U.S. DEPARTMENT OF ENERGY

Capital Asset Projects and Operations Activities

Presented to
Environmental Management Advisory Boards

Mark Gilbertson
Deputy Assistant Secretary for Site Restoration
Office of Environmental Management

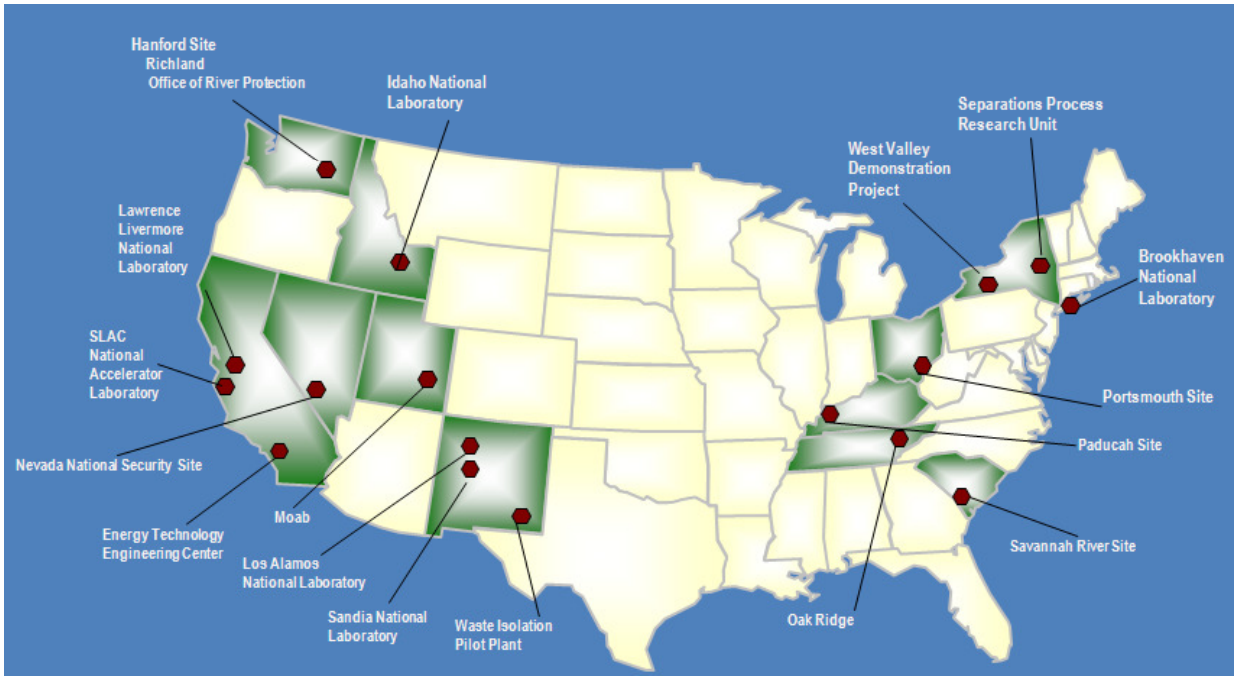
May 31, 2012

Environmental Management: A National Responsibility

- We reduce risks and protect our workers, our communities and the environment through cleanup
- Our work is urgent and essential to the health and economic vitality of our communities and the nation and positions our Sites for future missions and use
- Our mission is not discretionary - it is a congressional mandate to D&D the gaseous diffusion plant under the U.S. Energy Policy Act of 1992 and a federal obligation to address the cold war environmental legacy cleanup and honor our regulatory commitments
- Time is not on our side – costs and risks increase over time
- We have demonstrated value for the American Taxpayer by delivering significant progress in the past several years in reducing risks and the overall liability - but our work is not done
- The Environmental Management portfolio is one of our nation's largest liabilities - we have a responsibility to relieve future generations of this environmental and financial liability

Progress to Date and Challenges Ahead

- In 1989,cleanup was required at **107 sites** with a total area of **3,125 square miles** across **35 states**.
- At the end of FY 2011, the remaining cleanup covers **17 sites** with a total area **of 318 square miles** across **11 states**.
- The program's toughest challenges are still ahead, including processing liquid tank waste and deactivating and decommissioning a large number of facilities.
- These challenges require innovative technical solutions and scientific approaches.



EM cleanup sites as of the end of FY 2011

Request for Report on Project Control

House Appropriations Language:

Report on Project Control

"The Committee notes that there are a number of EM capital projects that are being reported because they are being funded by operations and maintenance funding. It is not clear what criteria EM is using to distinguish a capital asset project from an operational project. DOE is directed to provide a report, no later than 90 days of enactment, of all the projects with a total project cost greater than $10,000,000 that will be funded by EM during fiscal year 2012. The report should include a description of the performance baselines for cost and schedule for each project, and describe the overall rationale for managing these projects using operations and maintenance funding.

Office of Environmental Management FY2012 Profile

In FY2012, Office of Environmental Management has:

- 2 Line item construction projects: Waste Treatment Plant (WTP) at Hanford and Salt Waste Processing Finishing Plant (SWPF) at Savannah River Site
- Capital asset projects with funding at over $10 M: Richland, Savannah River Site, Portsmouth, Paducah, Oak Ridge, Idaho National Laboratory, Los Alamos National Laboratory, and Separations Process Research Unit
- Operations activities with funding over $10M: all 17 sites

EM Capital Asset Projects

CAPITAL ASSET PROJECTS

Construction Projects

- Line item construction projects
- Minor new construction projects* with total project cost (TPC**) of $10 million*** or more.

* Refer to DOE Order 430.1B, Change 1, *Real Property Asset Management*, for definitions of alterations and betterment.

** DOE Manual 135.1-1A, Change 1, *Department of Energy Budget Execution-Funds Distribution and Control Manual,* specifies total estimated cost (TEC). EM will utilize TPC as the cost determinant.

*** Congress raised the cost threshold for General Plant Projects (GPP) and Institutional GPP from $5 million to $10 million in *Omnibus Appropriations Act of 2009* (H.R. 1105).

