



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**

# **EM FY 2016 Budget Rollout Presentation**

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- ❖ The mission of the Department of Energy's (DOE) Office of Environmental Management (EM) is to complete the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development and government-sponsored nuclear energy research.
- ❖ EM supports DOE's Strategic Plan to position the Department to meet the challenges of the 21st century and the nation's Manhattan Project and Cold War legacy responsibilities.



EM was charged with the responsibility of cleaning up 107 contaminated sites in 35 states with a total area equal to Rhode Island and Delaware combined, or approximately 3,100 square miles. Over the last 26 years, EM has reduced its footprint by 90% to less than 300 square miles, with just 16 sites in 11 states remaining.

Since inception of the program, EM has completed almost \$152 billion worth of cleanup work, including:

- Sites like Fernald in Ohio and Rocky Flats in Colorado, both of which once housed large industrial complexes, are now wildlife preserves that are also available for recreational use.
- Decommissioned and demolished more than two million square feet of excess facilities, and removal of all EM special nuclear material (e.g., enriched uranium) from the Idaho National Laboratory.
- Produced nearly 4,200 canisters of vitrified high-level waste at Savannah River and West Valley and closed six underground storage tanks at Savannah River.
- Demolished K-25 Building at the Oak Ridge site, once the world's largest building under a single roof.



# EM FY 2016 Budget Request

## Funding by Appropriation

(Dollars in Millions)

Appropriation	FY 2014 Current (\$M)	FY 2015 Request (\$M)	FY 2015 Enacted (\$M)	FY 2016 Request (\$M)
<b>Defense Environmental Cleanup</b>	5,000	5,328	5,473	5,528
<b>Non-Defense Environmental Cleanup</b>	234	226	246	220
<b>Uranium Enrichment Decontamination and Decommissioning Fund</b>	599	531	625	542
<b>Subtotal, Environmental Management</b>	5,833	6,085	6,345	6,290
D&D Fund Offset	0	-463	-463	-472
Use of Prior Year Funds (Defense & Non-Defense Environmental Cleanup)	-2	0	-21	0
<b>Total, Environmental Management</b>	5,830	5,622	5,861	5,818

Note: Totals may differ due to rounding to the nearest million.

# Where Does Each Dollar of Funding Go? Funding by EM Mission Area in FY 2016

**Radioactive Liquid Tank Waste**  
\$ 2,297M / 39%

**Facility D&D**  
\$ 835M / 14%

**Soil and Groundwater**  
\$ 527M / 9%



**EM's FY 2016 Budget Request - \$5.818 Billion Total**



**Special Nuclear Materials and Used Nuclear Fuel\***  
\$ 967M / 17%

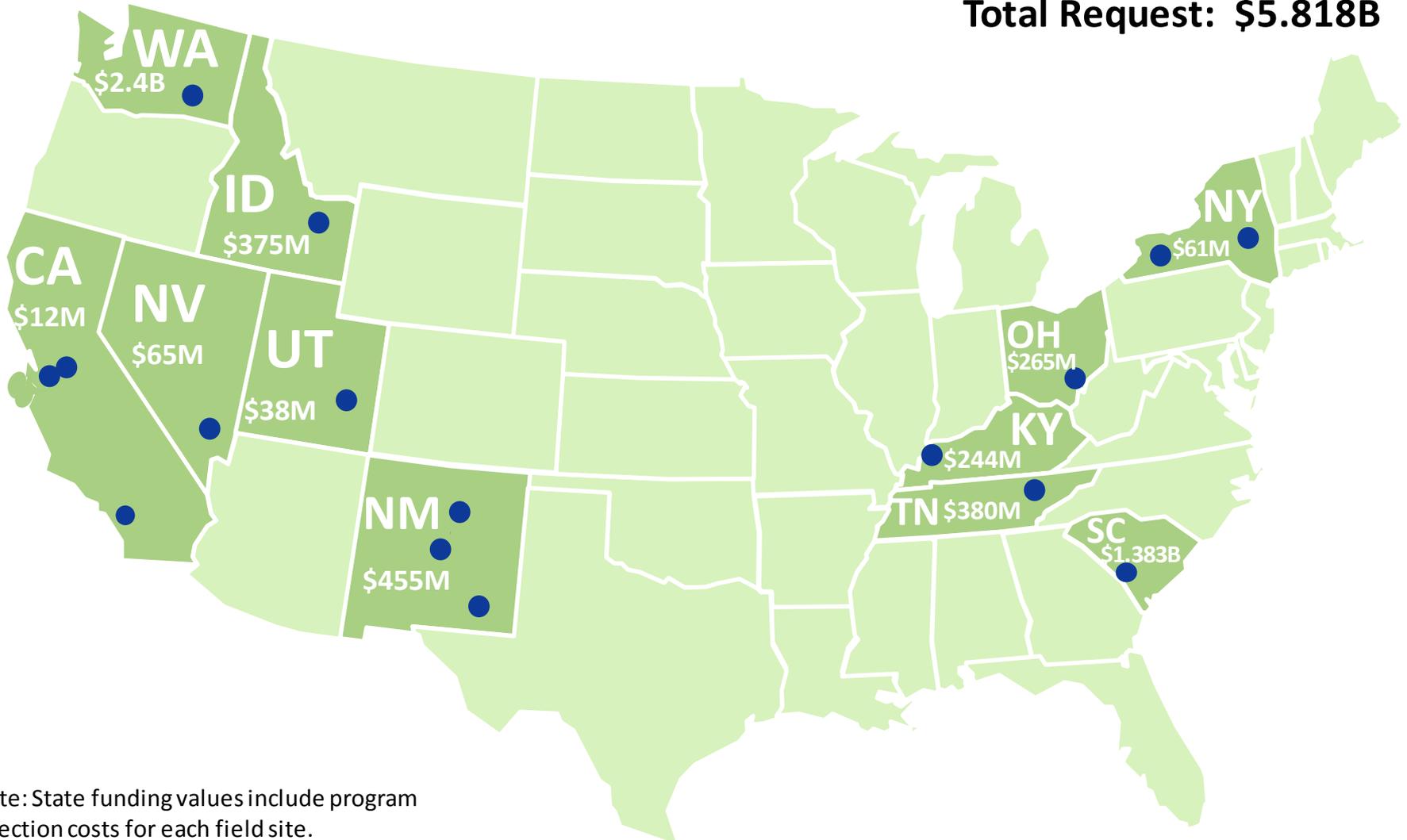
**Transuranic & Solid Waste**  
\$ 779M / 13%

