549,000.

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

| | |
|---|---|
| Start of Operation or Beneficial Occupancy (fiscal quarter or date) | TBD |
| 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 |

**9. Required D&D Information**

| Area | Square Feet |
|---|---|

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 contactor 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 2012 Current | FY 2013 Annualized CR* | FY 2014 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) | 238 | --- | 238 |
| VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300 | 1,935 | --- | 1,238 |
| Subtotal, Lawrence Livermore National Laboratory | 2,173 | --- | 1,476 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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 groundwater 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

**Program Accomplishments**

During FY 2013 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 groundwater at Building 850.

Current estimated Life-Cycle cost of $385,907,000 - $396,147,000; current projected closure date is 2019.

| Milestones | Date |
|---|---|
| Final Building 812/OU9 Remedial Investigation/Feasibility Study | September 2014 |

**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 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 zone and groundwater.
- 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.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Lawrence Livermore National Laboratory | | | | |
| VL-FOO-0013B-D | 100.0% | 0% | 0% | 0% |
| VL-LLNL-0031 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Defense Environmental Cleanup** | | | |
| **NNSA Sites** | | | |
| **Lawrence Livermore National Laboratory** | | | |
| **VL-FOO-0013B-D / Solid Waste Stabilization and Disposition Support - Lawrence Livermore National Laboratory (Defense)** | | | |
| • No significant change. | 238 | 238 | 0 |
| **VL-LLNL-0031 / Soil and Water Remediation-Lawrence Livermore National Laboratory - Site 300** | | | |
| • Decrease reflects completion of Building 812/Operable Unit 9 Gamma Surface Soil Survey. | 1,935 | 1,238 | -697 |
| **Total, Lawrence Livermore National Laboratory** | **2,173** | **1,476** | **-697** |

**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:

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.

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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Maintained regulatory interactions in support of Building 812/Operable Unit 9 soil and groundwater remediation, Building 865/Operable Unit 8, and perchlorate contaminated groundwater at Building 850/Operable Unit 5. | **238** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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. | **---** |
| FY 2014 | • 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. | **238** |

**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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department.<br>• This EM cleanup work is a regulatory driven activity that maintains compliance with Federal and State laws. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Finalized Building 812/Operable Unit 9 Characterization Work Plan.<br>• Initiated Building 812/Operable Unit 9 Gamma Surface Soil Survey.<br>• Initiated Treatability Study for Enhanced *In Situ* Bioremediation of Perchlorate in Groundwater at Building 850/Operable Unit 5. | **1,935** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Complete additional Building 812/Operable Unit 9 characterization field work.<br>• Continue the Treatability Study for Enhanced In-Situ Bioremediation of Perchlorate in Ground water at Building 850/Operable Unit 5. | --- |
| FY 2014 | • Complete Building 812, Human Health and Ecological Baseline Risk Assessment.<br>• Continue the Treatability Study for Enhanced *In Situ* Bioremediation of Perchlorate in Ground water at Building 850/Operable Unit 5. | **1,238** |

**Los Alamos National Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| NNSA Sites | | | |
| Los Alamos National Laboratory | | | |
| VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy | 64,323 | --- | 90,000 |
| VL-LANL-0030 / Soil and Water Remediation-LANL | 121,277 | --- | 116,124 |
| VL-LANL-0040-D / Nuclear Facility D&D-LANL (Defense) | 0 | --- | 9,562 |
| Subtotal, Los Alamos National Laboratory | 185,600 | --- | 215,686 |
| NNSA Service Center/Separations Processing Research Unit (SPRU) | | | |
| VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle | 2,561 | --- | 4,103 |
| Total, NNSA Sites | 188,161 | --- | 219,789 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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 or other offsite disposal locations.

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), 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 allow for characterization and cleanup of Solid Waste Management Units which are collocated in the footprint of the structures. Los Alamos National Laboratory's 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 near term scheduled activities within the Consent Order based on a risk-based approach. This reprioritization is documented in the Framework Agreement and will extend

the current completion date of the 2005 Consent Order past 2015.

**Regulatory Framework**

The primary regulatory driver for the Environmental Management Projects at Los Alamos National Laboratory is the March 1, 2005 Compliance Order on Consent. The Consent Order, signed by the New Mexico Environment Department, Los Alamos National Laboratory and DOE, provides the primary requirements for the Los Alamos National Laboratory Environmental Restoration Project and establishes an enforceable schedule and milestones for corrective actions.

As a result of wildfires, the Department and the State of New Mexico have revisited 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, Settlement Agreement and Stipulated Final Order (Chromium) 2007and 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 2013 consistent with the Framework Agreement, 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):

- 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.
- Continue disposition of mixed low-level waste/low-level waste and transuranic waste under the (3706 Transuranic Campaign).
- 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.
- 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.
- Conduct Investigation and characterization under Los Alamos Canon de Valle Capital Asset Project.

Current estimated Life-Cycle cost range is $3,212,122,000 - $3,606,234,000; current projected closure date is beyond 2015.

| Milestones | Date |
|---|---|
| Prepare Closure Package for completion of Material Disposal Area - B | March 2013 |
| Disposition 2,600 cubic meters of Transuranic Waste per the Framework Agreement with New Mexico | September 2013 |
| Consent Order Milestones-water monitoring, equip maint and construct of HPC for LANL/Pueblo/Sandia | September 2013 |
| TA-21 DP Site Delayed Sites Investigation Reports (DP West Bldg 21-002) | June 2014 |
| Complete 3,706 cubic meters of transuranic waste per the Framework Agreement. | June 2014 |
| Lower Water/Indio Canyon Aggregate Area Investigation Work Plan | September 2014 |

**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 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 have reprioritized some 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 have reprioritized some activities at Los Alamos National Laboratory to ensure the highest risk of stored combustible transuranic waste can be addressed in an expedited manner. Pending successful fulfillment of the Framework Agreement milestones, the Department and the State plan to negotiate revisions to the schedules of the compliance-driven within the consent order.
- In most cases, 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.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Los Alamos National Laboratory | | | | |
| VL-FAO-0101 | 100.0% | 0% | 0% | 0% |
| VL-LANL-0013 | 100.0% | 0% | 0% | 0% |
| VL-LANL-0030 | 100.0% | 0% | 0% | 0% |
| VL-LANL-0040-D | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
| **Defense Environmental Cleanup** | | | |
| **NNSA Sites** | | | |
| **Los Alamos National Laboratory** | | | |
| **VL-LANL-0013 / Solid Waste Stabilization and Disposition-LANL Legacy** | | | |
| • Increase supports the disposition of high risk combustible transuranic waste and dispersible above ground transuranic waste per Framework Agreement with the State of New Mexico. | 64,323 | 90,000 | +25,677 |
| **VL-LANL-0030 / Soil and Water Remediation-LANL** | | | |
| • Decrease reflects reprioritization of soil and groundwater activities, consistent with the Framework Agreement, in order to support the "3706 Transuranic Waste Campaign". | 121,277 | 116,124 | -5,153 |
| **VL-LANL-0040-D / Nuclear Facility D&D-LANL (Defense)** | | | |
| • Increase reflects deactivation and decommissioning of process-contaminated facilities within Technical Area-21 that inhibit or preclude completion of investigations and corrective actions at Solid Waste Management Units in accordance with the Consent Order. | 0 | 9,562 | +9,562 |
| **NNSA Service Center/Separations Processing Research Unit (SPRU)** | | | |
| **VL-FAO-0101 / Miscellaneous Programs and Agreements in Principle** | | | |
| • Increase reflects additional document reviews required by the Natural Resource Damage Assessment Trustee Council. | 2,561 | 4,103 | +1,542 |
| **Total, Los Alamos National Laboratory** | **188,161** | **219,789** | **+31,628** |

**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.

**Benefits**

| | |
|---|---|
| Improve Contract and Project Management | • The Department will continue to play a leadership role in environmental stewardship<br>• The Department will work to strengthen our commitment to integrating environmental justice principles into our mission. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Supported the New Mexico Agreement in Principle.<br>• Supported the Natural Resource Damage Assessment. | **2,561** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Support the New Mexico Agreement in Principle.<br>• Support the Natural Resource Damage Assessment. | **---** |
| FY 2014 | • Support the New Mexico Agreement in Principle including minimal Regional Coalition activities.<br>• Support the Natural Resource Damage Assessment including preliminary assessment development and Trustee Council activities.<br>• Support the Los Alamos Pueblo Program to develop and implement environmental monitoring programs for air, soil, and water and establish an independent monitoring program. | **4,103** |

**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 projected to be completed in FY 2018. 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.

**Benefits**

| | |
|---|---|
| Waste Disposition and Disposal | • 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. |
| 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. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Continued services and actions to maintain safe operations associated with the stored transuranic inventory such as safe configuration and within prescribed Material-at-Risk limits.<br>• Continued support of groundwater monitoring and reporting consistent with Consent Order and the Resource Conservation and Recovery Act Operating permit, and conceptual design and cost estimate prepared for Contact-Handled transuranic Retrieval scope to support the Capital Critical Decision process.<br>• Supported disposition of mixed low-level waste/low-level waste and transuranic waste.<br>• Continued transuranic drum remediation capacity to support up to five shipments a week to the Waste Isolation Pilot Plant.<br>• Continued disposal of low-level waste and pursued offsite disposal for majority of | **64,323** |

| | | |
|---|---|---|
| | operational and environmental restoration/decontamination and decommissioning generated waste.<br>• Constructed modular box line and disposition of excess materials in Technical Area-54 to remain compliant for the new Resource Conservation and Recovery Act permit. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Prepare robust baselines and conceptual design and cost estimate for Contact-Handled Transuranic Retrieval scope to support Critical Decision-2/3.<br>• Initiate planning and baselines for Trenches A-D and Pit -9.<br>• Continue disposition of mixed low-level waste/low-level waste and transuranic waste.<br>• Implement operations of new oversize modular box line and disposition of excess materials. | --- |
| FY 2014 | • 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.<br>• Initiate retrieval and processing of transuranic wastes from Trenches A-D and Pit -9.<br>• Continue disposition of mixed low-level waste/low-level waste and transuranic waste per Framework Agreement with the state of New Mexico.<br>• Continue operations of processing lines at Waste Characterization Reduction Repackaging Facility, Dome 231, Dome 375 and Building 412. | **90,000** |

**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, with the implementation of the Framework Agreement with the New Mexico Environmental Department.

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup.<br>• 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. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Completed, delivered, and revised Corrective Measures Evaluation Report for Material Disposal Areas G, H, and L.<br>• Completed Phase II Investigation and submittal of the Phase II Report for Middle Los Alamos Canyon Aggregate Area; and complete characterization activities for Upper Cañada del Buey, Two Mile, and Cañon de Valle Aggregate Area Technical Area-14.<br>• Completed Investigation Reports for Upper Cañada del Buey, Two Mile, and Cañon de Valle Aggregate Area Technical Area-14; and completed Investigation and Accelerated Clean-up Work Plans for Pajarito/Three Mile and Two Mile Aggregate Areas; and completed Corrective Measures Evaluation Plans for Material Disposal Area C.<br>• Completed the Analytical Report for the General's Tanks; completed the Vapor Intrusion Assessment Report for Material Disposal Area T; and completed the Vapor Monitoring Reports for Material Disposal Area V. | **121,277** |

| | | |
|---|---|---|
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Initiate design for the remedy for Material Disposal Area C (presumed to be engineered cover).<br>• Complete the investigation and corrective measures evaluation of Material Disposal Area T to obtain final regulatory remedy selection.<br>• Continue to provide critical database management infrastructure support to meet Consent Order requirements.<br>• Conduct investigation and characterization of two Technical Areas under the Canon de Valle Capital Asset Project. | --- |
| FY 2014 | • Continue groundwater monitoring and reporting requirements consistent with Consent Order and the Resource Conservation and Recovery Act Operating Permit; installation of several monitoring wells under the Consent Order; continue storm-water sampling to protect the regional drinking water supplies, sediment monitoring, mitigation and reporting requirements consistent with the Individual Permit.<br>• Initiate design for the remedy for Material Disposal Area C (presumed to be engineered cover).<br>• Complete the investigation and corrective measures evaluation of Material Disposal Area T to obtain final regulatory remedy selection.<br>• Continue to provide critical database management infrastructure support to meet Consent Order requirements.<br>• Conduct investigation and characterization of two Technical Areas under the Canon de Valle Capital Asset Project.<br>• Initiate authorization basis surface inspections at several Nuclear Environmental Sites and required repairs<br>• Continue Townsite cleanup of solid waste management units from the 1940s and 1950s production sites.<br>• Support Technical Area-21/DP Site aggregate area and other aggregate area cleanups.<br>• Conduct Three Mile Canyon investigation and remediation.<br>• Complete Mortandad Canyon chromium plume interim measure construction and final turnover to operational treatment status. | **116,124** |

**Nuclear Facility D&D-LANL (Defense) (PBS: VL-LANL-0040-D)**

**Overview**

This PBS is within the Defense Environmental Cleanup appropriation.