Cleanup Projects with TPC of $10 million or more

- Surface and subsurface soil remediation such as construction of caps and engineered cover systems; excavation of contaminated soils and waste materials; and *in situ* grouting
- Surface water and groundwater remediation such as construction of treatment units; installation of sampling, monitoring and sentry wells; installation of barrier systems; and construction of phyto-remediation systems
- Retrieval of transuranic or other solid waste from **earthen-covered storage below grade**
- Removal or closure of radioactive liquid waste or high level waste tanks following waste retrieval operations
- Nuclear facility decommissioning
- Non-nuclear facility demolition and removal

EM Operations Activities

OPERATIONS ACTIVITIES & PROGRAMS

Operations Activities

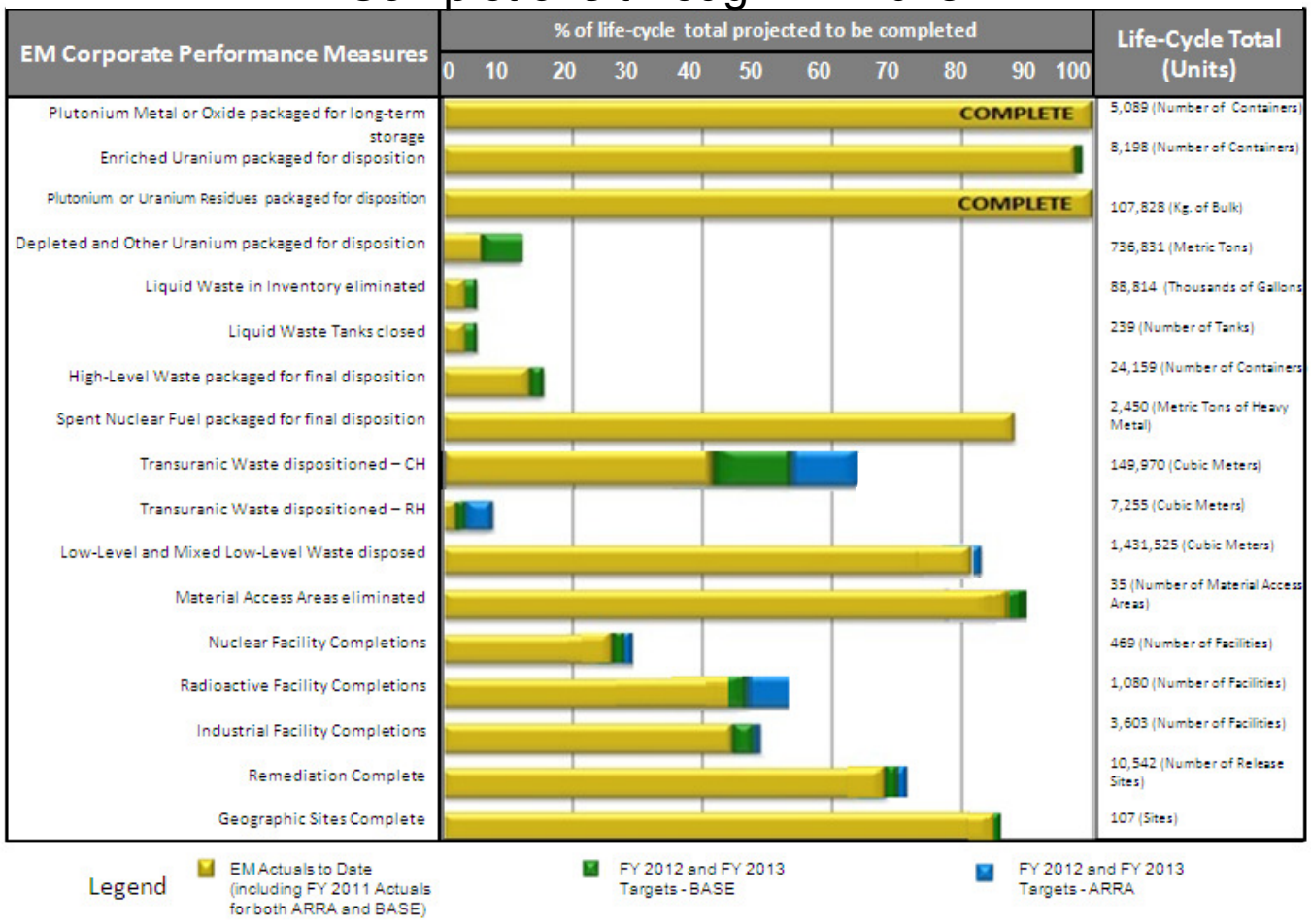
- Stabilization, packaging, storage, transportation, and disposition of: (1) solid waste, including transuranic waste; (2) liquid waste, including high level waste and radioactive tank waste; and (3) nuclear materials, including special nuclear materials and spent nuclear fuel
- Retrieval of transuranic or other solid waste from **earthen-covered storage above grade**
- Operation of facilities for receipt and retrieval of high-level waste
- Operation of waste processing facilities
- Surveillances, non-destructive and destructive inspections, and other stewardship activities of nuclear materials
- Emergency removal actions
- Cleanup activities with TPC less than $10 million
- Site/facility investigation, characterization, sampling and analysis, alternatives evaluation, and other activities leading up to the final approved cleanup decision document
- Operation of environmental remediation systems such as groundwater treatment systems
- Post-construction and post-closure care of remediated land burial sites
- Long-term environmental stewardship including environmental monitoring and institutional controls
- Facility shutdown and deactivation activities in preparation for final decommissioning

Programs

- General Plant Projects and Institutional General Plant Projects
- Alterations and Betterments
- Maintenance and Repair
- Landlord activities and site services
- Safeguards and security
- Emergency management
- Land management
- Fleet management
- Technology research, development, demonstration and deployment
- Community-support grants
- Public outreach and regulator oversight grants
- Preservation of cultural resources
- Program management

Corporate Performance Measure Status

Completions through FY 2013

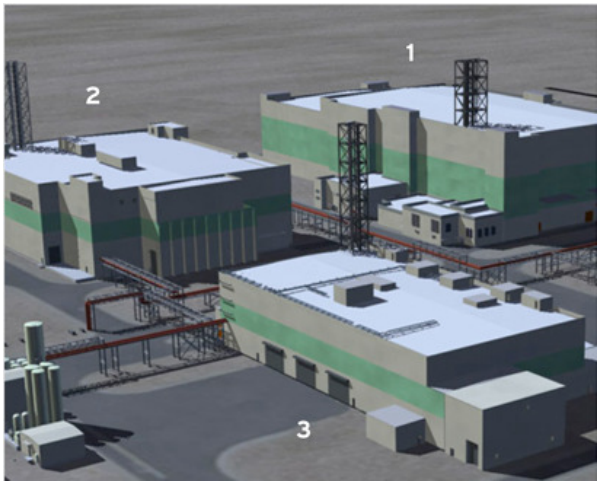


- Performance measures comprehensively track **cleanup progress.**
- Two performance measures are complete and five additional measures are over 80% complete.
- EM has made **substantial risk reduction progress** by stabilizing and consolidating special nuclear material.
- With investments in FY 2012 and FY 2013, EM will make **significant progress** on high level waste, transuranic waste shipments, and facility completions.

Line Item Capital Projects: Savannah River Site; Idaho; and Office of River Protection

Construction of the Salt Waste Processing Facility at the Savannah River Site. Construction is planned for completion in 2015.

Construction of the Sodium Bearing Waste Treatment Facility at Idaho. SBWF construction is completed and operations initiated in April, 2012.



The Waste Treatment Plant at the Hanford Site, as envisioned at the completion of construction. The pictures at right are the key facilities for processing HLW from the Hanford Tank Farms.

