Solving Cleanup Challenges Through Risk Reduction

EM Update

U.S. Department of Energy

Environmental Management (EM) Program

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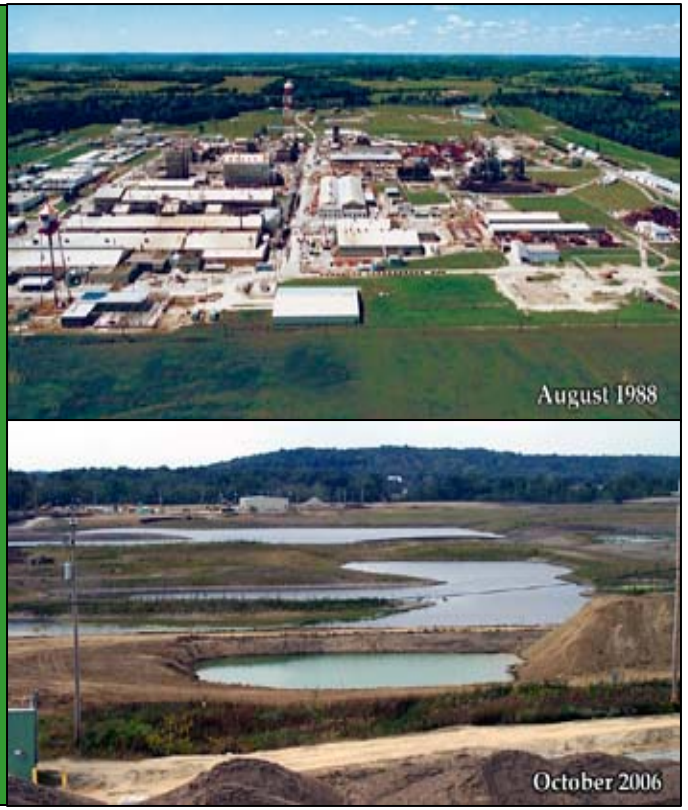


Fernald Cleanup Complete

EM continues to conduct the world's largest cleanup program. . .

1.4 million cubic meters of low-level, mixed low-level, and transuranic waste

88 million gallons of liquid waste

2,400 metric tons of spent nuclear fuel

114 Sites
31 States
2M Acres
$5.7B Budget
34,000 Workforce

x 2

Twice the size of the State of Rhode Island

. . . making tremendous progress in three key areas . . .

Nuclear Materials Packaged

Plutonium metal or oxide	6,314	Containers
Enriched uranium	6,972	Containers
Plutonium or uranium residues	107,828	Kilograms
Depleted and other uranium	11,855	Metric tons

Radioactive Waste Dispositioned

Liquid waste tanks	5	Tanks
Liquid waste	0.7M	Gallons
High-level waste	2,675	Containers
Spent nuclear fuel	2,127	Metric tons
Transuranic waste	43,701	Cubic meters
Low-level and mixed low-level waste	987,249	Cubic meters

Facilities and Sites Completed

Material access areas	11
Nuclear facilities	81
Radioactive facilities	322
Industrial facilities	1,417
Remediation complete	6,532
Geographic sites	86

Projected to be completed through Fiscal Year 2007

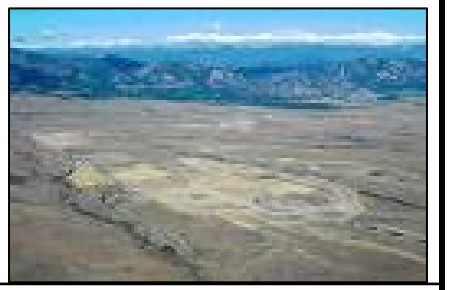
. . . achieving cleanup completion milestones . . .

Fiscal Year 2006

- Rocky Flats (Colorado)
- Kansas City Plant (Missouri)
- Lawrence Livermore National Lab—Main Site (California)

Fiscal Year 2007

- Ashtabula Environmental Management Project (Ohio)
- Columbus Environmental Management Project (Ohio)
- Fernald Environmental Management Project (Ohio)
- Lawrence Berkeley National Lab (California)

Site	Before	After
Rocky Flats		
Fernald		
Ashtabula		

. . . achieving other important program milestones . . .

1st remote-handled transuranic waste shipment to the Waste Isolation Pilot Plant: January 2007

Three Idaho underground liquid radioactive waste tanks grouted

All spent nuclear fuel removed from the K Basins within the Columbia River Corridor (Hanford)

Cleanup progress at Paducah, Mound, Oak Ridge, and Savannah River

. . . achieving other important program milestones . . .