There are several facilities excess to the DOE mission at the Los Alamos National Laboratory, including structures at Technical Area-21 and Technical Area-54 that require decommissioning and decontamination, in order to complete the EM mission at the Los Alamos National Laboratory and to maintain compliance with the New Mexico Environment Department Consent Order.

**Benefits**

| | |
|---|---|
| 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. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • No activities were planned. | **0** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• No activities are planned. | **---** |
| FY 2014 | • Support decontamination, decommissioning and demolition activities for process-contaminated facilities at Technical Area-21 which are co-located in the footprint of the structures. | **9,562** |

**Nevada**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| NNSA Sites | | | |
| Nevada | | | |
| VL-NV-0030 / Soil and Water Remediation-Nevada | 50,601 | --- | 41,826 |
| VL-NV-0080 / Operate Waste Disposal Facility-Nevada | 10,744 | --- | 16,578 |
| VL-NV-0100 / Nevada Community and Regulatory Support | 3,800 | --- | 3,493 |
| Subtotal, Nevada | 65,145 | --- | 61,897 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**Overview**

The cleanup of 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 legacy systems, structures and sites (e.g., septic systems, mud pits, storage tanks, disposal sites), and conventional weapons disposition 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 low-level and mixed low-level radioactive waste disposal capabilities is to support cleanup across DOE sites and enable other 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 activities.

**Program Accomplishments**

During FY 2013 it is expected that the Nevada National Security Site will accomplish the following major activities:

- Drill/install 5 wells in Pahute Mesa, Yucca Flat, and Frenchman Flat.
- Complete 2 Pahute Mesa Phase II well development, testing, and sampling operations.
- Complete characterization and determination of corrective actions for 24 soil contamination sites.
- Provide support for the State of Nevada grant to perform programmatic oversight and to carry out environmental and natural resources planning as it pertains to the Nevada National Security Site.
- Support cleanup activities across the DOE complex by disposing of approximately 34,000 cubic meters of low-level and mixed low-level radioactive waste.

Current estimated Life-Cycle cost $2,589,710,000; current projected closure dates are 2027 - 2038.

| Milestones | Date |
|---|---|
| FY 2012-FY 2014 close additional 15 of 1179 contaminated waste sites and conduct | September |
| underground test analysis | 2014 |

**Program Planning and Management**

Program planning and management for the 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/activity plans at a more detailed level. Selected contractors then execute these plans to complete cleanup on schedule. The current prime contract at the Nevada National Security Site is with National Security Technologies, LLC, and is managed by the National Nuclear Security Administration. The contract has a base performance period of 2006 to 2011 with award term options granted through FY 2015.

**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 sites contaminated footprint.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Nevada | | | | |
| VL-NV-0030 | 100.0% | 0% | 0% | 0% |
| VL-NV-0080 | 100.0% | 0% | 0% | 0% |
| VL-NV-0100 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Defense Environmental Cleanup** | | | |
| **NNSA Sites** | | | |
| **Nevada** | | | |
| **VL-NV-0030 / Soil and Water Remediation-Nevada** | | | |
| • Decrease reflects the completion of non-decontamination and decommissioning industrial-type remediation activities. | 50,601 | 41,826 | -8,775 |
| **VL-NV-0080 / Operate Waste Disposal Facility-Nevada** | | | |
| • Increase reflects installation of new groundwater monitoring wells supporting the disposal system, new waste cell construction, equipment procurement and anticipated increase in EM's share of base disposal operations. | 10,744 | 16,578 | +5,834 |
| **VL-NV-0100 / Nevada Community and Regulatory Support** | | | |
| • No significant change. | 3,800 | 3,493 | -307 |
| **Total, Nevada** | **65,145** | **61,897** | **-3,248** |

**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.

**Benefits**

| | |
|---|---|
| Cleanup Benefits | • Reduce environmental, health and safety risks in a safe, secure, compliant, and cost-effective manner. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Continued progress toward closure of approximately 900 subsurface contaminated groundwater sites.<br>• Completed Rainier Mesa Phase I source term report and contaminant boundary flow model.<br>• Continued Rainier Mesa Phase I contaminant boundary transport model activities.<br>• Drilled/installed 2 wells in Frenchman Flat<br>• Completed 2 Pahute Mesa Phase II well development, testing and sampling operations.<br>• Completed characterization and determination of corrective actions for 40 soil contamination sites.<br>• Completed closure of 6 soil contamination sites.<br>• Completed closure of 3 industrial-type sites. | **50,601** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue progress toward closure of approximately 900 subsurface | --- |

| | | |
|---|---|---|
| | contaminated groundwater sites.<br>• Drill/install 5 wells in Pahute Mesa, Yucca Flat and Frenchman Flat.<br>• Complete 2 Pahute Mesa Phase II well development, testing, and sampling operations.<br>• Complete Rainier Mesa Phase I contaminant boundary transport model activities.<br>• Complete closure of 3 industrial-type sites.<br>• Complete planning activities to implement corrective actions at 21 soil contamination sites.<br>• Complete characterization and determination of corrective actions for 24 soil contamination sites.<br>• Complete initial investigation activities for 18 soil contamination sites. | |
| FY 2014 | • Continue progress toward closure of approximately 900 subsurface contaminated groundwater sites.<br>• Initiate establishment of Frenchman Flat long-term monitoring requirements.<br>• Drill/install 1 well in Yucca Flat and 2 wells in Frenchman Flat.<br>• Complete Rainier Mesa Phase I contaminant boundary transport model activities.<br>• Complete Frenchman Flat model evaluation activities.<br>• Complete 2 Pahute Mesa Phase II well development, testing, and sampling operations.<br>• Continue Pahute Mesa flow and transport model activities.<br>• Complete Yucca Flat peer review.<br>• Complete characterization and determination of corrective actions for 37 soil contamination sites.<br>• Complete initial investigation activities for 10 soil contamination sites.<br>• Complete closure of 8 soil contamination sites. | **41,826** |

**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 requires offsite disposal and 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 life-cycle volume from complex-wide generators is projected to be over 1.3 million cubic meters through FY 2027.

**Benefits**

| | |
|---|---|
| Waste Disposition and Disposal | • Low-level waste disposal is an activity for which EM have demonstrated high performance using proven technologies within a well-defined regulatory framework that enables near-term site completions and further reduction of our legacy footprint. |
| Benefits to the Department for Footprint Reduction | • The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracks of land, while having the potential of furthering other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• Continued audits and waste certification reviews in support of generator programs to ensure compliance with the Nevada National Security Site Waste Acceptance Criteria.<br>• Supported cleanup activities across the DOE complex by disposing approximately 27,000 cubic meters of low-level and mixed low-level radioactive waste from DOE sites and approved generators.<br>• Completed closure of the waste disposal cells in the original 92 acre portion of the Area 5 Radioactive Waste Management Complex. | **10,744** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Continue audits and waste certification reviews in support of generator programs to ensure compliance with the Nevada National Security Site Waste | --- |

| | | |
|---|---|---|
| | Acceptance Criteria.<br>• Continue operation of Resource Conservation and Recovery Act mixed low-level waste disposal cell.<br>• Dispose of approximately 34,000 cubic meters of low-level waste or mixed low-level waste from DOE sites and generators.<br>• Begin receipt of Consolidated Edison Uranium Solidification Project material from the Uranium-233 inventory to the Nevada National Security Site disposal facility. | |
| FY 2014 | • 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.<br>• Continue audits and waste certification reviews in support of generator programs to ensure compliance with the Nevada National Security Site Waste Acceptance Criteria.<br>• Continue operation of Resource Conservation and Recovery Act mixed low-level waste disposal cell.<br>• Support cleanup activities across the DOE complex by disposing approximately 34,000 cubic meters of low-level and mixed low-level radioactive waste.<br>• Replace aging groundwater monitoring wells as required to meet regulatory requirements, and aging equipment required for excavation of new waste disposal cells.<br>• Construct one new low-level waste disposal cell. | **16,578** |

**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 following: the annual Federal Facilities Agreement; Consent Order fee; and a grant with the State of Nevada to perform programmatic oversight and environmental and natural resource planning.

**Benefits**

| | |
|---|---|
| Improve and Maintain Positive Stakeholder and Regulator Relationships | • The Department will continue to play a leadership role in environmental stewardship<br>• We will work to strengthen our commitment to integrate environmental justice principles into our mission. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Provided support for State of Nevada regulatory oversight of the Nevada National Security Site.<br>• Provided support for the State of Nevada grant to perform programmatic oversight to carry out environmental and natural resource planning as it pertains to the Nevada National Security Site. | **3,800** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide support for State of Nevada regulatory oversight of the Nevada National Security Site.<br>• Provide support for the State of Nevada grant to perform programmatic oversight to carry out environmental and natural resource planning as it pertains to the Nevada National Security Site. | **---** |
| FY 2014 | • Provide support for State of Nevada regulatory oversight of the Nevada National Security Site.<br>• Provide support for the State of Nevada grant to perform programmatic oversight and to carry out environmental and natural resources planning as it pertains to the Nevada National Security Site. | **3,493** |

**Sandia National Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| NNSA Sites | | | |
| Sandia National Laboratories | | | |
| VL-SN-0030 / Soil and Water Remediation-Sandia | 2,814 | --- | 2,814 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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 will be addressed under Environmental Restoration Operations includes three groundwater areas of concern currently in various stages of characterization that require final remedies. These include the 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 considered remediation complete have been approved by the State for no further action through the entire regulatory process. The remaining 32 sites remediated are in various stages of 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 2013, it is expected that the Sandia National Laboratory will complete the following major accomplishments:

- Complete Mixed Waste Landfill borrow pit reclamation to assist regulatory closeout.
- Complete additional groundwater and soil vapor characterization at Tech Area –V GW Area.
- Complete groundwater characterization at Soil Sites 8/58 and 68.

Current estimated Life-Cycle cost of $272,039,000 to $276,119,000; current projected closure date is 2020.

**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 state review. Upon proposing the preferred remedy as Monitored Natural Attenuation and progressing one of three groundwater areas to the remedy phase lessons learned will be applied to the remaining two groundwater areas to help accelerate obtaining final remedies.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Sandia Site Office | | | | |
| VL-SN-0030 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Defense Environmental Cleanup** | | | |
| **NNSA Sites** | | | |
| **Sandia National Laboratories** | | | |
| **VL-SN-0030 / Soil and Water Remediation-Sandia** | | | |
| • No change. | 2,814 | 2,814 | 0 |
| **Total, Sandia Site Office** | **2,814** | **2,814** | **0** |

## 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 3 groundwater areas of concern. The Mixed Waste Landfill long-term monitoring and maintenance plan is currently under state regulatory review.