1. Pretreatment Facility

2 High-Level Waste Vitrification Facility

3 Low Activity Waste Vitrification Facility

Demolition of Gaseous Diffusion Plant: Oak Ridge

- Continuing demolition of K-25 Building east wing and disposing of most waste at the Environmental Management Waste Management Facility

DUF_6 Project: Portsmouth and Paducah

All 7 lines at both sites operable
Ports mouth has run 2 of 3 lines simultaneously
Paducah has run 3 of 4 lines simultaneously
Metric Tons of DUF6 Processed:

Paducah:	1181
Portsmouth:	957
Total:	2138

Paducah 42,000 cylinders;
Portsmouth 21,000 cylinders
About 740,000 metric tons of DUF_6 is in storage under DOE control

Transuranic Waste Operations Activities: Waste Isolation Pilot Plant

Loading drums of transuranic waste onto carrier for shipment to the Waste Isolation Pilot Plant (WIPP)

Shipment of transuranic waste for disposal at WIPP

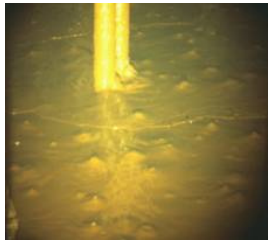
Surface facilities at WIPP near Carlsbad NM

Final disposition of contact-handled transuranic waste

Continuous mining machine used to excavate rock salt to create underground disposal areas

Liquid Waste Operations Activities: Savannah River Site

Salt Supernate



Sludge

Safely Stored

The Liquid **Waste Operations Activities at SRS:**

- Safely managing 37 million gallons of radioactive liquid tank waste to be treated and stabilized for final disposition
- Emptying, cleaning, and closing radioactive waste tanks
- Operating major nuclear facilities to treat and dispose of waste, e.g., DWPF and Saltstone Production and Disposal Facility
- During 2011:
  - Produced a record 266 canisters of vitrified high-level waste
  - Treated 1.2 million gallons with interim salt waste processing system
  - Disposed of 3.9 million gallons of low-level waste grout

Tank Farm Operations Activities: Office of River Protection

Tank Retrieval and Closure

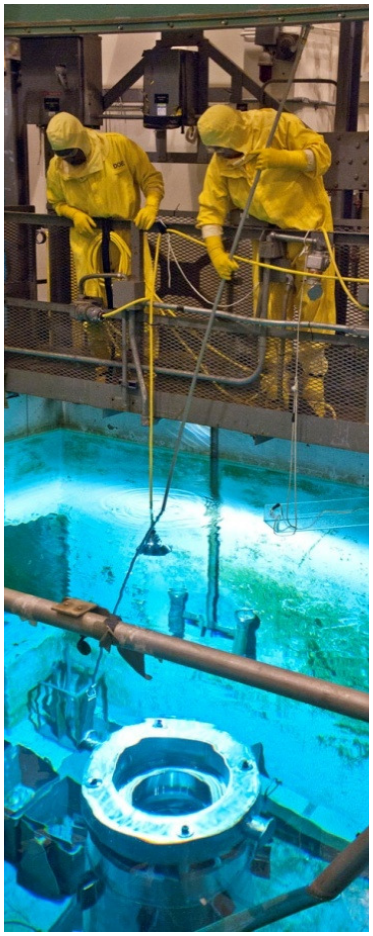
- Complete Retrieval activities in 3 C Farm Single-Shell Tanks
- Conduct SX Interim Measures/Barrier

C Farm prior to start of retrievals

C Farm after start of retrievals

Nuclear Materials Operations Activities: Savannah River Site

K Area Complex



L Area Receiving Basin

Storage and processing of nuclear materials at Savannah River Site:

- K Area Complex
  - Receipt, storage, and surveillance of Special Nuclear Materials
- L Area Complex
  - Continue receipt of domestic and foreign Used Nuclear Fuel

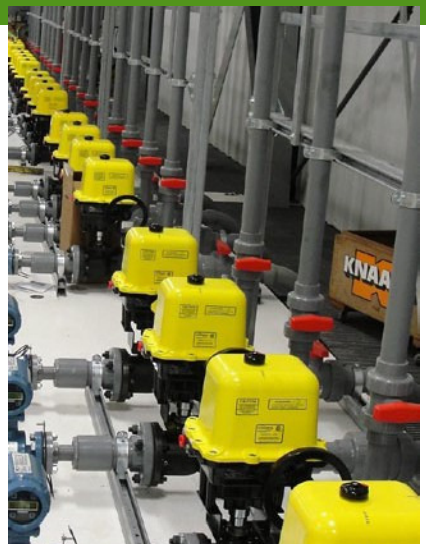
Low Level Waste/Mixed Low Level Waste Program

- Estimate 50% of remaining stored waste is LLW/MLLW
- Restructured LLW/MLLW to develop new efficient organizational process flow
- Completed evaluation and revision of all LLW/MLLW program documents
- Update characterization documents to support new process
- First ITG shipment of LLW to Nevada National Security Site made Feb. 29, 2012

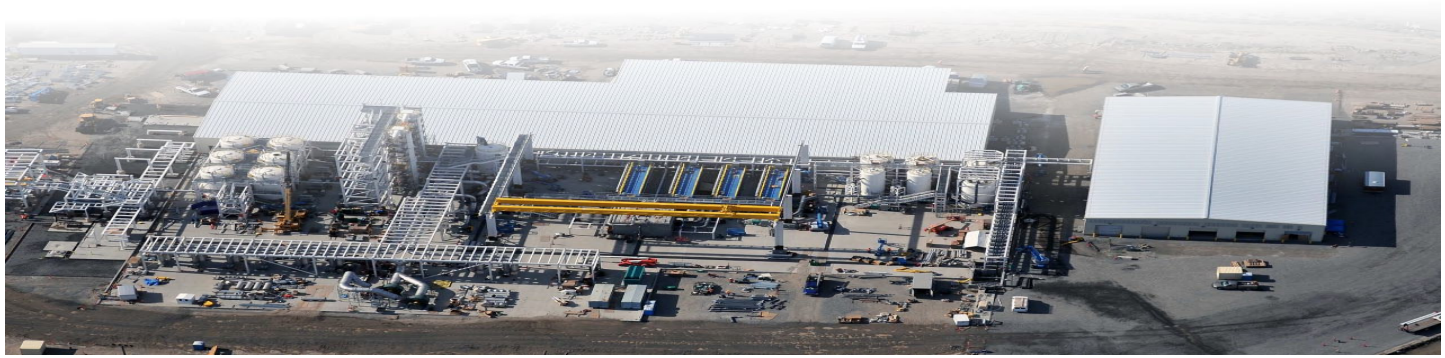
Low Level Waste/Mixed Low Level Waste operations at AMWTP. Clockwise from top left, storage of legacy waste; employees checking low level waste box; employees verifying shipping manifest; first shipment of low level waste made by ITG.

Groundwater Treatment Facility Operations Activities: Hanford

Tanks containing resins to remove contaminants from groundwater.



Equipment inside a groundwater treatment facility at Hanford.



Ariel view of the 200 West pump and treat facility at Hanford.