**Site Services\*\***  
\$ 413M / 7%

\*Includes Safeguards and Security

\*\*Includes Program Direction, Program Support, Technology Development & Deployment, Post Closure Administration, Community and Regulatory Support.

**Total Request: \$5.818B**



Note: State funding values include program direction costs for each field site.

# Compliance Requirements

- EM cleanup activities are governed by approximately 40 compliance agreements with state and federal regulatory agencies which include numerous milestone requirements.
- A large gap exists between program performance and projected costs to achieve EM cleanup activities; thus, EM works with state and federal regulators and other stakeholders to re-align regulatory requirements to reflect expected performance and to maximize environmental risk reduction.
- DOE is subject to potential fines and penalties of up to \$37,500 per day for certain missed milestone.
- Impact of non-compliance:  
Any fines and penalties assessed on the EM program would be provided by cleanup dollars, resulting in reduced funding for cleanup activities.



# Radioactive Liquid Tank Waste Treatment: Making Progress in FY 2016

## Key Activities and Accomplishments in FY 2016 (Total Funding: \$2,297M)

## Cleanup Progress



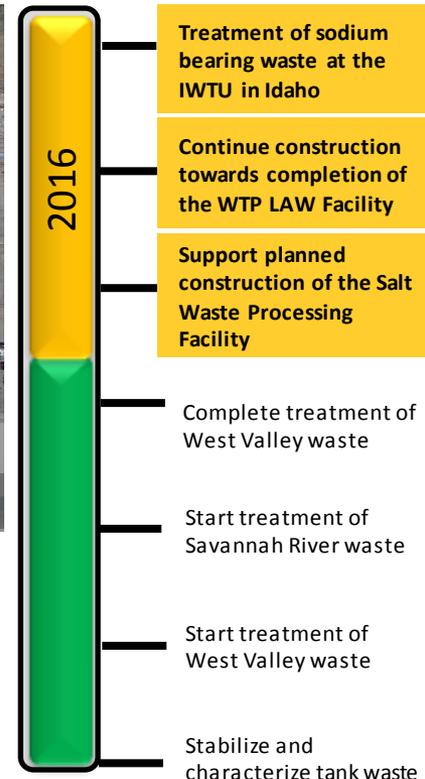
Integrated Waste Treatment Unit (ID)



Waste Treatment and Immob. Plant (WA)



Defense Waste Processing Facility (SC)



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- Complete treatment of sodium bearing waste from 4 remaining tanks at Idaho and continue progress toward closing the tank farm.
- At Savannah River, support planned construction of the Salt Waste Processing Facility
- Savannah River will achieve additional risk reduction by treating and stabilizing 120 to 130 canisters at the Defense Waste Processing Facility.
- Consistent with the Department's focus on immobilizing low-activity waste as soon as practicable while working towards resolution of technical issues, construction at Hanford will continue on the Low Activity Waste Facility (LAW), Analytical Laboratory, and Balance of Facilities at the Waste Treatment and Immobilization Plant (WTP) as well as support analysis and preliminary design of a Low Activity Waste Pretreatment System.