All groundwater areas are expected to transition to long-term stewardship following completion of characterization and installation of the determined remedy.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Submitted Mixed Waste Landfill Long-term Monitoring and Maintenance Plan to the New Mexico Environmental Department.<br>• Submitted Burn Site Groundwater Well Installation Report to New Mexico Environmental Department after completion of fieldwork (4 new wells).<br>• Submitted Groundwater Well Installation Report on Soil Sites 8/58 and 68 to New Mexico Environmental Department after completion of fieldwork (5 new wells).<br>• Performed slug tests for Soil Sites 8/58 and 68.<br>• Received final regulatory approval on Chemical Waste Landfill and transferred to Long Term Stewardship Program.<br>• Commenced Groundwater Characterization at Soil Sites 149 and 154. | **2,814** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Submit Permit Modification request to the New Mexico Environmental Department to commence public hearing for regulatory closure of Mixed Waste Landfill.<br>• Complete Mixed Waste Landfill borrow pit reclamation to assist regulatory closeout.<br>• Submit conceptual model and Corrective Measures Evaluation Report on the Burn Site GW Area to the New Mexico Environment Department.<br>• Complete additional groundwater and soil vapor characterization at Tech Area-V GW Area.<br>• Complete groundwater characterization at Soil Sites 8/58 and 68.<br>• Submit final Groundwater Characterization Report for Soil Sites 149 and 154. | --- |
| FY 2014 | • Complete preparation and submit Permit Modification request to the New Mexico Environment Department to commence public hearing for regulatory | **2,814** |

| | | |
|---|---|---|
| | closure of Mixed Waste Landfill.<br>• Complete preparation and submit final Groundwater Characterization Report for Soil Sites 149 and 154.<br>• Complete preparation and submit final Groundwater Characterization Report for Soil Sites 8/58 and 68. | |

**Separations Process Research Unit**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| NNSA Sites | | | |
| SPRU | | | |
| VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit | 23,700 | --- | 23,700 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at a "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**Overview**

Cleanup of the Separations Process Research Unit Site supports 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 is an inactive pilot plant used to research and develop chemical processes to separate plutonium from other 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 an area where containers were once stored, was also contaminated with radioactivity. The scope of the Separations Process Research Unit project is to decontaminate and remove the nuclear facilities, remediate the land areas, and ship the resulting waste to the appropriate off-site disposal facilities.

Cleanup of 15 acres of land (North Field) was completed as an American Recovery and Reinvestment Act project in 2012. Decontamination and decommissioning activities at the Separations Process Research Unit were suspended in FY 2012 after a release of radioactivity occurred during demolition of the H2 Building. In addition, the site received damage from Hurricane Irene and a subsequent tropical storm. Since this time, efforts have focused on recovery from the contamination incident and storm damage. The cleanup contractor is re-planning the project utilizing tent enclosures over the G2 and H2 buildings for containment; decontamination and decommissioning operations are planned to begin in FY 2013.

**Program Accomplishments and Milestones**

The following major accomplishments will resume in FY 2013:

- Establish and approve a revised project baseline cost and schedule.
- Complete installation of ventilation system in the G2 and H2 enclosure.
- Achieve readiness to resume decontamination and decommissioning operations.
- Complete hillside repairs from the storm damage.
- Resume decontamination and decommissioning activities within G2 and H2 building enclosures.
- Begin removal and disposition of radioactive sludge waste and tanks from building H2 basement.
- Begin decontamination in tunnels between the E1 and G1 buildings.

| Milestones | Date |
|---|---|
| Complete G2 Enclosure tents and ventilation systems | December 2012 |
| Updated Diffuse Source Calculations | February 2013 |

| Milestones | Date |
|---|---|
| Open Air Demo plans to Environmental Protection Agency | September 2013 |

**Program Planning and Management**

Program planning and management at the 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. The current contract at the Separations Process Research Unit is with:

URS/Washington Group International, Inc. - A Cost Plus Incentive Fee Task Order performed under CLIN 002 of the DOE Environmental Management Nationwide Indefinite Delivery Indefinite Quantity Contract.

**Strategic Management**

The Department initiated independent reviews of the situation and the findings and recommendations from the reviews were used to direct a number of contract changes. As a result, the primary contractor, URS, relinquished control of the day-to-day operations of the project to CH2MHill, the sub-contractor. Since the airborne release occurred, the site owner and the regulator have required the development of a new project plan. Subsequently, on October 25, 2010, contaminated water was released into the Mohawk River due to a failed sump pump drain system. As a consequence of the direct discharge of the water into the river along with the presence of a new contaminant, it was no longer feasible to treat and discharge water back into the river, as originally planned. DOE is highly cognizant of the need to mitigate any future health and safety risks. Further, to alleviate concerns of a cost overrun, a contract cap was issued in February 2011 to limit the Government's liability. Under the contract, a cap has been put into place at $145,102,562 and a limitation is included whereby the contractor funds 100 percent of all costs beyond that cap. Therefore, any funding required above this funding cap would be financed by the contractor.

The site is expected to resume decontamination and decommissioning in FY 2013, and is working to finalize and implement the revised project cost and schedule baseline. The strategy for the site includes completion of remaining cleanup activities and continuing 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.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Separations Process Research Unit | | | | |
| VL-SPRU-0040 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Defense Environmental Cleanup** | | | |
| **NNSA Sites** | | | |
| **NNSA Service Center/Separations Processing Research Unit (SPRU)** | | | |
| **VL-SPRU-0040 / Nuclear Facility D&D-Separations Process Research Unit** | | | |
| • No change. | 23,700 | 23,700 | 0 |
| **Total, Separations Process Research Unit** | **23,700** | **23,700** | **0** |

**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 to the Knolls Atomic Power Laboratory for continued mission use by the Naval Reactors Program.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | 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.<br>Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Completed the North Field contaminated soil cleanup (15 acres remediated).<br>• Initiated construction of enclosures over remaining portions of H2 and G2 structure to support decontamination and decommissioning activities.<br>• Obtained Environmental Protection Agency approval for construction of stacks for tent enclosures. | **23,700** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Complete remaining hillside repairs from Hurricane Irene.<br>• Review and approve revised baseline.<br>• Resume decontamination and decommissioning activities at H2 and G2.<br>• Begin removal of tank waste from building H2 vaults.<br>• Begin shipments of waste from the site. | **---** |
| FY 2014 | • Continue planned D&D activities at H2 and G2 buildings.<br>• Remove tent enclosures.<br>• Complete demolition of sub-grade building foundations and soil removal work. | **23,700** |

## West Valley Demonstration Project

### Funding Schedule by Activity

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| West Valley Demonstration Project | | | |
| OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley | 14,422 | --- | 12,800 |
| OH-WV-0040 / Nuclear Facility D&D-West Valley | 50,313 | --- | 51,200 |
| Subtotal, West Valley Demonstration Project | 64,735 | --- | 64,000 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012
P.L. 112-175, Continuing Appropriations Resolution, 2013

**Overview**

The cleanup of 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 treating, packaging and disposal of low-level and transuranic waste, cleaning up the environment, and 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 the 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 Environmental 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 of containers suitable for permanent disposal of the high-level waste.

During FY 2013 it is expected that the West Valley Demonstration Project will perform the following major accomplishments:

- Continue processing, storage, and disposal of legacy waste and processing and offsite disposal of low-level waste.
- Process, package and store transuranic waste.
- Complete Engineering of the Main Plant Process Building alterations for the removal of the High Level Waste Canisters.

Current estimated life-cycle cost range is $1,835,743,000 to $1,954,425,000; current phase 1 completion projected date is 2021.

| Milestones | Date |
|---|---|
| Interim Milestone (MS01-09A): Complete Construction of the High Level Waste Canister Interim Storage System | May 2014 |
| Interim Milestone (MS03-06): Vitrification Facility- Deactivation Complete | May 2014 |
| Meet Fiscal Year Shipping requirements as specified in the Site Treatment Plan | September 2014 |

**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&W West Valley, LCC; contract was awarded June 29, 2011.
- 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) storage and 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 the Vitrification Facility, 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 has installed 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 interim storage facility. After the high-level waste canisters are moved, the Main Plant Processing Building and the Vitrification Facility will be decontaminated and demolished consistent with the Environmental Impact Statement Record of Decision.

The following assumptions will impact 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.
- The Project's transuranic waste has been included within the Department's ongoing Greater Than Class C low-level waste disposal Environmental Impact Statement. Transuranic waste will be packaged and interim stored until a disposition path is available.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| West Valley Demonstration Project | | | | |
| OH-WV-0013 | 100.0% | 0% | 0% | 0% |
| OH-WV-0020 | 100.0% | 0% | 0% | 0% |
| OH-WV-0040 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
| **Non-Defense Environmental Cleanup** | | | |
| **West Valley Demonstration Project** | | | |
| **OH-WV-0013 / Solid Waste Stabilization and Disposition-West Valley** | | | |
| • The decrease reflects reduced rate of shipment and disposal of the stored low-level waste and maintains "steady state" waste operations, in which newly generated waste from site activities are managed such that existing storage capacity is not exceeded or increased. | 14,422 | 12,800 | -1,622 |
| **OH-WV-0040 / Nuclear Facility D&D-West Valley** | | | |
| • The increase supports planned modification to Main Plant Process Building and Vitrification facility and completion of the High Level Waste Interim Storage Pad to support planned relocation of the High Level Waste Canisters, initiation of High Level Waste canister relocation, and continued removal of excess ancillary facilities. | 50,313 | 51,200 | +887 |
| **Total, West Valley Demonstration Project** | **64,735** | **64,000** | **-735** |

**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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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 further reduce our legacy footprint. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Processed and disposed of legacy mixed low-level waste to be in compliance with the Site Treatment Plan.<br>• Processed and disposed of legacy and remediation low-level waste.<br>• Size-reduced and packaged remote-handled and contact-handled transuranic waste for onsite storage.<br>• Prepared documentation to support a waste determination for the Concentrator Feed Make-up Tank (CFMT) and Melter Feed Hold Tank (MFHT). | **14,422** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Process and dispose of legacy mixed low-level waste to be in compliance with the Site Treatment Plan.<br>• Continue processing and disposal of legacy and remediation low-level waste and storage of legacy and remediation transuranic waste. | **---** |
| FY 2014 | • Process and dispose of legacy mixed low-level waste to be in compliance with the Site Treatment Plan at a reduced rate.<br>• Continue processing and disposal of the balance of legacy and remediation low-level waste.<br>• Process and store legacy and remediation transuranic waste. | **12,800** |

## 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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Maintained site services.<br>• Completed decontamination of highly contaminated cells in the Main Plant Process Building.<br>• Initiated removal of excess ancillary facilities. | **50,313** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain site services.<br>• Initiate Main Plant Process Building upgrades for the removal of the High Level Waste Canisters | **---** |
| FY 2014 | • Maintain site services.<br>• Complete alterations in the Main Plant Process Buildings; Equipment Decontamination Room and the Vitrification Facility building to facilitate the relocation of the High Level Waste Canisters to a new on-site storage system.<br>• Complete installation of High Level Waste Interim Storage System pad. | **51,200** |

| | | |
|---|---|---|
| | • Initiate relocation of 275 High Level Waste Canisters to a new on-site storage system.<br>• Continue deactivation of the Main Plant Processing Building.<br>• Continue removal of excess ancillary facilities. | |

**Brookhaven National Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| Small Sites | | | |
| Brookhaven National Laboratory | | | |
| BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory | 5,567 | --- | 0 |
| BRNL-0040 / Nuclear Facility D&D-Brookhaven Graphite Research Reactor | 6,968 | --- | 0 |
| Subtotal, Brookhaven National Laboratory | 12,535 | --- | 0 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012
P.L. 112-175, Continuing Appropriations Resolution, 2013

**Overview**

The cleanup of 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, and was permanently shut down in 1999. Groundwater cleanup is Brookhaven National Laboratory's highest priority because Long Island's aquifer provides the sole source of drinking water for local residents.