Back-up Slides

DOE Order 413.3B

DOE Order 413.3B Program and Project management for the Acquisition of Capital Assets

The purpose of this Order is to a) provide the Department of Energy (DOE) Elements, including the National Nuclear Security Administration (NNSA), with program and project management direction for the acquisition of capital assets with the goal of delivering projects within the original performance baseline (PB), cost and schedule, and fully capable of meeting mission performance, safeguards and security, and environmental, safety, and health requirements unless impacted by a directed change; and b) implement Office of Management and Budget (OMB) Circulars to include: A-11, Part 7, Capital Programming Guide, which prescribes new requirements and leading practices for project and acquisition management; A-123, Management's Responsibility for Internal Control, which defines management's responsibility for internal control in Federal agencies; and A-131, Value Engineering, which requires that all Federal agencies use Value Engineering (VE) as a management tool.

EM Operations Activities Policy and Protocol

The purpose is to define the framework for managing and reporting progress for the Office of Environmental Management (EM) Operations Activities. The framework focuses on an integrated management control system with principles and policies that require operations activities to do the following:

- Plan all work through completion.
- Break down scope into manageable pieces that can be assigned to responsible organizations for control of scope, schedule and cost objectives.
- Integrate scope, schedule, and cost objectives into a plan by which accomplishments may be measured.
- Objectively measure activity performance.
- Analyze significant variances and implement management actions to mitigate risks and manage cost and schedule performance.

Operations activities will be managed using two timeframes: Contract Period of Performance (CPP) and Lifecycle Cost (LC). The CPP will represent the current contract requirements. The LC timeframe will include CPP, and any remaining scope until the activity is completed.

Planning assumptions for the CPP will be consistent with the contract and the lifecycle will be consistent with guidance from Headquarters. To accurately monitor, measure, and report performance, appropriate performance metrics and milestones for both the CPP and LC will be developed for each operations activity based on the size and complexity of the activities and contractually established performance-based incentives, if applicable. The performance metrics shall be developed consistent with EM corporate-level metrics.

Execution year assumptions, scope definition, annual appropriation/allotment, cost, schedule, metrics, milestones, risk assessment, management reserve, and progress reporting are key elements in managing operations activities and shall be defined in Fiscal Year Work Plans (FYWP).

PBSs at Richland and Office of River Protection

Site	PBS Field Code	Sub Sub Field Code	Sub Sub Name	FY12 Budget Cite	Project Start	Proposed Project End	Lifecycle Cost	Outyear Costs (FY12-End) ($K)	FY12 Enacted ($K)
Hanford Site	RL-0011	RL-0011.01	NM Stabilization and Disposition-PFP (Operations)	p. 130	Oct 1, 2007	Sep 30, 2019	$ 1,614,675	$ 948,967	$ 99,195
Hanford Site	RL-0012	RL-0012.01	SNF Stabilization and Disposition-KBC (Operations)	p. 132	Oct 1, 2007	Sep 30, 2019	$ 871,541	$ 450,906	$ 111,952
Hanford Site	RL-0013C	RL-0013C.01	Solid Waste Stabilization and Disposition-200 Area/Operate Waste Processing Facility (Operations)	p. 133	Oct 1, 2007	Sep 30, 2060	$ 9,458,148	$ 8,814,381	$ 143,482
Hanford Site	RL-0030	RL-0030.C1	GW Remedy Imple 200 ZP-1 and 100 DX Proj Central Plateau Soil and Groundwater Cleanup Project	p. 136	Oct 1, 2007	Aug 30, 2012	$ 153,541	$ 99,967	$ 190,705
Hanford Site	RL-0030	RL-0030.01	Soil and Water Remediation-Groundwater/Vadose Zone (Operations)	p. 136	Oct 1, 2007	Sep 30, 2050	$ 8,195,010	$ 7,678,792	
Hanford Site	RL-0040	RL-0040.01.1	Hanford Central Plateau (OCP)	p. 138	Oct 1, 2007	Sep 30, 2050	$ 13,750,730	$ 13,576,737	$ 56,121
Hanford Site	RL-0040	RL-0040.01.2	Hanford Mission Support (OMS)	p. 138	Oct 1, 2008	Sep 30, 2050	$ 2,459,963	$ 2,217,741	
Hanford Site	RL-0041	RL-0041.C1	Nuclear Facility D&D-River Corridor Closure Project (Capital)	p. 140	Oct 1, 2004	Sep 30, 2019	$ 2,247,178	$ 1,168,102	$ 329,048
Hanford Site	RL-0041	RL-0041.01	Nuclear Facility D&D-River Corridor Closure Project (Operations)	p. 140	Oct 1, 2004	Sep 30, 2019	$ 1,140,226	$ 481,312	
Hanford Site	RL-0042	RL-0042.01	Nuclear Facility D&D-Fast Flux Test Facility Project (Operations)	p. 129	Oct 1, 2006	Sep 30, 2037	$ 1,129,185	$ 1,050,480	$ 2,703
River Protection	ORP-0014	ORP-0014.01.1	Radioactive Liquid Tank Waste Stabilization and Disposition: Balance of Operations	p. 149	Oct 1, 2008	Sep 30, 2042	$ 28,514,021	$ 27,751,126	$ 441,800
River Protection	ORP-0014	ORP-0014.01.2	Retrieve/Close Single Shell Tanks (SSTs)	p. 149	Oct 1, 2008	Sep 30, 2042	$ 7,572,017	$ 7,346,977	
River Protection	ORP-0014	ORP-0014.01.3	Waste Feed Delivery/Double Shell Tanks Retrieval and Closure	p. 149	Oct 1, 2008	Sep 30, 2042	$ 7,179,495	$ 7,048,585	
River Protection	ORP-0014	ORP-0014.01.4	Supplemental Treatment	p. 149	Oct 1, 2008	Sep 30, 2042	$ 6,314,657	$ 6,308,081	
River Protection	ORP-0060	01-D-16A	Low-Activity Waste Facility	p. 153	Dec 11, 2000	Nov 30, 2019	$ 2,112,658	$ 614,372	$ 430,000
River Protection	ORP-0060	01-D-16B	Analytical Laboratory	p. 153	Dec 11, 2000	Nov 30, 2019	$ 736,788	$ 331,489	
River Protection	ORP-0060	01-D-16C	Balance of Facilities	p. 153	Dec 11, 2000	Nov 30, 2019	$ 1,170,081	$ 530,185	
River Protection	ORP-0060	01-D-16D	High-Level Waste Facility	p. 153	Dec 11, 2000	Nov 30, 2019	$ 3,110,035	$ 1,264,600	
River Protection	ORP-0060	01-D-16E	Pretreatment Facility	p. 153	Dec 11, 2000	Nov 30, 2019	$ 5,133,437	$ 2,516,444	$ 310,000