- **Decision to consolidate surplus, non-pit plutonium at SRS. Surplus plutonium to be shipped to SRS by 2010.**
- **Sodium-Bearing Waste Project identified by DNFSB as a "best-in-class" example of incorporating safety into design.**
- **Strategies to improve relationships with state of New Mexico regarding LANL cleanup developed and implemented.**
- **Hanford Tri-party Agreement re-negotiated.**
- **Standard for the authorization basis for transuranic waste operations in the complex promulgated.**

EM Received Awards in 2007

- Fernald Closure Site awarded 2007 Project of the Year by Project Management institute. This is the second year in a row that DOE received this award.

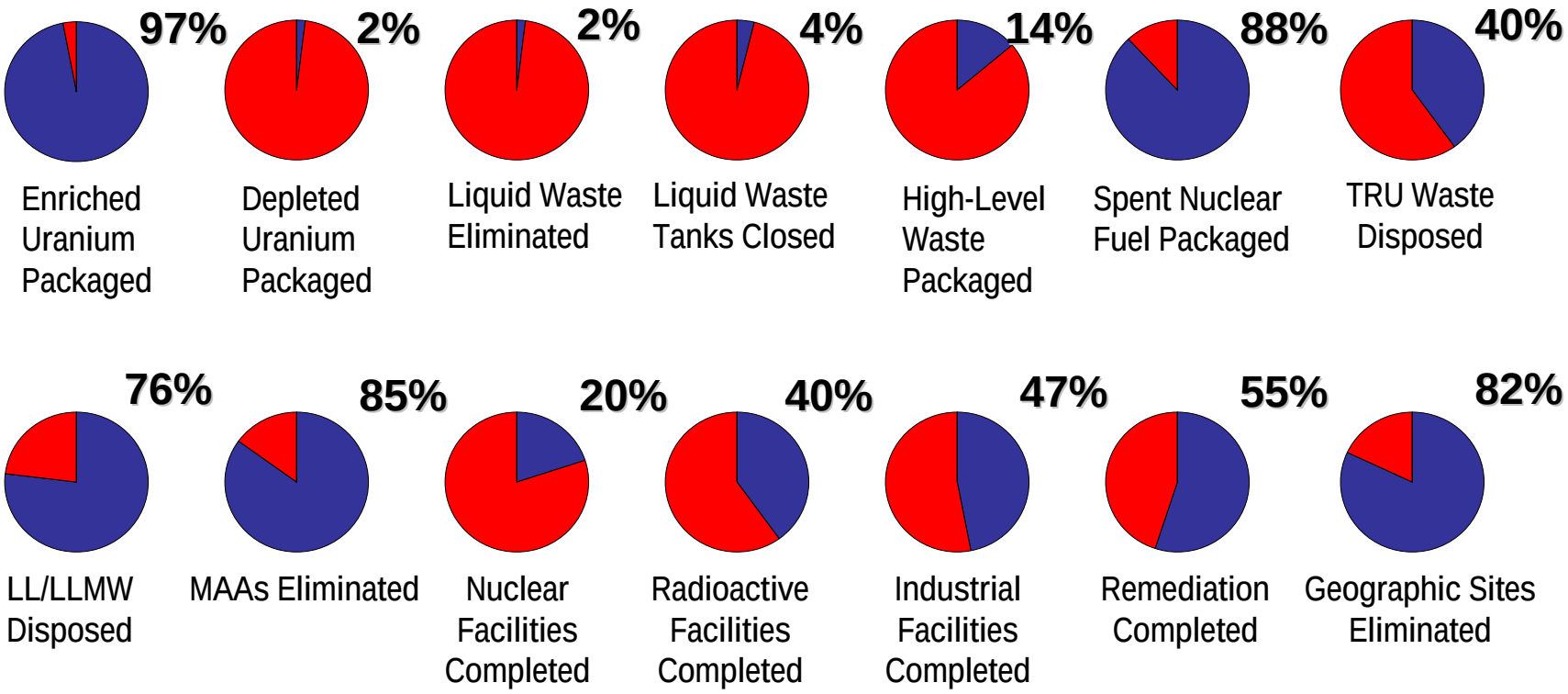
- DOE received the Transportation Community Awareness and Emergency Response (TRANSCAER) Chairman's Award in May 2007 for helping communities with emergency preparedness and response. This is the industry's highest transportation safety award. DOE received this award for the model Commodity Flow Surveys DOE conducted to provide critical data to state and local communities for transportation emergency preparedness.

- In June 2007, EM received the Federal Small Business Achievement Award for demonstrated success in migrating work from large to small business. EM also received the Federal Small Business Advancement Award for tangible results in terms of increases for small business participation.

- Dr. Inés Triay, Principal Deputy Assistant Secretary for Environmental Management, and Shirley Olinger, Manager of DOE's Office of River Protection in Hanford, Washington, have received Presidential Awards for their accomplishments as members of DOE's Senior Executive Service.

We still have much work to do . . .

Percentage projected to be completed through FY 2008



Challenges to Cleanup in EM Continues …

- Challenges for continuing completions across the complex need to address major uncertainties and risks; some large and unique efforts needing untested technologies.