The lifecycle planning estimate range is 2018 to 2020. Upon completion of the currently identified scope which includes 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.

**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 2013, 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 $496,818,000 to $500,832,000. 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.

**Strategic Management**

In meeting the identified strategic goals, the Department will continue surveillance and maintenance activities for the transfer of the site to the Office of Science beginning in FY 2014, with the High Flux Beam Reactor 100-meter Stack decontamination and decommissioning scheduled to be completed no later than 2020.

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
| **Non-Defense Environmental Cleanup** | | | |
| **Small Sites** | | | |
| **Brookhaven National Laboratory** | | | |
| **BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory** | | | |
| • Decrease reflects transfer to the Office of Science. | 5,567 | 0 | -5,567 |
| **BRNL-0040 / Nuclear Facility D&D-Brookhaven Graphite Research Reactor** | | | |
| • Decrease reflects transfer to the Office of Science. | 6,968 | 0 | -6,968 |
| **Total, Brookhaven National Laboratory** | **12,535** | **0** | **-12,535** |

**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 the 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 cleanup, 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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Operated and maintain groundwater treatment plants located on and off site.<br>• Monitored existing on site landfills.<br>• Accumulated data from hundreds of monitoring wells (on and off site), and provide results on all activities to the regulatory and public community.<br>• Completed Peconic River sediment trap removal and sediment remediation. | **5,567** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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. | **---** |
| FY 2014 | • The Office of Science will assume responsibility and perform surveillance and maintenance activities for the Soil and Water Remediation Project. | **0** |

**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 the 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 back 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.

**Benefits**

| | |
|---|---|
| Waste Disposition and Disposal | • 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 further reduce our legacy footprint. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing contaminated facilities, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Continued bioshield removal and disposal.<br>• American Recovery and Reinvestment act accomplishments included installation of an engineered cap and monitoring wells. | **6,968** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• No activities. | **---** |
| FY 2014 | • No activities. | **0** |

**Energy Technology Engineering Center**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| Small Sites | | | |
| Energy Technology Engineering Center | | | |
| CBC-ETEC-0040 / Nuclear Facility D&D-Energy Technology Engineering Center | 6,279 | --- | 9,411 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012
P.L. 112-175, Continuing Appropriations Resolution, 2013

**Overview**

Cleanup at 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. Cleanup activities at the Energy Technology Engineering Center involve deactivation, decommissioning, and demolition of excess facilities; disposition of radioactive and hazardous waste; and remediation of 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 activities at the site involve 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 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 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 Toxic 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 two-year period, the following accomplishments are expected at the Energy Technology Engineering Center:

- Support Resource Conservation and Recovery Act facility investigation program for groundwater including sampling, analysis, and reporting.
- Issue draft Environmental Impact Statement for review and public comment.
- Initiate Soils Remedial Action Implementation Plan.

- Begin preparation for demolition of remaining structures consistent with the outcome of the Environmental Impact Statement Record of Decision.

Current estimated life-cycle cost ranges from $341,536,000 to $386,416,000; current projected closure date is 2020 to 2025.

| Milestones | Date |
|---|---|
| Department of Energy completes chemical characterization | January 2014 |
| Department of Energy submits the "Chemical Data Summary Report" | July 2014 |

**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.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Energy Technology Engineering Center | | | | |
| CBC-ETEC-0040 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | **FY 2012 Current** | **FY 2014 Request** | **FY 2014 Request vs FY 2012 Current** |
| **Non-Defense Environmental Cleanup** | | | |
| **Small Sites** | | | |
| **Energy Technology Engineering Center** | | | |
| **CBC-ETEC-0040 / Nuclear Facility D&D-Energy Technology Engineering Center** | | | |
| • The increase allows for issuance of the draft environmental impact statement for review and public comment. | 6,279 | 9,411 | +3,132 |
| **Total, Energy Technology Engineering Center** | **6,279** | **9,411** | **+3,132** |

**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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • The EM program successfully mitigated technically challenging risks and has made substantial progress in nearly every area of nuclear waste cleanup.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Performed ongoing program support and landlord services.<br>• Supported Resource Conservation and Recovery Act facility investigation program for groundwater including sampling, analysis, and report preparations.<br>• Prepared required supporting information for completion of a court ordered Environmental Impact Statement.<br>• Initiated co-located chemical sampling as required by the Administrative Order on Consent with the State.<br>• A portion of the scope of work typically covered in the Program Baseline Summary was executed with American Recovery and Reinvestment Act funding. | **6,279** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Perform ongoing program support and landlord services.<br>• Support Resource Conservation and Recovery Act facility investigation program for groundwater including sampling, analysis, and report preparations.<br>• Start Soils Remedial Acton Implementation Plan.<br>• Begin preparation for demolition of remaining structures consistent with outcome of the Environmental Impact Statement. | **---** |

| | | |
|---|---|---|
| FY 2014 | • Perform ongoing program support and landlord services.<br>• Support Resource Conservation and Recovery Act facility investigation program for groundwater including sampling, analysis, and reporting.<br>• Continue Soils Remedial Acton Implementation Plan.<br>• Issue draft Environmental Impact Statement for review and public comment. | **9,411** |

**Moab**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| Small Sites | | | |
| Moab | | | |
| CBC-MOAB-0031 / Soil and Water Remediation-Moab | 30,625 | --- | 35,778 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012
P.L. 112-175, Continuing Appropriations Resolution, 2013

**Overview**

The cleanup of 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. By 9/30/12, the project has hauled 2,868,101 base tons through the EM base program and 2,631,899 tons through the American Recovery and Reinvestment Act, for a total of 5,500,000 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 $195,000.

**Regulatory Framework**

Remediation must be performed in accordance with Title I of the Uranium Mill Tailings Radiation Control Act and the cleanup standards established under 40 CFR 192. The U.S. Nuclear Regulatory Commission must concur with the remediation plan and license the final disposal site.

**Program Accomplishments and Milestones**

During FY 2013 - FY 2014 it is expected that the Moab Site will complete the following accomplishments:

| Milestones | Date |
|---|---|
| Excavate, transport and dispose of 650k tons annually | September 2013 |
| Excavate, transport and dispose of 650k tons of tailings annually | September 2014 |

Current estimated Life-Cycle cost range is $914,949,000 to $923,179,000; original projected closure date was 2028. With American Recovery and Reinvestment Act funding, the completion date has been accelerated by three years to 2025.

**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 a DOE disposal facility in Crescent Junction, Utah.

**Goal Areas by Site**

| | 1. Legacy Footprint Reduction | 2. Tank Waste Completions | 3. Construction Management | 4. Program Direction |
|---|---|---|---|---|
| Moab | | | | |
| CBC-MOAB-0031 | 100.0% | 0% | 0% | 0% |

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Non-Defense Environmental Cleanup** | | | |
| **Small Sites** | | | |
| **Moab** | | | |
| **CBC-MOAB-0031 / Soil and Water Remediation-Moab** | | | |
| • The increase allows for shipping operations to support tonnage removal of approximately 840,000 tons, up from 650,000 tons. | 30,625 | 35,778 | +5,153 |
| **Total, Moab** | **30,625** | **35,778** | **+5,153** |

**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 requires 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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Conducted Moab and Crescent Junction sites operation and maintenance.<br>• Operated interim remedial action for contaminated groundwater.<br>• Placed tailings into the disposal cell and construct the cell cover.<br>• Excavated tailings and transport from millsite to the disposal cell (5,500,000 tons cumulative or 1,000,000 tons annually).<br>• Performed operations and maintenance of the materials handling system and infrastructure.<br>• Remediated vicinity properties in the community surrounding the tailings pile.<br>• Demobilized current Remedial Action Contractor and mobilized follow-on Remedial Action Contractor. | **30,625** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Conduct Moab and Crescent Junction sites operation and maintenance.<br>• Operate interim remedial action for contaminated groundwater.<br>• Excavate tailings and transport from millsite to the disposal cell (650,000 tons).<br>• Remediate vicinity properties in the community surrounding the tailings pile.<br>• Place tailings into the disposal cell and constructing the cell cover. | **---** |
| FY 2014 | • Conduct Moab and Crescent Junction sites operation and maintenance.<br>• Operate interim remedial action for contaminated groundwater including extracting 12,000,000 gallons and diverting/injecting 8,000,000 gallons.<br>• Excavate tailings and transport from millsite to the disposal cell (840,000 tons).<br>• Place tailings into the disposal cell. | **35,778** |

**SLAC National Accelerator Laboratory**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Non-Defense Environmental Cleanup | | | |
| Small Sites | | | |
| SLAC National Accelerator Laboratory | | | |
| CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center | 2,935 | --- | 0 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorization**

P.L. 112-74, Consolidated Appropriations Act, 2012
P.L. 112-175, Continuing Appropriations Resolution, 2013

**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. The lease was subsequently 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 its portion of the physical work associated with current legacy cleanup objectives and scope at the end of FY 2011. Transfer of ownership back 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. EM will also continue work on remaining California Regional Water Quality Control Board Order deliverables during FY 2013 and FY 2014 if necessary.

**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 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 were 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 Operable Unit Board Order deliverables ending with the completion of the Remedial Investigation Report and Risk Assessment.

**Program Accomplishments and Milestones**

During FY 2013 it is expected that the SLAC National Accelerator Laboratory will accomplish the following:

- 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.
- Complete project and Regulatory closeout requirements.

Current estimated Life-Cycle cost is $70,000,000; current projected closure date is 2014 and the Soil and Groundwater long-term surveillance and maintenance scope is to be transferred to the Office of Science in FY 2014.

**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.

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Non-Defense Environmental Cleanup** | | | |
| **Small Sites** | | | |
| **SLAC National Accelerator Laboratory** | | | |
| **CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center** | | | |
| • Transfer to the Office of Science. | 2,935 | 0 | -2,935 |
| **Total, SLAC National Accelerator Laboratory** | **2,935** | **0** | **-2,935** |

**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 identified 54 release sites requiring either further action, 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 and Research Yard Operable Units as agreed to by the Office of Science.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department.<br>• 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. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Operated five installed groundwater treatment systems and maintained compliance with the California Regional Water Quality Control Board Order.<br>• Performed groundwater monitoring and soil vapor intrusion monitoring activities.<br>• Worked on project and regulatory closeout requirements.<br>• Continued 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.<br>• Continued surveillance and maintenance activities for the Soil and Water Remediation Project (legacy cleanup work scope was completed in FY 2011). | **2,935** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Work on project and regulatory closeout requirements.<br>• 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.<br>• Legacy cleanup work scope completed at 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. | |
| FY 2014 | • Transfer responsibilities to the Office of Science: | **0** |

## All Other Sites

### Funding Schedule by Activity

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Closure Sites | | | |
| Closure Sites Administration | | | |
| CBC-0100-FN / CBC Post Closure Administration - Fernald | 0 | --- | 1,500 |
| CBC-0100-RF / CBC Post Closure Administration - Rocky Flats | 4,703 | --- | 3,202 |
| Subtotal, Closure Sites Administration | 4,703 | 4,732 | 4,702 |
| Non-Defense Environmental Cleanup | | | |
| Small Sites | | | |
| DOE-Sponsored Facilities (per P.L. 112-74) | | | |
| TBD / DOE-Sponsored Facilities (per P.L. 112-74) | 10,000 | --- | 0 |
| | | --- | |
| Total, Other Sites | 14,703 | --- | 4,702 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorizations**

P.L. 112-74, Consolidated Appropriations Act, 2012
P.L. 112-175, Continuing Appropriations Resolution, 2013

**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 2014. 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 Consolidated Appropriations Act Conference Report, 2012 (Public Law 112-331), directed DOE to utilize $10,000,000 of the Non-Defense Environmental Cleanup funds to "improve health and safety by cleaning up existing contamination and improving the seismic standards of buildings within Department laboratory grounds". DOE will utilize these funds to decontaminate and decommission various facilities in the "Old Town" area of Lawrence Berkeley National Laboratory to fulfill this Congressional mandate.