PBSs at Savannah River Site, Portsmouth, Paducah

Site	PBS Field Code	Sub Sub Field Code	Sub Sub Name	FY12 Budget Cite	Project Start	Proposed Project End	Lifecycle Cost	Outyear Costs (FY12-End) ($K)	FY12 Enacted ($K)
Savannah River Site	SR-0011C	SR-0011C.C2	Purification Vault Type Room	p. 179	Nov 1, 2009	Jun 30, 2012	$ 27,272	$ 8,690	$ 233,008
Savannah River Site	SR-0011C	SR-0011C.O1	Nuclear Material Stabilization and Disposition (Operations)	p. 179	Oct 1, 2007	Sep 30, 2025	$ 6,632,683	$ 5,381,591	
Savannah River Site	SR-0012	SR-0012.O1	Spent Nuclear Fuel Stabilization and Disposition (Operations)	p. 181	Oct 1, 2007	Sep 30, 2022	$ 1,077,843	$ 935,210	$ 39,771
Savannah River Site	SR-0013	SR-0013.O1	Solid Waste Stabilization and Disposition (Operations)	p. 182	Oct 1, 2007	Sep 30, 2038	$ 3,505,002	$ 3,392,734	$ 29,163
Savannah River Site	SR-0014C	05-D-405	Salt Waste Processing Facility, Aiken, SC	p. 183	Oct 1, 2002	Oct 23, 2015	$ 1,339,548	$ 260,614	$ 170,071
Savannah River Site	SR-0014C	12-D-403	Glass Waste Storage Building #3	p. 183	Oct 1, 2011	Sep 30, 2015	$ 103,412	$ 103,412	$ 3,500
Savannah River Site	SR-0014C	SR-0014C.C3.1	Saltstone Disposal Unit 2	p. 183	Oct 1, 2006	Sep 30, 2014	$ 29,911	$ 6,896	$ 664,981
Savannah River Site	SR-0014C	SR-0014C.C3.2	Saltstone Disposal Units 3 & 5	p. 183	Oct 1, 2007	Sep 30, 2014	$ 76,501	$ 39,992	
Savannah River Site	SR-0014C	SR-0014C.C2	Radioactive Liquid Tank Waste Stabilization and Disposition - Tank 48 Waste Processing Facility	p. 183	Oct 1, 2007	Sep 30, 2014	$ 224,638	$ 89,037	
Savannah River Site	SR-0014C	SR-0014C.C3	Saltstone Disposal Units	p. 183	Oct 1, 2009	Sep 30, 2023	$ 1,129,126	$ 1,127,186	
Savannah River Site	SR-0014C	SR-0014C.C4	Canister Shipping Facility	p. 183	Oct 1, 2011	Sep 30, 2023	$ 123,517	$ 123,517	
Savannah River Site	SR-0014C	SR-0014C.O1.1	Radioactive Liquid Tank Waste Stabilization and Disposition (Operations 1)	p. 183	Oct 1, 2007	Sep 30, 2026	$ 11,118,266	$ 9,056,841	
Savannah River Site	SR-0030	SR-0030.O1	Soil and Water Remediation (Operations)	p. 186	Oct 1, 2007	Sep 30, 2037	$ 7,770,931	$ 7,694,257	$ 37,704
Portsmouth Gaseous Diffusion Plant	PO-0011X	PO-0011X.O1	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (Operations)	p. 112	Oct 1, 2009	Sep 30, 2030	$ 1,336,604	$ 1,289,630	$ 48,148
Portsmouth Gaseous Diffusion Plant	PO-0013	PO-0013.O1	Solid Waste Stabilization and Disposition (Operations)	p. 115	Oct 1, 2006	Sep 30, 2011	$ 191,515	$ -	$ 21,682
Portsmouth Gaseous Diffusion Plant	PO-0040	PO-0040.O1.1	Nuclear Facilities D&D - Portsmouth Gaseous Diffusion Plant: Balance of Operations	p. 116	Oct 1, 2006	Sep 30, 2044	$ 7,941,428	$ 7,122,366	$ 166,491
Paducah Gaseous Diffusion Plant	PA-0011	PA-0011	NM Stabilization and Disposition-Paducah Uranium Facilities Management	p. 98	Oct 1, 2000	Sep 30, 2019	$ 56,922	$ 20,322	$ 1,369
Paducah Gaseous Diffusion Plant	PA-0011X	PA-0011X.O1	NM Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion (Operations)	p. 98	Oct 1, 2009	Sep 30, 2038	$ 2,035,571	$ 1,985,557	$ 50,921
Paducah Gaseous Diffusion Plant	PA-0013	PA-0013.O1	Solid Waste Stabilization and Disposition (Operations)	p. 101	Oct 1, 2006	Sep 30, 2019	$ 147,729	$ 55,769	$ 6,665
Paducah Gaseous Diffusion Plant	PA-0040	PA-0040.C1	Nuclear Facilities D&D - Paducah Gaseous Diffusion Plant (Capital)	p. 102	Oct 1, 2006	Sep 30, 2012	$ 37,392	$ 2,245	$ 70,665
Paducah Gaseous Diffusion Plant	PA-0040	PA-0040.O1	Nuclear Facilities D&D - Paducah Gaseous Diffusion Plant (Operations)	p. 102	Oct 1, 2006	Oct 1, 2019	$ 9,416,088	$ 9,030,317	