- Life cycle costs increases and schedule delays might arise from performance issues, technical and regulatory issues, emerging scope from programmatic risks, litigation, and other factors.

- EM has been identified as the organization to take on additional clean-up work scope from other programs, including:
  - Deactivation and Decommissioning (D&D) of additional excess and unwanted science and nuclear security facilities at the Oak Ridge National Laboratory and Y-12.
  - D&D of facilities at Argonne, Brookhaven, and other Office of Science national laboratories.
  - D&D of facilities at the Los Alamos National Laboratory consistent with the 2005 Consent Order.
  - D&D of excess facilities at the Idaho National Laboratory from the Office of Nuclear Energy.
  - D&D of excess facilities from potential NNSA restructuring.

Site Closure Schedule

Site	Completion Date (Fiscal Year)
Oak Ridge Reservation	2015
Los Alamos National Laboratory	2015
Portsmouth Gaseous Diffusion Plant	2025
Nevada Test Site	2027
Moab (Note 1)	2028
Paducah Gaseous Diffusion Plant	2030
Savannah River Site (Note 2)	2031
Idaho National Laboratory	2035
Waste Isolation Pilot Plant	2035
Hanford Site; excluding ORP	2035
Office of River Protection (Note 3)	2042

Note 1: The revised end date from 2011 is an estimate, pending validation of the baseline.
Note 2: Revised end date based on current tank waste processing estimates.
Note 3: The new Waste Treatment Plant baseline results in a seven-year delay to site completion

EM Priorities for FY2008

- **Conduct safe operations**
- **Fully establish the disposition capability for radioactive liquid tank waste, special nuclear materials, and spent nuclear fuel**
- **Dispose of contact-handled and remote-handled transuranic waste and low-level radioactive waste**
- **Continue to remediate higher risk contaminated soil and groundwater**
- **Decontaminate and decommission facilities no longer needed**
- **Support post-closure benefits and liability requirements**

Management Initiatives being Implemented...

- Maintain and demand highest safety performance
  - Incorporation of safety in planning and design
- Assure effective identification and management of risks
  - Performance
  - Dealing with increased scope and requirements
  - Independent reviews – technical, cost, and schedule
- Validate project costs, schedules, and assumptions
- Improve management of projects
  - Use of “tools”
  - Quarterly project reviews
- Become a higher performing organization by enhancing the quality and capability of EM workforce
  - Enhancing the quality and capability of EM workforce to be highly qualified, well-trained, balanced, diverse
  - Initiated EM Career Intern Program—new generation of technical expertise and future leaders
- Implement more effective acquisition process
  - Integration of acquisition strategy, contract type, and fee structure with project objectives
  - More timely procurements
  - Collaborative strategies with stakeholders
- Enhance communications including site managers' involvement of stakeholders

FY 2008 Environmental Management Budget

(in thousands)

Non-Defense Environmental Cleanup		$ 183,937
Non-Defense Uranium Enrichment D&D		$ 627,876
Defense Environmental Cleanup		$5,398,573
• Closure Sites	$ 42,437	
• Hanford Site	894,640	
• Office of River Protection	978,443	
• Idaho National Laboratory	513,026	
• NNSA Site / Nevada Off-Sites	292,930	
• Oak Ridge Reservation	192,284	
• Savannah River Site	1,141,590	
• WIPP	236,739	
• Uranium Enrichment D&D Fund Contribution	463,000	
• Technology Development	21,389	
• Program Direction	309,760	
• Program Support	33,146	
• Safeguards & Security	261,714	
• Congressionally Directed Projects	17,475	

Office of Environmental Management FY2008 Initiatives

- Safety and Quality Assurance
- Project Management
- Procurement/Acquisition
- Budget
- Human Capital
- Engineering
- Management Analysis

Engineering & Technology FY2008 Management Initiatives

- Best-in-Class Program
- Technology Readiness Assessment Policy and Guidance
- Secretary's (TEAM) Transformational Energy Action Management Initiative
- Real Property Management Process

EM-20 NAPA Recommendations

- Pilot a Technology Readiness Assessment Framework at a major EM site.

- Develop and implement a formalized process for assessing Technology Readiness Levels and assigning ratings.

To accomplish this work, we will . . .

Continue to focus on risk reduction and cleanup that is:

- **Safe**
- **Cost effective**
- **Prioritized**

Implement robust project management and acquisition strategies that promote performance and efficiency

Strive for an organization with industrial partners that recognizes professional competence and yields high performance

Summary

- **EM continues to conduct the world's largest cleanup program**
- **EM has made significant progress**
  - **Packaging nuclear materials**
  - **Dispositioning radioactive waste**
  - **Completing sites and facilities**
- **There is still much to do**
  - **Liquid waste and tanks**
  - **High-level waste**
- **EM and its partners will accomplish this work by focusing on:**
  - **Safety**
  - **Project management**
  - **Professional expertise and competence**