In addition to the Lawrence Berkeley National Laboratory, this section of the budget also includes ongoing support provided by the Consolidated Business Center.

**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 within this Other Sites budget. The Consolidated Business Center provides defense post-closure administrative and litigation support for the Fernald, Miamisburg, and Rocky Flats sites. The Consolidated Business Center also provides oversight of the non-defense cleanup efforts ongoing at 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 2013 involve support for 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.

Lawrence Berkeley National Laboratory
DOE began planning activities in FY 2012 for decontamination and decommissioning. Cleanup activities are expected to be performed in FY 2014 using carryover balances.

**Strategic Management**

The sites included in this chapter 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.).

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Defense Environmental Cleanup** | | | |
| **Closure Sites** | | | |
| **Closure Sites Administration** | | | |
| **CBC-0100-FN / CBC Post Closure Administration - Fernald** | | | |
| • Increase reflects funding requirements for Fernald Workers II Settlement and post-closure administrative costs. | 0 | 1,500 | +1,500 |
| **CBC-0100-RF / CBC Post Closure Administration - Rocky Flats** | | | |
| • Decrease reflects use of carryover funding to support site litigation requirements, court orders and post-closure administration costs. | 4,703 | 3,202 | -1,501 |
| **Non-Defense Environmental Cleanup** | | | |
| **Small Sites** | | | |
| **DOE-Sponsored Facilities (per P.L. 112-74)** | | | |
| **TBD / DOE-Sponsored Facilities (per P.L. 112-74)** | | | |
| • Decrease reflects the use of carryover funding from the 2012 Congressional mandate. | 10,000 | 0 | -10,000 |
| **Total, Other Sites** | **14,703** | **4,702** | **-10,001** |

**CBC Post Closure Administration - Fernald (PBS: CBC-0100-FN)**

**Overview**

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

This Post-Closure Administration PBS scope includes the Fernald Closure Project regulatory support, Human Resource Management, Budget and Financial support, and administration of Freedom of Information and Privacy Act programs at the Fernald closure site.

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | ▪ Ongoing Fernald Workers II class action lawsuit and contract closeout funding requirements were funded from available prior year funds. | **0** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Ongoing Fernald Workers II class action lawsuit and contract closeout funding requirements were funded from available prior year funds. | **---** |
| FY 2014 | ▪ Fund the Fernald Workers II class action lawsuit and contract closeout at the Fernald closure site. | **1,500** |

**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.

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | ▪ Funded the ongoing Rocky Flats Closure Project's legal requirements and court orders for the Cook and Stone cases from prior year funds.<br>▪ Funded the Rocky Flats records vault lease and records management costs from carryover funds. | **4,703** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Fund the ongoing Rocky Flats Closure Project's legal requirements and court orders for the Cook and Stone cases at a reduced level.<br>• Fund the Rocky Flats records vault lease and records management costs at a reduced level. | --- |
| FY 2014 | ▪ Fund the ongoing Rocky Flats Closure Project's legal requirements and court orders for the Cook and Stone cases.<br>▪ Fund the Rocky Flats records vault lease and records management costs. | **3,202** |

**DOE-Sponsored Facilities (per P.L. 112-74) (PBS: TBD)**

Lawrence Berkeley National Laboratory

The Consolidated Appropriations Act Conference Report, 2012 (Public Law 112-331), directed DOE to "improve health and safety by cleaning up existing contamination and improving the seismic standards of buildings within Department laboratory grounds". DOE will decontaminate and decommission buildings 5 and 16 in the "Old Town" area of Lawrence Berkeley National Laboratory to fulfill this Congressional mandate.

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Begin planning activities for decontamination and decommissioning of buildings 5 and 16 in the "Old Town" area of Lawrence Berkeley National Laboratory. | **10,000** |
| FY 2013 | | **---** |
| FY 2014 | • Complete decontamination and decommissioning of buildings 5 and 16. | **0** |

## Headquarters Operations

### Funding Schedule by Activity

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Program Support | | | |
| Headquarters | | | |
| EM-HBCU-0100 / Minority Serving Institution Partnerships Program | 0 | --- | 8,000 |
| HQ-MS-0100 / Policy, Management, and Technical Support | 20,380 | --- | 9,979 |
| Subtotal, Headquarters | 20,380 | 20,505 | 17,979 |
| Technology Development and Deployment | | | |
| Headquarters Operations | | | |
| HQ-TD-0100 / Technology Development | 10,309 | 10,687 | 20,000 |
| Total, Defense Environmental Cleanup | 30,689 | --- | 37,979 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**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 ensure 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, Public Law 102-486, 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 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, which banned 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 Act required that a storage facility be operational by January 1, 2013. Additionally, DOE's mercury storage operations will be subject to the requirements of the Resource Conservation and Recovery Act.

DOE began preparation of an Environmental Impact Statement in May 2009 to identify a location for a long-term elemental mercury management and storage facility. The final Environmental Impact Statement was issued in January 2011. In June 2012, DOE announced its intention to evaluate additional locations near the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico in a Supplement to the Environmental Impact Statement. A draft Supplement to the Environmental Impact Statement will be issued in the Spring of 2013 analyzing an additional three options. The final Supplement to the Environmental Impact Statement will be issued in September 2013. In FY 2014 a record of decision will provide the final decision on a location for the elemental mercury storage facility.

**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.

**Technology Development and Deployment**

The Technology Development and Deployment program focuses on resolving technical challenges to transform science and innovation into practical solutions for environmental cleanup in response to the highest priority needs of the Office of Environmental Management sites. The program provides key investments in mid- and long-range research and development projects focused on reducing the cost and accelerating the schedule of high priority cleanup issues. 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.

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. In FY 2014, EM is proposing to enhance its Technology Development efforts with a coordinated two-prong approach where select activities will be managed at Headquarters while others will be managed at the field sites:

- Longer-term activities with low technology risk levels are managed at Headquarters and are reflected in this budget chapter.
- Shorter-term activities with higher technology risk levels are managed at the sites where the technology will result in direct mission-related benefits. These activities are discussed in their respective site budgets.

**Explanation of Funding Changes**

**(Dollars In Thousands)**

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
|---|---|---|---|
| **Defense Environmental Cleanup** | | | |
| **Program Support** | | | |
| **Headquarters** | | | |
| **EM-HBCU-0100 / Minority Serving Institution Partnerships Program** | | | |
| • Increase reflects transfer of funding from sites to centralize program | 0 | 8,000 | +8,000 |

| | | | |
|---|---|---|---|
| management. Continues support of the Department's mission to develop the needed skills and an enduring technical workforce at the laboratories and production plants.<br>**HQ-MS-0100 / Policy, Management, and Technical Support**<br>• Decrease reflects reduced activities related to environmental impact statements for Disposal of Greater-than-Class C Radioactive Waste and the Mercury Export Ban Act. | 20,380 | 9,979 | -10,401 |
| **Technology Development and Deployment**<br>**Headquarters Operations**<br>**HQ-TD-0100 / Technology Development**<br>• Increase in funding reflects additional support for cleanup initiatives and development of technologies associated with environmental management in the areas of tank waste, soil and groundwater cleanup, waste management and disposition, and deactivation and decommissioning of contaminated excess facilities including nuclear reactors and chemical separation plants. | 10,309 | 20,000 | +9,691 |
| **Total, Headquarters Operations** | **30,689** | **37,979** | **+7,290** |

**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.

Goals for this partnership include:

- Strengthen and expand Minority Serving Institution capacity and research experience in DOE mission areas of interest.
- Increase visible participation of Minority Serving Institution faculty in DOE technical engagements and activities, such as collaborative research, technical workshops, expert panel reviews and studies, and competitive processes.
- Target collaborations between Minority Serving Institutions 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 Minority Serving Institution access to DOE facilities.
- Increase number of Minority Serving Institution students who graduate with Science, Technology, Engineering, and Mathematics degrees relevant to DOE mission areas and have had exposure to career opportunities at DOE sites.
- Increase number of Minority Serving Institution 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.

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • In FY 2012, Historically Black College/University activities were funded proportionately across the EM complex utilizing cleanup dollars across the sites. The FY 2012 planned activity level complex-wide was $8,218,000. | **0** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• In FY 2013, transition to the Department's Minority Serving Institution Partnership Program strategy. | **---** |
| FY 2014 | • Support for the Department's Minority Serving Institution Partnerships Program. | **8,000** |

**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. This PBS also supports the Department's Strategic Sources Initiative.

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• Provided expertise in the areas of safety, health and security, emergency management, package certification, quality assurance, nuclear criticality safety, and risk management.<br>• 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.<br>• Supported various Secretarial and Departmental initiatives, including the Defense Contracts Audit Agency audits, Government Industry Data Exchange Program and Consolidated Accounting Investment System.<br>• 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.<br>• Administered the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.<br>• Provided rapid response from technical experts or "External/Internal" review teams to address emerging, imminent technical issues impeding site cleanup and closure.<br>• Provided technical solution projects designed to reduce near-term technical risks and technical assistance to include site troubleshooting, consulting, scientific or technical problem solving.<br>• Developed the fee amounts for long-term elemental mercury management and storage and continue planning activities for the facility. | **20,380** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined): | **---** |

| | | |
|---|---|---|
| | • 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.<br>• Provide expertise in the areas of safety, health and security, emergency management, package certification, quality assurance, nuclear criticality safety, and risk management.<br>• 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.<br>• 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.<br>• 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.<br>• Administer the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.<br>• Provide rapid response from technical experts or "External/Internal" review teams to address emerging, imminent technical issues impeding site cleanup and closure.<br>• Provide technical solution projects designed to reduce near-term technical risks and technical assistance to include site troubleshooting, consulting, scientific or technical problem solving.<br>• Perform analysis for long-term elemental mercury management and storage facility.<br>• Support for the Working Capital Fund initiatives such as iManage, DOENet, Financial Statement Audits, A-123, and DCAA Audits. | |
| FY 2014 | • 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.<br>• Provide expertise in the areas of safety, health and security, emergency management, package certification, quality assurance, nuclear criticality safety, and risk management.<br>• 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.<br>• 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.<br>• 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.<br>• Administer the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.<br>• Provide rapid response from technical experts or "External/Internal" review | **9,979** |

| | | |
|---|---|---|
| | teams to address emerging, imminent technical issues impeding site cleanup and closure.<br>• Provide technical solution projects designed to reduce near-term technical risks and technical assistance to include site troubleshooting, consulting, scientific or technical problem solving.<br>• Perform analysis for long-term elemental mercury management and storage facility.<br>• Support Working Capital Fund initiatives such as iManage, DOENet, Financial Statement Audits, Internal Control, Pension Studies, CyberOne, and Procurement Management.<br>• Supports DOE's Strategic Sources Initiative to purchase commodities through a supply chain framework, which results in cost avoidance on purchases. | |

**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 Environmental Management sites. Applied engineering and research demonstrating the technical feasibility of high-risk, high-payoff technologies are included. The Environmental Management Research and 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 three initiatives:

- *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.
- *Decrease Waste Processing Technical Risk through Predictive Processes, and Science and Engineering* – 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.
- *Tank Retrieval and Closure* – develop a risk-based evaluation strategy to provide a technical basis for high level waste tank closure; develop analytical methods and instrumentation to characterize waste composition in situ 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* – develop and deploy 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* – develop advanced modeling capabilities for subsurface characteristics to expedite groundwater and soil cleanup through the Advanced Simulation Capabilities for Environmental Management.
- *Deep Vadose Zone Applied Field Research Initiative:* provide 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* – develop innovative characterization technologies for high radiation areas, low energy radiation surveys, hazardous materials, multiple contaminants of concern and closed systems. .
- *Equipment Removal and Dismantlement* – develop innovative technologies and technical approaches to remove equipment and other materials from high hazard areas including size reduction and packaging for disposal.
- *Decontamination* – develop 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* – develop 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* – develop 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 technologies to support the Environmental Management cleanup mission to manage and 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 focuses on the management and disposition of: *spent nuclear fuel, special nuclear materials and other challenging materials.* Activities include developing technologies and approaches for extended interim safe storage of these materials and for activities to prepare the materials for transportation to storage or disposal.