PBSs at Oak Ridge, Idaho National Laboratory, and Waste Isolation Pilot Plant

Site	PBS Field Code	Sub Sub Field Code	Sub Sub Name	FY12 Budget Cite	Project Start	Proposed Project End	Lifecycle Cost	Outyear Costs (FY12-End) ($K)	FY12 Enacted ($K)
Oak Ridge	OR-0011Z	OR-0011Z.C1	U-233 Disposition Project-Building 3019	p. 80	Oct 1, 2006	Sep 30, 2020	$ 239,722	$ 26,868	$ 37,000
Oak Ridge	OR-0011Z	OR-0011Z.O1.1	U-233 Disposition - Operations Pre-Startup	p. 80	Oct 1, 2006	Sep 30, 2020	$ 37,475	$ 5,696	
Oak Ridge	OR-0011Z	OR-0011Z.O1.2	U-233 Disposition - Operations-Post-Startup	p. 80	Oct 1, 2006	Sep 30, 2020	$ 107,624	$ 107,624	
Oak Ridge	OR-0013B	OR-0013B.C1	Sludge Processing Facility Buildouts	p. 81	Oct 1, 2007	Sep 30, 2018	$ 36,072	$ 36,072	$ 85,900
Oak Ridge	OR-0013B	OR-0013B.O1.1	Solid Waste Stabilization And Disposition: Balance of Operations	p. 81	Oct 1, 2007	Sep 30, 2018	$ 142,718	$ 28,369	
Oak Ridge	OR-0013B	OR-0013B.O1.2	Transuranic Waste Management	p. 81	Oct 1, 2007	Sep 30, 2018	$ 477,266	$ 350,194	
Oak Ridge	OR-0040	OR-0040.C1	K-25 Decontamination and Decommissioning (D&D)	p. 88	Oct 1, 2007	Dec 31, 2015	$ 1,032,681	$ 497,516	$ 182,747
Oak Ridge	OR-0040	OR-0040.C	Nuclear Facility D&D - ETTP	p. 88	Oct 1, 2007	Sep 30, 2017	$ 288,933	$ 288,933	
Oak Ridge	OR-0040	OR-0040.O1.1	Nuclear Facility D&D - ETTP: Balance of Operations	p. 88	Oct 1, 2007	May 30, 2017	$ 698,630	$ 346,695	
Oak Ridge	OR-0040	OR-0040.O1.2	K-27 Deactivation	p. 88	Oct 1, 2007	Sep 30, 2017	$ 79,530	$ 79,530	
Oak Ridge	OR-0041	OR-0041.C	Nuclear Facility D&D -Y-12	p. 84	Oct 1, 2007	Sep 30, 2021	$ 13,077	$ 13,077	$ 30,000
Oak Ridge	OR-0041	OR-0041.O1.1	Nuclear Facility D&D-Y-12 (Operations 1)	p. 84	Oct 1, 2007	Sep 30, 2021	$ 671,081	$ 549,582	
Oak Ridge	OR-0042	OR-0042.C1.1	Tank W1A Project	p. 86	Aug 1, 2011	Sep 30, 2012	$ 16,116	$ 12,542	$ 39,000
Oak Ridge	OR-0042	OR-0042.C	Nuclear Facility D&D - ORNL	p. 86	Oct 1, 2007	Sep 30, 2019	$ 43,910	$ 43,910	
Oak Ridge	OR-0042	OR-0042.O1.1	Nuclear Facility D&D - Oak Ridge National Laboratory (Operations 1)	p. 86	Oct 1, 2007	Sep 30, 2019	$ 726,925	$ 509,595	
Oak Ridge	OR-0043	OR-0043.O1	Nuclear Facility D&D - East Tennessee Technology Park (ETTP) Defense (Operations)	p. 87	Oct 1, 2007	Sep 30, 2016	$ 43,663	$ 43,182	$ 100
Idaho National Laboratory	ID-0012B-D	ID-0012B-D.O1	Spent Nuclear Fuel Stabilization and Disposition - 2012 (Operations)	p. 61	Oct 1, 2005	Sep 30, 2012	$ 212,500	$ 21,500	$ 20,014
Idaho National Laboratory	ID-0012B-N	ID-0012B-N	SNF Stabilization and Disposition-2012 (Non-Defense)	p. 68	Sep 30, 1997	Sep 30, 2012	$ 31,049	$ -	$ 5,131
Idaho National Laboratory	ID-0013B	ID-0013B.O1.1	Solid Waste Stabilization and Dispostion: Balance of Operations	p. 62	Oct 1, 2006	Sep 30, 2017	$ 566,825	$ 249,346	$ 164,435
Idaho National Laboratory	ID-0013B	ID-0013B.O1.2	Mixed Waste Treatment Project (AMWTP)	p. 62	Oct 1, 2006	Sep 30, 2017	$ 1,364,077	$ 581,942	
Idaho National Laboratory	ID-0014B	ID-0014B.O1	Radioactive Liquid Tank Waste Stabilization and Disposition (Operations)	p. 64	Oct 1, 2005	Sep 30, 2012	$ 379,319	$ 39,619	$ 109,419
Idaho National Laboratory	ID-0030B	ID-0030B.C1	Soil & Water Remediation-2012 (Capital)	p. 65	Oct 1, 2005	Sep 30, 2012	$ 673,068	$ 42,962	$ 86,701
Idaho National Laboratory	ID-0030B	ID-0030B.O1	Soil & Water Remediation-2012 (Operations)	p. 65	Oct 1, 2005	Sep 30, 2012	$ 136,222	$ 20,909	
Waste Isolation Pilot Plant	CB-0080	CB-0080.O1	Operate Waste Disposal Facility (Operations)	p. 44	Oct 1, 2007	Sep 30, 2035	$ 3,136,517	$ 2,586,927	$ 135,403
Waste Isolation Pilot Plant	CB-0081	CB-0081.O1	Central Characterization Project (Operations)	p. 47	Oct 1, 2007	Sep 30, 2030	$ 265,968	$ 158,617	$ 37,600
Waste Isolation Pilot Plant	CB-0090	CB-0090.O1	Transportation (Operations)	p. 49	Oct 1, 2007	Sep 30, 2030	$ 611,112	$ 482,326	$ 40,331

PBSs at ETEC, Moab, West Valley, BNL, SLAC, LANL, NNSS, SPRU, SNL, LLNL

Site	PBS Field Code	Sub Sub Field Code	Sub Sub Name	FY12 Budget Cite	Project Start	Proposed Project End	Lifecycle Cost	Outyear Costs (FY12-End) ($K)	FY12 Enacted ($K)
Energy Technology Engineering Center	CBC-ETEC-0040	CBC-ETEC-0040.O1	Environmental Management Clean Up (Operations)	p. 247	Oct 1, 2007	Sep 30, 2020	$ 115,590	$ 80,869	$ 9,279
Moab	CBC-MOAB-0031	CBC-MOAB-0031.O1	Moab Uranium Mill Tailings Project (Operations)	p. 253	Oct 1, 2006	Sep 30, 2025	$ 721,525	$ 609,970	$ 31,000
West Valley Demonstration Project	OH-WV-0013	OH-WV-0013.O1	Solid Waste Stabilization and Disposition	p. 234	Oct 1, 2007	Sep 30, 2040	$ 233,571	$ 153,572	$ 14,422
West Valley Demonstration Project	OH-WV-0040	OH-WV-0040.O1.1	Nuclear Facility D&D (Operations 1)	p. 234	Oct 1, 2007	Sep 30, 2040	$ 2,134,832	$ 2,053,026	$ 50,313
Brookhaven National Laboratory	BRNL-0030	BRNL-0030	Soil and Water Remediation-Brookhaven National Laboratory	p. 240	May 1, 1992	Sep 30, 2015	$ 248,503	$ -	$ 9,585
Stanford Linear Accelerator Center	CBC-SLAC-0030	CBC-SLAC-0030.O1	Soil and Water Remediation (Operations)	p. 260	Oct 1, 2007	Sep 30, 2012	$ 26,976	$ 2,010	$ 2,435
Los Alamos National Laboratory	VL-LANL-0013	VL-LANL-0013.C	RH and CH TRU Waste Retrieval	p. 211	Oct 1, 2006	Sep 30, 2015	$ 142,454	$ 13,765	$ 67,015
Los Alamos National Laboratory	VL-LANL-0013	VL-LANL-0013.O1.1	Solid Waste Stabilization and Disposition -- LANL Legacy (Operations)	p. 211	Oct 1, 2006	Sep 30, 2015	$ 373,323	$ 36,263	
Los Alamos National Laboratory	VL-LANL-0030	VL-LANL-0030.C1	Corrective Actions - Canon de Valle	p. 213	Oct 1, 2006	Sep 30, 2015	$ 52,900	$ 2,192	$ 117,985
Los Alamos National Laboratory	VL-LANL-0030	VL-LANL-0030.C	Soil and Water Remediation	p. 213	Oct 1, 2006	Sep 30, 2015	$ 337,623	$ 186,793	
Los Alamos National Laboratory	VL-LANL-0030	VL-LANL-0030.O1.1	Soil and Water Remediation (Operations 1)	p. 213	Oct 1, 2006	Sep 30, 2015	$ 608,417	$ 156,272	
Nevada National Security Site	VL-NV-0030	VL-NV-0030.O1.1	Soil and Water Remediation - Nevada (Operations 1)	p. 223	Oct 1, 2006	Sep 30, 2027	$ 1,042,053	$ 750,760	$ 50,395
Nevada National Security Site	VL-NV-0080	VL-NV-0080.O1	Operate Waste Disposal Facility-Nevada (Operations)	p. 225	Oct 1, 2007	Sep 30, 2027	$ 650,343	$ 555,794	$ 13,350
NNSA Service Center	VL-SPRU-0040	VL-SPRU-0040.C1	Nuclear Facility D&D - Special Process Research Unit	p. 271	Oct 1, 2007	Sep 1, 2014	$ 113,220	$ 10,296	$ 24,000
Sandia National Laboratory	VL-SN-0030	VL-SN-0030.O1	Soil and Groundwater Remediation Activities	p. 270	Oct 1, 2009	Sep 30, 2020	$ 36,790	$ 29,012	$ 3,014
California Site Support	VL-FOO-0013B-D	VL-FOO-0013B-D	Solid Waste Stabilization and Disposition Support-Lawrence Livermore National Laboratory	p. 201	Oct 1, 2003	Sep 30, 2014	$ 59,994	$ 45,318	$ 238
Lawrence Livermore National Laboratory	VL-LLNL-0031	VL-LLNL-0031.O1	Soil and Groundwater Remediation Activities	p. 201	Oct 1, 2009	Sep 30, 2019	$ 58,035	$ 57,400	$ 635

