Achieving Cleanup Progress Today and Preparing for the EM of Tomorrow

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Overview

• **Fiscal Year 2016 - $6.2 Billion**

• **Fiscal Year 2017 - $6.1 Billion**
  - Tank waste retrievals and treatment systems, major D&D priorities, initiation of waste emplacement at WIPP, key infrastructure needs across complex, technology development and deployment

• **EM of Tomorrow**
  - Addressing our highest risk at Hanford, reinvigorating technology development and preparing the next generation workforce
SAFETY, INTEGRITY, ACCOUNTABILITY, INCLUSION, TEAMWORK
FY 2016 PROGRESS
Visit [http://wipp.energy.gov/factsheets/Anniversary_Roundup.pdf](http://wipp.energy.gov/factsheets/Anniversary_Roundup.pdf) to read latest on WIPP recovery
“Hanford cleanup and the work we are doing at the Plutonium Finishing Plant is very important to me, because I’ve lived here all my life. I care about this community... so I want it to be better for my kids in the future.” – Frank Hammitt, PFP Radiological Control Technician
Salt Waste Processing Facility

Completing Construction in 2016
“I really enjoyed being able to learn and compare challenges between the different sites, and I am eager to help implement some of their early career organization attributes into our own READY program. The opportunity was invaluable to me to build relationships with people and to learn more about the DOE Complex.” — Jay McCrary
K-27 Building at Oak Ridge

• Vision 2016 at ETTP is priority project provided with the focus needed for success

• Safe, successful demolition of four of the five gaseous diffusion plant buildings puts us on track for completing K-27 and achieving Vision 2016

• Demolishing facilities means spending less on maintenance, surveillance, security and infrastructure costs – leaving more for cleanup

• Paving the way for local economic development

Visit [https://www.youtube.com/watch?v=olD7vOCiMIM](https://www.youtube.com/watch?v=olD7vOCiMIM) to learn more about K-27
FY 2017 PLANS
### Funding by EM Mission Area

**Radioactive Tank Waste**
- $2,410M / 40%

**Facility D&D**
- $887M / 14%

**Site Services**
- $732M / 12%

**Special Nuclear Materials & Used Nuclear Fuel**
- $873M / 14%

**Transuranic & Solid Waste**
- $773M / 13%

**Soil & Groundwater**
- $445M / 7%

**EM’s FY 2017 Budget Request - $6.119 Billion Total**

* Includes Safeguards and Security

** Includes Program Direction, Program Support, Mission Innovation and Technology, Post Closure Administration, Community and Regulatory Support, and $104M of GPP and Maintenance & Repair Activities.
FY 2017 Making Cleanup Progress

Richland ($800M)
- Complete Plutonium Finishing Plant Facility closure activities, to include construction of a cap over the slab and environmental monitoring.
- Begin project planning for dry storage options for the cesium and strontium capsules.
- Continue remediation of the 618-10 Vertical Pipe Units; and procurements to initiate remediation of waste in 300 Area beneath Building 324.

River Protection ($1,500M)
- Complete retrieval of AY-102 Double-Shell Tank.
- Continue retrieval of single Shell Tanks.
- Continue construction of Low-Activity Waste, Balance of Facilities, and analytical laboratory to support the startup for the Direct Feed Low Activity Waste by 2022.
- Continue implementation of tank vapor corrective actions.

Oak Ridge ($391M)
- Complete demolition of the last Gaseous Diffusion Plant (K-27) at the East Tennessee Technology Park.
- Continue design of the Outfall 200 Mercury Treatment Facility at the Y-12 National Security Complex.

Savannah River ($1,448M)
- Process 1.7 million gallons of high-level tank waste resulting the production of 100 - 110 canisters at Defense Waste Processing Facility.
- Complete construction of Saltstone Disposal Unit 6.
- Support planned construction, commissioning, and start-up activities for Salt Waste Processing Facility.
- Support receipt, storage, and processing of research reactor spent nuclear fuel.
FY 2017 Making Cleanup Progress

Idaho ($370M)
- Continue treatment of liquid sodium bearing waste at the Integrated Waste Treatment Unit.
- Complete exhumation of targeted buried waste at the Accelerated Retrieval Project VIII facility.

Los Alamos ($189M)
- Address the treatment of nitrate salt bearing wastes.
- Complete the investigation of hexavalent chromium contamination of the groundwater beneath Mortandad and Sandia Canyons including field and bench-scale testing and plume control interim measures.

Carlsbad ($271M)
- Initiate waste emplacement operations.
- Permanent ventilation system.
- National TRU Program.

Portsmouth ($323M)
- Complete deactivation of a process building (X-326) in preparation for demolition.
- Complete Phase I Infrastructure activities for the On-Site Waste Disposal Facility.

Paducah ($272M)
- Continue the demolition phase of the inactive site facilities and the deactivation of the Gaseous Diffusion Plant, which consists of more than 500 facilities.
Hanford Glass as Soon as 2022

DFLAW TARGET ‘22

LOW-ACTIVITY WASTE FACILITY (LAW)
Mills LAW waste with glass-forming materials, vitrifies for storage in containers

BALANCE OF FACILITIES (BOF)
20 buildings providing support for operation of Waste Treatment & Immobilization Plant complex

ANALYTICAL LABORATORY (LAB)
Sampling of low activity waste to ensure meets chemical standards

INTEGRATED DISPOSAL FACILITY (CDF)
Accepts containers of vitrified low activity waste for long-term disposal

TANK FARMS
Waste stored and maintained until ready for treatment at the Waste Treatment & Immobilization Plant
• Complete Tank Farm upgrades and place new infrastructure to support waste feed delivery to LAWPS

LAW PRETREATMENT SYSTEM (LAWPS)
Separates high-level waste from low activity waste for feeding to LAW

EFFLUENT MANAGEMENT FACILITY (EMF)
Treats the liquid effluent from the Low Activity Waste Facility

DIRECT-FEED LOW-ACTIVITY WASTE (DFLAW)
Process vitrifies low-activity waste into stable glass form for permanent disposition

TARGET DATES


LOW-ACTIVITY WASTE FACILITY  BALANCE OF FACILITIES  ANALYTICAL LABORATORY  INTEGRATED DISPOSAL FACILITY  LOW-ACTIVITY WASTE PRETREATMENT SYSTEM  EFFLUENT MANAGEMENT FACILITY  DFLAW  LAW CANISTERS
Reinvigorating Technology

• FY17 Budget Doubles Investment in Technology Development

• EM Rebalancing TDD Program to Make Cleanup, Safer, Cheaper, More Efficient

• Savannah River National Lab Providing Unique Experience Across EM Sites
November 2015 – EM joined National Robotics Initiative

- Overcome technical challenges
- Ensure effective cleanup
- Improve safety
- Increase worker health and satisfaction
Technology Collaboration

- **Academia**
  - Resource for basic research and engineering solutions
  - Experts to support peer reviews, technical assessments
  - Incubators and pipelines for next generation workforce

- **Non-nuclear sectors**
  - Commercial
  - Federal agencies

- **International**
Workforce of Tomorrow

ATTRACT...TRAIN...RETAIN
In Closing

• EM has demonstrated an ability to achieve cleanup and reduce risks to the American people and the environment.

• We are focused on near-term cleanup goals and transforming EM for continued success over our 50-plus year mission.