**Benefits**

| | |
|---|---|
| Waste Disposition and Disposal | • 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. |
| Benefits to the Department for Footprint Reduction | • Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | Tank Waste<br>• Developed formulation for next-generation solvent and conducted for improved Modular Caustic Side Extraction efficiency at the Savannah River Site.<br>• Started the initial tool set development for the modeling of cementitious | **10,309** |

| | | |
|---|---|---|
| | materials performance in waste management applications; this will enable improved risk-informed decision-making, shorter analysis times, and improve transparency.<br><u>Groundwater and Soil Remediation</u><br>• Initiated development and demonstration of 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: Advanced Simulation Capabilities for Environmental Management.<br>• Initiated development of contaminant flux of analysis methods of organics and inorganics, the extent of vadose zone contamination which will provide critical information enabling final selection of remediation approaches, including both active and passive methods.<br>• Developed a model for performance assessment of technically advanced and less costly foam based delivery systems to stabilize and treat contaminants in the deep vadose zone.<br>• Developed an integrated long term monitoring plan for the vadose zone that will have application across the complex.<br><u>Deactivation and Decommissioning</u><br>• Completed research on innovative alternative fill materials and specialty grout formulations, and degradation rates and contaminant release specifically in support of the Savannah River Site's P and R Reactor In-Situ Decommissioning Projects.<br>• Constructed a test bed and embedded sensors' into it to test sensor performance to determine their effectiveness imbedded in facilities for monitoring for In-Situ Decommissioning of facilities.<br>• Initiated development of remote characterization system for off-gas stacks.<br>• Leveraged funding and collaborated with the United Kingdom National Nuclear Laboratory, to complete testing and demonstration of remote characterization of hot cells (RadBall).<br>• Completed development and deployment of an innovative treatment process for passivating sodium metal and sodium compounds in reactor equipment and piping. | |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br><br><u>Tank Waste</u><br>• 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.<br>• Perform preliminary testing of the Cold Crucible Induction Melter to obtain design data.<br>• Continue development of next generation solvent system with chemical modifications based on FY 2012 testing.<br>• Support the joint EM-NE-International Study of Glass Behavior Over Geological Time Scales.<br>• Continue work for modeling of cementitious materials performance in waste management applications.<br><u>Groundwater and Soil Remediation</u><br>• Develop and test state-of-the art, science-based modeling capabilities for the next generation of performance assessments: Advanced Simulation Capability | --- |

| | | |
|---|---|---|
| | for Environmental Management.<br>• 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.<br>• Perform field testing and demonstration of the most promising soil treatment methods that attenuate contamination in place for the deep vadose zone. Analyze expected benefits compared to current technologies.<br>• Use Advanced Simulation Capabilities 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.<br><u>Deactivation and Decommissioning</u><br>• Continue development and testing of innovative embedded sensors and long-term monitoring technologies for In-Situ Decommissioning.<br><u>Nuclear Materials Disposition</u><br>• Continue evaluation, testing, and design of advanced techniques to characterize the aging of spent nuclear material, spent (used) nuclear fuel and other challenging materials and storage facilities to extend the life of storage facilities. | |
| FY 2014 | <u>Tank Waste</u><br>• Conduct scientific research and development activities to provide the technical basis for supplemental low activity immobilization waste form and to provide a solution for the separation of Technicium-99 from the low activity waste.<br>• Continue development of supplemental salt processing technology augmenting the Salt Waste Processing Facility capability and the Hanford tank waste system.<br><u>Groundwater and Soil Remediation</u><br>• Test cleanup scenarios at key DOE sites through the use of Advanced Simulation Capabilities for Environmental Management as part of the End States Initiative.<br><u>Deactivation and Decommissioning</u><br>• Continue development and testing of innovative embedded sensors and long-term monitoring technologies for In-Situ Decommissioning. | **20,000** |

**Title X of the Energy Policy Act of 1992: Uranium/Thorium Reimbursement Program**
**Status of Payments through Fiscal Year 2012 and Estimated Maximum Program Liability**
**($ Thousands)**

| Licensees | Total Payments FY 1994-FY 2012 | Approved but Unpaid Claim Balances After FY 2012 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 |
|---|---|---|---|
| **Uranium** | | | |
| American Nuclear Corp. Site | | | |
| American Nuclear Corporation | 820 | 0 | 0 |
| State of Wyoming | 1,279 | 1 | 785 |
| Atlantic Richfield Company[a] | 32,306 | 0 | 0 |
| Atlas Corporation/Moab Mill Reclamation Trust[a] | 9,694 | 0 | 0 |
| Cotter Corporation | 3,100 | 311 | 3,369 |
| Dawn Mining Company | 10,352 | 427 | 8,483 |
| Homestake Mining Company | 54,005 | 1,384 | 85,309 |
| Pathfinder Mines Corporation | 10,782 | 8 | 281 |
| Petrotomics Company[a] | 2,850 | 0 | 0 |
| Rio Algom Mining LLC[b] | 41,713 | 238 | 6,128 |
| Tennessee Valley Authority | 15,990 | 9,140 | 9,140 |
| Umetco Minerals Corporation-CO | 56,099 | 18,015 | 33,082 |
| Umetco Minerals Corporation-WY | 20,694 | 3,292 | 6,061 |
| Western Nuclear, Incorporated | 32,062 | 81 | 1,509 |
| Subtotal, Uranium | 291,746 | 32,897 | 154,146 |
| **Thorium** | | | |
| Tronox LLC[c] | 351,549 | 4,403 | 49,420 |
| Subtotal, Thorium | 351,549 | 4,403 | 49,420 |
| Total, Uranium and Thorium | 643,295 | 37,300 | 203,567 |

[a] Reimbursements have been completed to the Atlantic Richfield Company, the licensees of the Moab site, and the Petrotomics Company.

[b] Formerly Quivira Mining Company.

[c] Includes former licensees, Kerr-McGee Chemical Corp. & Tronox, LLC. Effective 2011, the thorium site license was transferred to the West Chicago Environmental Response Trust. The remaining program liability for the thorium site is the total of the remaining reimbursement authority allowed under Title X plus the unpaid claim balance.

**Program Direction**

**Funding Profile by Category**

(dollars in thousands/whole FTEs)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Carlsbad | | | |
| Salaries and Benefits | 8,325 | --- | 7,498 |
| Travel | 352 | --- | 306 |
| Other Related Expenses | 962 | --- | 872 |
| Total, Carlsbad | 9,639 | --- | 8,676 |
| Full Time Equivalents | 57 | --- | 51 |
| Idaho | | | |
| Salaries and Benefits | 7,600 | --- | 5,928 |
| Travel | 240 | --- | 140 |
| Support Services | 305 | --- | 169 |
| Other Related Expenses | 857 | --- | 778 |
| Total, Idaho | 9,002 | --- | 7,015 |
| Full Time Equivalents | 50 | --- | 40 |
| Oak Ridge | | | |
| Salaries and Benefits | 10,967 | --- | 10,084 |
| Travel | 160 | --- | 125 |
| Support Services | 1,592 | --- | 1,089 |
| Other Related Expenses | 3,075 | --- | 2,572 |
| Total, Oak Ridge | 15,794 | --- | 13,870 |
| Full Time Equivalents | 80 | --- | 72 |
| Portsmouth/Paducah Project Office | | | |
| Salaries and Benefits | 8,004 | --- | 8,241 |
| Travel | 300 | --- | 274 |
| Support Services | 967 | --- | 828 |
| Other Related Expenses | 1,089 | --- | 1,012 |
| Total, Portsmouth/Paducah Project Office | 10,360 | --- | 10,355 |
| Full Time Equivalents | 51 | --- | 52 |
| Richland | | | |
| Salaries and Benefits | 37,125 | --- | 35,604 |
| Travel | 486 | --- | 385 |
| Support Services | 2,014 | --- | 695 |
| Other Related Expenses | 6,731 | --- | 6,747 |
| Total, Richland | 46,356 | --- | 43,431 |
| Full Time Equivalents | 256 | --- | 251 |
| River Protection | | | |
| Salaries and Benefits | 21,195 | --- | 20,518 |
| Travel | 487 | --- | 450 |
| Support Services | 2,507 | --- | 1,135 |

| | | | |
|---|---|---|---|
| Other Related Expenses | 4,547 | --- | 3,408 |
| Total, River Protection | 28,736 | --- | 25,511 |
| Full Time Equivalents | 148 | --- | 137 |
| | | | |
| Savannah River | | | |
| Salaries and Benefits | 42,726 | --- | 38,589 |
| Travel | 650 | --- | 470 |
| Support Services | 3,153 | --- | 1,253 |
| Other Related Expenses | 3,641 | --- | 3,533 |
| Total, Savannah River | 50,170 | --- | 43,845 |
| Full Time Equivalents | 303 | --- | 269 |
| | | | |
| Small Sites | | | |
| Salaries and Benefits | 4,803 | --- | 4,501 |
| Travel | 450 | --- | 290 |
| Support Services | 1,077 | --- | 1,098 |
| Other Related Expenses | 1,487 | --- | 903 |
| Total, Small Sites | 7,817 | --- | 6,792 |
| Full Time Equivalents | 32 | --- | 28 |
| | | | |
| Nevada Site Office | | | |
| Salaries and Benefits | 3,234 | --- | 2,744 |
| Travel | 91 | --- | 55 |
| Support Services | 174 | --- | 356 |
| Other Related Expenses | 276 | --- | 72 |
| Total, Nevada Site Office | 3,775 | --- | 3,227 |
| Full Time Equivalents | 22 | --- | 19 |
| | | | |
| Los Alamos Site Office | | | |
| Salaries and Benefits | 3,528 | --- | 3,041 |
| Travel | 110 | --- | 125 |
| Support Services | 1,076 | --- | 652 |
| Other Related Expenses | 160 | --- | 248 |
| Total, Los Alamos Site Office | 4,874 | --- | 4,066 |
| Full Time Equivalents | 23 | --- | 22 |
| | | | |
| Field | | | |
| Salaries and Benefits | 147,507 | --- | 136,748 |
| Travel | 3,326 | --- | 2,620 |
| Support Services | 12,865 | --- | 7,275 |
| Other Related Expenses | 22,825 | --- | 20,145 |
| Total, Field | 186,523 | --- | 166,788 |
| Full Time Equivalents | 1,022 | --- | 941 |
| | | | |
| Headquarters Operations | | | |
| Salaries and Benefits | 58,160 | --- | 53,204 |
| Travel | 2,284 | --- | 2,165 |
| Support Services | 21,836 | --- | 15,773 |
| Other Related Expenses | 20,670 | --- | 15,044 |
| Total, Headquarters Operations | 102,950 | --- | 86,186 |
| Full Time Equivalents | 338 | --- | 308 |
| | | | |
| Consolidated Business Center | | | |

| | | | |
|---|---|---|---|
| Salaries and Benefits | 25,086 | --- | 20,751 |
| Travel | 887 | --- | 680 |
| Support Services | 1,867 | --- | 1,869 |
| Other Related Expenses | 4,315 | --- | 4,510 |
| Total, Consolidated Business Center | 32,155 | --- | 27,810 |
| Full Time Equivalents | 165 | --- | 149 |
| | | | |
| Environmental Management | | | |
| Salaries and Benefits | 230,753 | --- | 210,703 |
| Travel | 6,497 | --- | 5,465 |
| Support Services | 36,568 | --- | 24,917 |
| Other Related Expenses | 47,810 | --- | 39,699 |
| Total, Environmental Management | 321,628 | 323,596 | 280,784 |
| Full Time Equivalents | 1,525 | 1,518 | 1,398 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**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 worked aggressively to reduce its Federal full-time equivalent (FTE) level by 15% from FY 2010 FTE usage level of 1,649 by implementing steps to restructure its Federal workforce through the use of Voluntary Separation Incentive Program and Voluntary Early Retirement Authority efforts. The average age of the EM Federal employee is 52. Recent retirements have resulted in a significant loss of program engineering experience. Hiring for experienced and skilled engineers is planned by EM to ensure knowledge transfer from expert to junior engineers.