# Nuclear Materials and Fuel: Moving From Interim Safe Storage to Final Disposition in FY 2016

## Key Activities and Accomplishments in FY 2016 (Total Funding: \$967M)

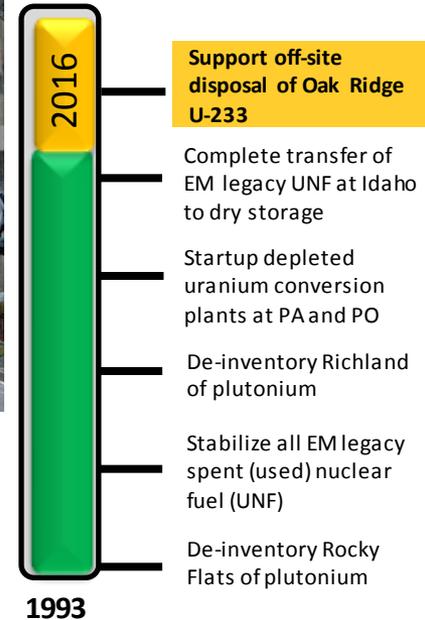
## Cleanup Progress



DUF6 Facility (KY)



K-West Spent (Used) Nuclear Fuel Basins (WA)

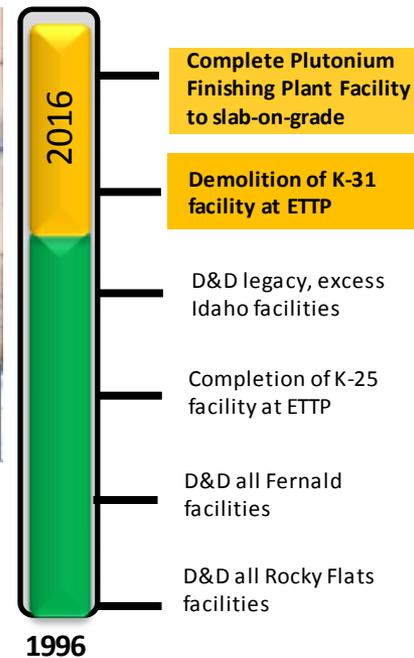


- At Oak Ridge, supports direct shipment of Consolidated Edison Uranium Solidification Project material (U-233).
- At Richland, continue work required to retrieve and package spent (used) nuclear fuel sludge from the K-West Basin.
- At Paducah and Portsmouth, continue steady state operations of the DUF6 conversion facility with emphasis on plant availability and achieving nominal conversion capacity.

# Cleanout and Demolition of Contaminated Facilities in FY 2016

## Key Activities and Accomplishments in FY 2016 (Total Funding: \$835M)

## Cleanup Progress



- Complete the Plutonium Finishing Plant Facility (PFP) transition and selected disposition activities to achieve slab-on-grade by the end of FY 2016, eliminating the last remaining Material Access Area at Richland, and leaving only one more within the EM complex.
- Proceed with cleanout of K-27 and demolition of K-31, the last major facilities in Oak Ridge’s East Tennessee Technology Park. The area previously contained nearly 600 facilities.
- Continue removal of contaminated process gas equipment from process buildings at Portsmouth site.

# Transuranic (TRU) Waste: Approaching Completion of Multiple Sites in FY 2016

## Key Activities and Accomplishments in FY 2016 (Total Funding: \$779M)

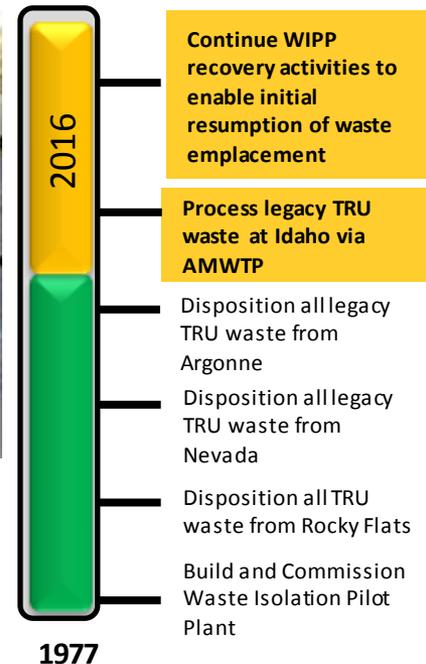
## Cleanup Progress



Waste Retrieval (ID)



WIPP Recovery (NM)



- At WIPP, continue recovery activities to enable initial resumption of waste emplacement in 2<sup>nd</sup> quarter FY2016.
- At Idaho, continue processing, characterizing, and packaging approximately 4,500 cubic meters of contact-handled and remote handled transuranic waste via the Advanced Mixed Waste Treatment Project (AMWTP).
- At Oak Ridge, continue processing legacy debris at the Transuranic Waste Processing Facility.