Performance Metrics: Lifecycle Total Estimate and FY2012 Targets

Sub-Sub Field Code (Sub-Project)	Performance Measure	Unit	Pre-2012 Lifecycle	Lifecycle Total Estimate	Total Targets FY 2012
RL-0011.O1	Nuclear Facility Completions	Number of Facilities	0	5	2
RL-0011.O1	Radioactive Facility Completions	Number of Facilities	1	20	3
RL-0011.O1	Industrial Facility Completions	Number of Facilities	8	33	1
RL-0013C.O1	TRU-RH	Cubic meters	0	858	0
RL-0013C.O1	TRU-CH	Cubic meters	549	19,366	0
RL-0013C.O1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	3,198	4,276	544
RL-0013C.O1	MAAs eliminated	Number of Material Access Areas	0	4	0
RL-0040.O1.1	Nuclear Facility Completions	Number of Facilities	0	32	0
RL-0040.O1.1	Radioactive Facility Completions	Number of Facilities	1	161	0
RL-0040.O1.1	Industrial Facility Completions	Number of Facilities	23	403	0
RL-0040.O1.1	Remediation Complete	Number of Release Sites	1	777	0
RL-0041.C1	Nuclear Facility Completions	Number of Facilities	4	12	1
RL-0041.C1	Radioactive Facility Completions	Number of Facilities	50	122	6
RL-0041.C1	Industrial Facility Completions	Number of Facilities	189	282	30
RL-0041.C1	Remediation Complete	Number of Release Sites	249	460	58
RL-0041.C1	Site Remediated / Footprint Reduction	Acres	0	50,173	26,455
RL-0042.O1	Nuclear Facility Completions	Number of Facilities	0	4	0
RL-0042.O1	Radioactive Facility Completions	Number of Facilities	0	9	0
RL-0042.O1	Industrial Facility Completions	Number of Facilities	0	31	0
ORP-0014.O1.1	Liquid Waste eliminated	Thousands of Gallons	0	54,000	0
ORP-0014.O1.1	Liquid Waste Tanks closed	Number of Tanks	0	177	0
ORP-0014.O1.1	HLW packaged for disposition	Number of Containers	0	9,667	0
ORP-0014.O1.1	TRU-RH	Cubic meters	0	3,864	0
ORP-0014.O1.1	TRU-CH	Cubic meters	0	1,555	0
ORP-0014.O1.1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	21,825.91	189,880	5,407.77
ORP-0014.O1.1	Nuclear Facility Completions	Number of Facilities	0	18	0
ORP-0014.O1.1	Radioactive Facility Completions	Number of Facilities	0	114	0
ORP-0014.O1.1	Industrial Facility Completions	Number of Facilities	0	128	0
ORP-0014.O1.1	Remediation Complete	Number of Release Sites	0	273	0
ORP-0060	TRU-RH	Cubic meters	0	546	0

Performance Metrics: Lifecycle Total Estimate and FY2012 Targets

Sub-Sub Field Code (Sub-Project)	Performance Measure	Unit	Pre-2012 Lifecycle	Lifecycle Total Estimate	Total Targets FY 2012
SR-0011C.O1	eU packaged for disposition	Number of Containers	746	755	9
SR-0012.O1	SNF packaged for disposition	Metric Tons of Heavy Metal	0	37	0
SR-0013.O1	TRU-RH	Cubic meters	0	29	0
SR-0013.O1	TRU-CH	Cubic meters	853	5,598	0
SR-0013.O1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	8,992	37,645	11,639
SR-0014C.O1.1	Liquid Waste eliminated	Thousands of Gallons	3,661	44,193	609
SR-0014C.O1.1	Liquid Waste Tanks closed	Number of Tanks	0	49	2
SR-0014C.O1.1	HLW packaged for disposition	Number of Containers	877	5,183	275
SR-0030.O1	Remediation Complete	Number of Release Sites	28	145	1
PO-0011X.O1	DU & U packaged for disposition	Metric Tons	0	252,800	5,089
PO-0013.O1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	14,117	14,267	150
PO-0040.O1.1	Nuclear Facility Completions	Number of Facilities	0	13	0
PO-0040.O1.1	Radioactive Facility Completions	Number of Facilities	2	21	0
PO-0040.O1.1	Industrial Facility Completions	Number of Facilities	12	103	3
PO-0040.O1.1	Remediation Complete	Number of Release Sites	1	2	1
PO-0040.O1.1	LLW Disposed (Legacy and NGW)	Cubic meters	0	1,485	1,485
PA-0011	eU packaged for disposition	Number of Containers	0	182	0
PA-0011X.O1	DU & U packaged for disposition	Metric Tons	0	457,750	5,676
PA-0013.O1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	12,063	18,885	746
PA-0040.O1	Nuclear Facility Completions	Number of Facilities	0	18	0
PA-0040.O1	Radioactive Facility Completions	Number of Facilities	3	21	1
PA-0040.O1	Industrial Facility Completions	Number of Facilities	6	159	0
PA-0040.O1	Remediation Complete	Number of Release Sites	22	116	0