The Office of Management and Administration transferred one (1) FTE and $187,000 to EM for associated FTE salary and benefit costs. The Office of Science transferred three (3) FTEs to EM.

EM's FTE level is decreased to 1,398 in FY 2014. The decrease of $40,844,000 will sustain a Federal workforce of 1,398; however, further savings will be implemented in Federal travel, support services, and other related expenses.

## Explanation of Funding Changes

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
| **Salaries and Benefits** | | | |
| • Decrease of 8.7% for salaries and benefits due to the reduction of 184 authorized full-time equivalents (FTE) from the FY 2012 current enacted level. EM will continue to offer Voluntary Early Retirement Authority for critical positions in FY 2014. | 230,753 | 210,703 | -20,050 |
| **Travel** | | | |
| • EM will reduce Federal travel by 15.8% from the FY 2012 current enacted level by increasing its use of televideo and teleconferencing equipment for meetings between field and Headquarters offices that do not require on-site visits or meetings with community regulators or stakeholders. EM will enhance the use of this meeting option for "desktop" project reviews, budget meetings, and acquisition peer reviews. These cost saving initiatives are in compliance with Executive Order 13589 “Promoting Efficient Spending.” Additionally, EM continues to scrutinize conference sponsorship as well as overall conference attendance to further influence reductions in travel costs. | 6,497 | 5,465 | -1,032 |
| **Support Services** | | | |
| • Decrease of 31.9% from the FY 2012 current enacted level reflects an expanded reliance on Federal staff to execute professional project and program management activities that were previously performed by contractors. For example, EM is utilizing an IT Governance Board to evaluate IT investments, focusing on new systems that Federal staff can independently operate and maintain. Contractor support will be needed for coding updates/upgrades rather than ongoing system operations. | 36,568 | 24,917 | -11,651 |
| **Other Related Expenses** | | | |
| • Decrease of 17% from the FY 2012 current enacted level. Within this overall decrease, EM is covering increases to fixed items such as the field rent, utilities, communications, building and ground maintenance, and site-wide health services. Also within this overall decrease is EM’s share of the Headquarters Working Capital Fund, a fixed cost that represents 35% of the overall Other Related Expenses category. The WCF provides for Headquarters services such as DOE financial systems, network connectivity, and salary/benefits for employees who administer the WCF for the Department. EM’s FY 2014 contribution to the WCF is a $3 million increase over the FY 2012 contribution. These increases are offset by reductions to office supplies, non-essential materials, and printing/reproduction services as directed in Executive Order 13589. EM is evaluating use of leased space for Federal occupancy and those leases that will expire in 2014. Efficiencies are underway for the reintegration of Federal staff to Government-owned facilities. | 47,810 | 39,699 | -8,111 |
| **Total, Program Direction** | **321,628** | **280,784** | **-40,844** |

## Support Services by Category

(dollars in thousands)

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs. FY 2012 Current |
|---|---|---|---|
| Technical Support Services | | | |
| Feasibility of Design Considerations | 4,323 | 2,945 | -1,378 |
| Development of Specifications | 0 | 0 | 0 |
| System Definition | 96 | 65 | -31 |
| System Review and Realiability Analyses | 0 | 0 | 0 |
| Trade-Off Analyses | 0 | 0 | 0 |
| Economic and Environmental Analysis | 6,488 | 4,421 | -2,067 |
| Test and Evaluation Studies | 86 | 58 | -28 |
| Surveys or Reviews of Technical Operations | 10,057 | 6,853 | -3,204 |
| Total, Technical Support Services | 21,050 | 14,342 | -6,708 |
| Management Support Services | | | |
| Analyses of Workload and Work Flow | 0 | 0 | 0 |
| Directives Management Studies | 2,197 | 1,497 | -700 |
| Automatic Data Processing | 2,092 | 1,426 | -666 |
| Manpower Systems Analyses | 0 | 0 | 0 |
| Preparation of Program Plans | 0 | 0 | 0 |
| Training and Education | 225 | 153 | -72 |
| Analysis of DOE Management Processes | 813 | 554 | -259 |
| Reports and Analyses Management and General Administrative Support | 10,191 | 6,945 | -3,246 |
| Total, Management Support Services | 15,518 | 10,575 | -4,943 |
| Total, Support Services | 36,568 | 24,917 | -11,651 |

## Other Related Expenses by Category

(dollars in thousands)

| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs. FY 2012 Current |
|---|---|---|---|
| Other Related Expenses | | | |
| Rent to GSA | 9,801 | 6,829 | -2,972 |
| Rent to Others | 1,392 | 970 | -422 |
| Communication, Utilities, Misc. | 8,923 | 6,218 | -2,705 |
| Printing and Reproduction | 79 | 55 | -24 |
| Other Services | 9,425 | 6,334 | -3,091 |
| Training | 1,336 | 1,164 | -172 |
| Purchases from Gov. Accounts | 204 | 142 | -62 |
| Operation and Maintenance of Equipment | 2,047 | 1,426 | -621 |
| Supplies and Materials | 218 | 152 | -66 |
| Equipment | 3,328 | 2,318 | -1,010 |
| Working Capital Fund | 11,057 | 14,091 | 3,034 |
| Total, Other Related Expenses | 47,810 | 39,699 | -8,111 |

**Safeguards and Security Program**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Safeguards and Security | | | |
| CB-0020 / Safeguards and Security | 4,845 | --- | 4,977 |
| OH-WV-0020 / Safeguards and Security-West Valley | 1,565 | --- | 2,015 |
| OR-0020 / Safeguards and Security | 20,493 | --- | 18,800 |
| PA-0020 / Safeguards and Security | 7,935 | --- | 9,435 |
| PO-0020 / Safeguards and Security | 17,912 | --- | 8,578 |
| RL-0020 / Safeguards and Security | 69,078 | --- | 69,078 |
| SR-0020 / Safeguards and Security | 129,140 | --- | 121,196 |
| Subtotal, Safeguards and Security | 250,968 | 252,504 | 234,079 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Public Law Authorization**

Consolidated Appropriations Act, 2012 (P.L. 112-74)
Continuing Appropriations Resolution, 2013 (P.L. 112-175)

**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 assets protected by the Office of Environmental Management 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 operational in accordance with DOE regulations and homeland security directives.

EM's landlord sites include the Savannah River Site, 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, 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 Funding Changes

| | (Dollars In Thousands) | | |
|---|---|---|---|
| | FY 2012 Current | FY 2014 Request | FY 2014 Request vs FY 2012 Current |
| **Defense Environmental Cleanup** | | | |
| **Safeguards and Security** | | | |
| **CB-0020 / Safeguards and Security** | | | |
| ▪ No significant change. | 4,845 | 4,977 | +132 |
| **OH-WV-0020 / Safeguards and Security-West Valley** | | | |
| ▪ No significant change. | 1,565 | 2,015 | +450 |
| **OR-0020 / Safeguards and Security** | | | |
| • The decrease is due to the disposal of enriched uranium, transuranic-material, classified components, and equipment requiring security protection and completion of work performed under the American Recovery and Reinvestment Act in FY 2012. | 20,493 | 18,800 | -1,693 |
| **PA-0020 / Safeguards and Security** | | | |
| • The increase is to support implementation of Homeland Security Presidential Directive 12. | 7,935 | 9,435 | +1,500 |
| **PO-0020 / Safeguards and Security** | | | |
| • The decrease reflects reduced security costs from implementation of a graded approach on non-leased portions of the Gaseous Diffusion Plant costs resulting from the Department's restructuring of the site's security needs. | 17,912 | 8,578 | -9,334 |
| **RL-0020 / Safeguards and Security** | | | |
| • No significant change. | 69,078 | 69,078 | 0 |
| **SR-0020 / Safeguards and Security** | | | |
| ▪ Decrease is attributed to benefits of a restructured protection program involving protective force optimization, force-multiplier weapon systems, and refined response strategies. | 129,140 | 121,196 | -7,944 |
| **Total, Safeguards and Security** | **250,968** | **234,079** | **-16,889** |

## 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.

### Benefits

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department.<br>• 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. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • Provided security coverage at the Waste Isolation Pilot Plant. | **4,845** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Maintain security coverage at the Waste Isolation Pilot Plant. | --- |
| FY 2014 | • Maintain security coverage at the Waste Isolation Pilot Plant. | **4,977** |

## 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.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Provided physical and cyber security by an on-site guard force to ensure all DOE information resources are identified and protected at all times.<br>• Continued program management to oversee the security program including training and qualifications for the West Valley Demonstration Project. | **1,565** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide physical and cyber security by an on-site guard force to ensure all DOE information resources are identified and protected at all times.<br>• Continue program management to oversee the security program including training and qualifications for the West Valley Demonstration Project. | **---** |
| FY 2014 | • Provide physical and cyber security by an on-site guard force to ensure all DOE information resources are identified and protected at all times.<br>• Continue program management to oversee the security program including training and qualifications for the West Valley Demonstration Project. | **2,015** |

## 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 implement Homeland Security Presidential Directive-12 identification credentials for all employees to sustain a reliable, cleared workforce.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• Provided security protection for enriched uranium, transuranic material, classified components, equipment and work performed under the American Recovery and Reinvestment Act. | **20,493** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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. | --- |
| FY 2014 | • 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. | **18,800** |

## 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 provides security services to protect nuclear materials, sensitive uranium enrichment technology, equipment, and facilities. This program includes maintaining a security guard force to protect nuclear materials and classified technology/information and complying with cyber security requirements necessary to protect DOE information. The safeguards and security program also supports the Paducah remediation and cleanup programs.