# Soil and Groundwater Remediation: Using New and Existing Systems to Address Risk in FY 2016

## Key Activities and Accomplishments in FY 2016 (Total Funding: \$527M)

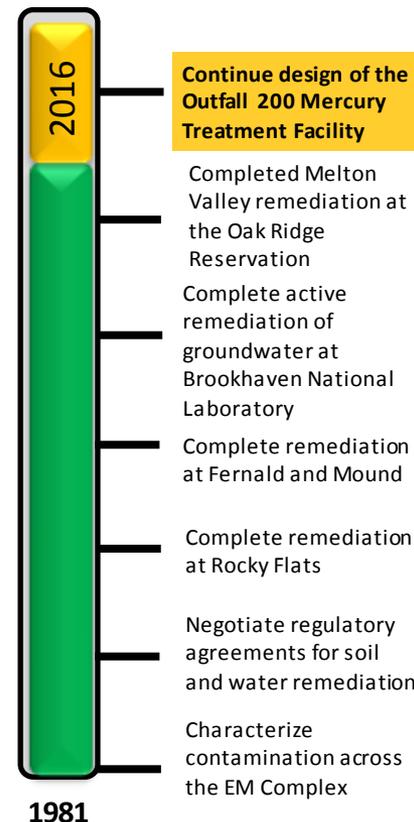
## Cleanup Progress



Installation of Treatment System (KY)



Outfall 200 at Oak Ridge Site (TN)



- At Oak Ridge, continue design of the Outfall 200 Mercury Treatment Facility.
- At Richland, continue integration of site-wide groundwater and vadose zone cleanup activities, as well as operations, maintenance, and necessary modifications of existing remediation systems.
- At Los Alamos, continue the investigation and interim remedy to address high risk hexavalent chromium contamination.
- At Paducah, complete optimization of the Northeast Plume pump and treat, mitigating further offsite migration.
- At Idaho, continue exhumation in the eighth retrieval area, which is the largest area under the Accelerated Retrieval Project. Seven out of a total of nine retrieval areas have been completed.

# EM FY 2016 Budget Request

## Funding by Field Site

(Dollars in the Millions)

Site	FY 2014 Current (\$M)	FY 2015 Request (\$M)	FY 2015 Enacted (\$M)	FY 2016 Request (\$M)
Carlsbad	221	220	324	248
D&D Fund Deposit	0	463	463	472
Idaho	394	372	405	367
Los Alamos National Laboratory	225	225	190	189
Mission Support	35	28	39	62
Moab	36	36	36	38
Nevada	62	65	65	62
Oak Ridge	429	385	431	366
Other Sites	61	26	26	19
Paducah	325	270	270	232
Portsmouth	199	222	276	227
Program Direction	300	281	281	282
Richland	1,013	914	1,007	914
River Protection	1,210	1,235	1,212	1,414
Savannah River	1,255	1,282	1,260	1,337
West Valley Demonstration Project	66	60	60	61
<b>Subtotal, Environmental Management</b>	<b>5,832</b>	<b>6,085</b>	<b>6,345</b>	<b>6,290</b>
UED&D Contribution	0	-463	-463	-472
Offset	-2	0	-21	0
<b>Total, Environmental Management</b>	<b>5,830</b>	<b>5,622</b>	<b>5,861</b>	<b>5,818</b>



WIPP Recovery (NM)



Salt Waste Processing Facility (SC)

EM's FY 2016 budget supports clear, discrete progress in the cleanup of the environmental legacy of the Cold War.

In particular, the budget will allow EM to:

- ✓ Continue recovery of transuranic waste disposal operations at the Waste Isolation Pilot Plant.
- ✓ Continue construction of the Low Activity, Lab, and Balance of Facilities at Waste Treatment and Immobilization Facility and design of the Low Activity Waste Pretreatment System at Hanford.
- ✓ Continue Defense Waste Processing Facility liquid waste processing and supports construction and commissioning of Salt Waste Processing Facility at Savannah River Site.
- ✓ Complete major facility cleanout and demolition projects.
- ✓ Address key infrastructure needs across the complex.