Performance Metrics: Lifecycle Total Estimate and FY2012 Targets

Sub-Sub Field Code (Sub-Project)	Performance Measure	Unit	Pre-2012 Lifecycle	Lifecycle Total Estimate	Total Targets FY 2012
OR-0013B.O1.1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	6,258.05	6,391.05	0
OR-0013B.O1.2	TRU-RH	Cubic meters	4	543.4	8.8
OR-0013B.O1.2	TRU-CH	Cubic meters	82	831.7	64.6
OR-0013B.O1.2	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	523.05	968.05	0
OR-0040.C1	Nuclear Facility Completions	Number of Facilities	0	1	0
OR-0040.C1	Industrial Facility Completions	Number of Facilities	16	25	0
OR-0040.C3	Industrial Facility Completions	Number of Facilities	11	18	7
OR-0040.C	Nuclear Facility Completions	Number of Facilities	0	1	0
OR-0040.C	Radioactive Facility Completions	Number of Facilities	0	16	0
OR-0040.C	Industrial Facility Completions	Number of Facilities	2	151	0
OR-0040.C	Remediation Complete	Number of Release Sites	0	39	0
OR-0040.O1.1	Radioactive Facility Completions	Number of Facilities	1	6	1
OR-0040.O1.1	Industrial Facility Completions	Number of Facilities	43	84	0
OR-0040.O1.1	Remediation Complete	Number of Release Sites	23	27	0
OR-0040.O1.1	Site Remediated / Footprint Reduction	Acres	0	6,684.5	0
OR-0041.C	Remediation Complete	Number of Release Sites	0	5	0
OR-0041.C	Site Remediated / Footprint Reduction	Acres	0	136	0
OR-0041.O1.1	Industrial Facility Completions	Number of Facilities	0	1	0
OR-0041.O1.1	Remediation Complete	Number of Release Sites	0	104	0
OR-0041.O1.1	Site Remediated / Footprint Reduction	Acres	0	10,254	0
OR-0042.C1.1	Remediation Complete	Number of Release Sites	0	1	1
OR-0042.C	Nuclear Facility Completions	Number of Facilities	0	3	0
OR-0042.C	Radioactive Facility Completions	Number of Facilities	0	5	0
OR-0042.C	Industrial Facility Completions	Number of Facilities	0	9	0
OR-0042.C	Remediation Complete	Number of Release Sites	0	59	0
OR-0042.C	Site Remediated / Footprint Reduction	Acres	0	369.6	0
OR-0042.O1.1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	3,544.92	5,142.52	337.12
OR-0042.O1.1	Nuclear Facility Completions	Number of Facilities	0	12	0
OR-0042.O1.1	Radioactive Facility Completions	Number of Facilities	0	18	0
OR-0042.O1.1	Industrial Facility Completions	Number of Facilities	0	7	0
OR-0042.O1.1	Remediation Complete	Number of Release Sites	0	32	0
OR-0042.O1.1	Site Remediated / Footprint Reduction	Acres	0	1,818.9	0
OR-0043.O1	Industrial Facility Completions	Number of Facilities	1	31	0

Performance Metrics: Lifecycle Total Estimate and FY2012 Targets

Sub-Sub Field Code (Sub-Project)	Performance Measure	Unit	Pre-2012 Lifecycle	Lifecycle Total Estimate	Total Targets FY 2012
ID-0012C	SNF packaged for disposition	Metric Tons of Heavy Metal	0	285	0
ID-0013B.O1.1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	16,553.29	18,838.29	1,035
ID-0013B.O1.2	TRU-CH	Cubic meters	37,090	59,795	2,500
ID-0013B.O1.2	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	10,378.11	12,783.11	750
ID-0014B.O1	Liquid Waste eliminated	Thousands of Gallons	0	900	600
ID-0014B.O1	Liquid Waste Tanks closed	Number of Tanks	7	11	4
ID-0014C	HLW packaged for disposition	Number of Containers	0	6,660	0
ID-0030B.C1	Remediation Complete	Number of Release Sites	116	124	8
ID-0030B.O1	TRU-CH	Cubic meters	4,857	7,485	305
ID-0030C	TRU-CH	Cubic meters	0	7,398	0
ID-0030C	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	0	31,161	0
ID-0030C	Remediation Complete	Number of Release Sites	0	23	0
ID-0040C	Nuclear Facility Completions	Number of Facilities	0	33	0
ID-0040C	Radioactive Facility Completions	Number of Facilities	0	10	0
ID-0040C	Industrial Facility Completions	Number of Facilities	0	77	0
CBC-ETEC-0040.O1	Radioactive Facility Completions	Number of Facilities	0	2	0
CBC-ETEC-0040.O1	Industrial Facility Completions	Number of Facilities	0	2	0
CBC-ETEC-0040.O1	Remediation Complete	Number of Release Sites	0	10	0
CBC-MOAB-0031.O1	Mill Tailings Disposed (MOAB)	Tons (short)	1,913,467	13,368,101	646,000
OH-WV-0013.O1	TRU-RH	Cubic meters	0	1,125	0
OH-WV-0013.O1	TRU-CH	Cubic meters	0	596	0
OH-WV-0013.O1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	3,133	4,616	180
OH-WV-0040.O1.1	Nuclear Facility Completions	Number of Facilities	0	10	0
OH-WV-0040.O1.1	Radioactive Facility Completions	Number of Facilities	1	4	0
OH-WV-0040.O1.1	Industrial Facility Completions	Number of Facilities	3	19	0

Performance Metrics: Lifecycle Total Estimate and FY2012 Targets

Sub-Sub Field Code (Sub-Project)	Performance Measure	Unit	Pre-2012 Lifecycle	Lifecycle Total Estimate	Total Targets FY 2012
CBC-SLAC-0030.O1	Remediation Complete	Number of Release Sites	4	23	19
VL-LANL-0013.O1.1	TRU-RH	Cubic meters	16	94	0
VL-LANL-0013.O1.1	TRU-CH	Cubic meters	2,120	8,719	1,000
VL-LANL-0013.O1.1	LL/LLMW disposed Legacy (Stored) and NGW	Cubic meters	2,934.15	4,371.15	1,277
VL-LANL-0030.C1	Remediation Complete	Number of Release Sites	1	182	48
VL-LANL-0030.O1.1	Remediation Complete	Number of Release Sites	123	494	89
VL-LANL-0030.O1.1	Site Remediated / Footprint Reduction	Acres	0	6	6
VL-NV-0030.O1.1	Radioactive Facility Completions	Number of Facilities	3	4	0
VL-NV-0030.O1.1	Remediation Complete	Number of Release Sites	203	1,173	4
VL-SPRU-0040.C2	Nuclear Facility Completions	Number of Facilities	0	3	0
VL-LLNL-0031.O1	Remediation Complete	Number of Release Sites	0	4	0