Upon return of the Gaseous Diffusion Plant to DOE, DOE will become responsible for providing security operations necessary to protect the respective site's national security interests and government property. Safeguard and security activities include protective forces, protection of restricted data associated with gaseous diffusion technology and legacy nuclear weapons components, special nuclear material, official use only information, unclassified controlled nuclear information, export controlled information, and high risk government property. This risk-based site security is in keeping with the evolving EM mission at Paducah.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Provided cyber security and security services for personnel, equipment, information, classified matter, and special nuclear materials relating to DOE missions, to include decommissioning, decontamination, and demolition activities. | **7,935** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide security services for personnel, equipment, information, classified matter, and special nuclear materials relating to DOE missions, to include decommissioning, decontamination, and demolition activities. | --- |
| FY 2014 | • Continue compliance with Homeland Security Presidential Directive 12 requirements.<br>• Provide cyber security and security services for personnel, equipment, information, classified matter, and special nuclear materials relating to DOE missions, to include decommissioning, decontamination, and demolition activities. | **9,435** |

## 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 following the return to the Department of Energy's control of the gaseous diffusion plant uranium enrichment facilities from the United States Enrichment Corporation lease. The program continues to pursue realignment of sensitive security areas to support accelerated and less costly cleanup of the site.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Implemented a cost savings measure to safeguards and security using a graded approach for the Portsmouth Gaseous Diffusion Plant.<br>• Provided Protective Forces, Nuclear Material Control and Accountability and communications security services. | **17,912** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Continue compliance with Homeland Security Presidential Directive 12 requirements.<br>• Maintain the appropriate level of safeguards and security using a graded approach for the non-leased portions of the Portsmouth Gaseous Diffusion Plant.<br>• Provide Physical Protection, Protective Forces, Physical Security Systems, Information Security, Operations Security, Personnel Security, Material Control and Accountability, Program Management, and Cyber Security. | --- |
| FY 2014 | • Continue compliance with Homeland Security Presidential Directive 12 requirements.<br>• Initiate security activities associated with operation of the current onsite waste disposal facility, for which a replacement is currently being planned for construction in a location outside the existing security perimeter.<br>• Maintain the appropriate level of safeguards and security using a graded approach for the Portsmouth Gaseous Diffusion Plant.<br>• Provide Physical Protection, Protective Forces, Physical Security Systems, Information Security, Operations Security, Personnel Security, Material Control and Accountability, Program Management, and Cyber Security. | **8,578** |

## 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 Hanford site protects nuclear materials, equipment, information, and facilities, and supports the Hanford remediation and cleanup programs. These activities provide for overall site access security and protection of personnel and government property as part of EM's overall landlord responsibilities for the 586 square mile Hanford site.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • 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.<br>• Maintained Material Control and Accountability, Personnel Security, and Protective Force at all Hanford operations.<br>• Maintained information security, to include cyber security, programs for the protection of classified matter. | **69,078** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• 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.<br>• Maintain Material Control and Accountability, Information Security, Personnel Security, and Protective Force at all Hanford operations.<br>• Maintain information security, to include cyber security, programs for the protection of classified matter. | --- |
| FY 2014 | • 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.<br>• Maintain Material Control and Accountability, Personnel Security, and Protective Force at all Hanford operations.<br>• Maintain information security, to include cyber security, programs for the protection of classified matter. | **69,078** |

## 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 protect nuclear materials, sensitive weapon and nuclear material production technology, equipment, information, and facilities, and support the Savannah River Site remediation and cleanup programs. These activities provide for overall site access security and protection of personnel and government property as part of EM's overall landlord responsibilities for the 310 square mile nuclear reservation.

**Benefits**

| | |
|---|---|
| Benefits to the Department for Footprint Reduction | • 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.<br>• Completion of environmental cleanup activities reduces the surveillance and maintenance costs associated with managing large tracts of land, while having the potential to further other priorities of the Department. |

**Funding and Activity Schedule**

| Fiscal Year | Activity | Funding (dollars in thousands) |
|---|---|---|
| FY 2012 | • Operated and maintained the materials control and accountability program for special nuclear material.<br>• Maintained appropriate uniformed protective force personnel to assure the security of special nuclear materials, facilities, and other site assets.<br>• Operated and maintained physical security protection systems.<br>• Complete A and B Area Argus security access control modernization upgrades.<br>• Ensured protection of classified and unclassified computer security.<br>• Executed information and operational security measures, cyber security, personnel security and program management for the Savannah River Operations Office. | **129,140** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Operate and maintain the materials control and accountability program for special nuclear material.<br>• Maintain appropriate uniformed protective force personnel to assure the security of special nuclear materials, facilities, and other site assets.<br>• Operate and maintain physical security protection systems.<br>• Ensure protection of classified and unclassified computer security.<br>• Execute information and operational security measures, cyber security, personnel security and program management for the Savannah River Operations Office.<br>• Continue activities for planned transfer of the remaining consolidated EM material access area to National Nuclear Security Administration control. | --- |
| FY 2014 | • Operate and maintain the materials control and accountability program for special nuclear material. | **121,196** |

| | | |
|---|---|---|
| | • Maintain appropriate uniformed protective force personnel to assure the security of special nuclear materials, facilities, and other site assets.<br>• Operate and maintain physical security protection systems.<br>• Ensure protection of classified and unclassified computer security.<br>• Execute information and operational security measures, cyber security, personnel security and program management for the Savannah River Operations Office.<br>• Continue activities for planned transfer of the remaining consolidated EM material access area to National Nuclear Security Administration control. | |

**Funding Schedule by Site and Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Carlsbad | | | |
| Protective Forces | 3,878 | --- | 4,471 |
| Physical Security Systems | 221 | --- | 0 |
| Information Security | 255 | --- | 36 |
| Program Management | 340 | --- | 70 |
| Subtotal, Carlsbad | 4,694 | --- | 4,577 |
| Cyber Security | 151 | --- | 400 |
| Total, Carlsbad | 4,845 | --- | 4,977 |
| Oak Ridge | | | |
| Protective Forces | 10,784 | --- | 13,867 |
| Physical Security Systems | 2,292 | --- | 1,300 |
| Information Security | 1,162 | --- | 288 |
| Personnel Security | 90 | --- | 262 |
| Security Investigations | 1,977 | --- | 200 |
| Material Control and Accountability | 1,598 | --- | 1,462 |
| Program Management | 968 | --- | 906 |
| Subtotal, Oak Ridge | 18,871 | --- | 18,285 |
| Cyber Security | 1,622 | --- | 515 |
| Total, Oak Ridge | 20,493 | --- | 18,800 |
| Paducah | | | |
| Protective Forces | 4,020 | --- | 4,551 |
| Physical Security Systems | 900 | --- | 899 |
| Information Security | 1,352 | --- | 1,353 |
| Personnel Security | 0 | --- | 325 |
| Security Investigations | 283 | --- | 283 |
| Material Control and Accountability | 712 | --- | 398 |
| Program Management | 668 | --- | 668 |
| Subtotal, Paducah | 7,935 | --- | 8,477 |
| Cyber Security | 0 | --- | 958 |
| Total, Paducah | 7,935 | --- | 9,435 |
| Portsmouth | | | |
| Protective Forces | 8,639 | --- | 4,260 |
| Physical Security Systems | 840 | --- | 2,026 |
| Information Security | 1,753 | --- | 260 |
| Personnel Security | 0 | --- | 249 |
| Security Investigations | 429 | --- | 234 |
| Material Control and Accountability | 449 | --- | 0 |
| Program Management | 4,792 | --- | 987 |
| Subtotal, Portsmouth | 16,902 | --- | 8,016 |
| Cyber Security | 1,010 | --- | 562 |
| Total, Portsmouth | 17,912 | --- | 8,578 |

| | | | |
|---|---|---|---|
| Richland | | | |
| Protective Forces | 38,653 | --- | 38,653 |
| Physical Security Systems | 7,357 | --- | 7,357 |
| Information Security | 974 | --- | 974 |
| Personnel Security | 2,327 | --- | 2,327 |
| Security Investigations | 137 | --- | 137 |
| Material Control and Accountability | 1,458 | --- | 1,458 |
| Program Management | 16,457 | --- | 16,457 |
| Subtotal, Richland | 67,363 | --- | 67,363 |
| Cyber Security | 1,715 | --- | 1,715 |
| Total, Richland | 69,078 | --- | 69,078 |
| | | | |
| Savannah River | | | |
| Protective Forces | 91,486 | --- | 82,524 |
| Physical Security Systems | 14,021 | --- | 17,225 |
| Information Security | 1,472 | --- | 1,932 |
| Personnel Security | 6,341 | --- | 4,065 |
| Security Investigations | 611 | --- | 606 |
| Material Control and Accountability | 2,633 | --- | 1,957 |
| Program Management | 8,833 | --- | 11,065 |
| Transportation | 287 | --- | 345 |
| Subtotal, Savannah River | 125,684 | --- | 119,719 |
| Cyber Security | 3,456 | --- | 1,477 |
| Total, Savannah River | 129,140 | --- | 121,196 |
| | | | |
| West Valley Demonstration Project | | | |
| Protective Forces | 1,102 | --- | 1,360 |
| Program Management | 389 | --- | 260 |
| Subtotal, West Valley Demonstration Project | 1,491 | --- | 1,620 |
| Cyber Security | 74 | --- | 395 |
| Total, West Valley Demonstration Project | 1,565 | --- | 2,015 |
| | | | |
| Total, Safeguards and Security | 250,968 | 252,504 | 234,079 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Protective Forces | 158,562 | --- | 149,686 |
| Physical Security Systems | 25,631 | --- | 28,807 |
| Information Security | 6,968 | --- | 4,843 |
| Personnel Security | 8,758 | --- | 7,228 |
| Security Investigations | 3,437 | --- | 1,460 |
| Material Control and Accountability | 6,850 | --- | 5,275 |
| Program Management | 32,447 | --- | 30,413 |
| Transportation | 287 | --- | 345 |
| Subtotal, Safeguards and Security | 242,940 | --- | 228,057 |
| Cyber Security | 8,028 | --- | 6,022 |
| Safeguards and Security | 250,968 | 252,504 | 234,079 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Capital Operating Expenses**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| General Plant Projects | 620 | --- | 624 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund**

**Funding Schedule by Activity**

(dollars in thousands)

| | FY 2012 Current | FY 2013 Annualized CR* | FY 2014 Request |
|---|---|---|---|
| Defense Environmental Cleanup | | | |
| Federal Contribution to the Uranium Enrichment D&D Fund | | | |
| HQ-DD-0100 / Federal Contribution to the Uranium Enrichment D&D Fund | 0 | 0 | 463,000 |

*FY 2013 amounts shown reflect the P.L. 112 175 continuing resolution level annualized to a full year. These amounts are shown only at the "congressional control" level and above; below that level a dash (-) is shown.

**Overview**

The Defense Environmental Cleanup, Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, provides the Federal Government contribution to the 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.

As the cleanup and decommissioning at the gaseous diffusion plants progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed, the financial resources needed to maintain site infrastructure will be reduced.

**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.

| **Funding and Activity Schedule** | | |
|---|---|---|
| Fiscal Year | Activity | Funding (dollars in thousands) |
| FY 2012 | • No activities planned. | **0** |
| FY 2013 | Planned activities in the FY 2013 Congressional Budget justification (final allocations have not yet been determined):<br>• Provide the FY 2013 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992. | **---** |
| FY 2014 | • Provide the FY 2014 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992. | **463,000** |

# GENERAL PROVISIONS

*(including cancellation and transfer of funds)*

*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 2014 until the enactment of the Intelligence Authorization Act for fiscal year 2014.*

*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]The Secretary of Energy may transfer up to $48,000,000 from any appropriation or combination of appropriations made available to the Department of Energy in this or prior Acts to any other appropriation, for the purpose of carrying out domestic uranium enrichment research, development, and demonstration activities: Provided, That any transfer pursuant to this section does not transfer funds from the national defense (050) budget function to any other budget function, or from any other budget function to the national defense (050) budget function.Note.--A full-year 2013 appropriation for this account was not enacted at the time the budget was prepared; therefore, this account is operating under a continuing resolution (P.L. 112-175). The amounts included for 2013 reflect the annualized level provided by the continuing resolution.*