

Hot Topics in U.S. DOE Environmental Management

Update from the Office of Technical and Regulatory Support for WM'11

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EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

DOE's Radioactive Waste Management Priorities

- Continue to manage waste inventories in a safe and compliant manner.
- Address high risk waste in a cost-effective manner
- Maintain and optimize current disposal capability for future generations.
- Develop future disposal capacity in a complex environment.
- Promote the development of treatment and disposal alternatives in the commercial sector
- Review current policies and directives.
- Provided needed oversight



Waste Treatment Plant



EM Transuranic Waste Program Goal

Journey to Excellence: Complete disposition of 90% of legacy TRU waste by 2015

- Key Strategies:
 - Centralize the characterization of small quantity sites' waste to be shipped to WIPP at Idaho
 - Expand Central Characterization Project capabilities
 - Process and dispose of Large Box TRU
- Key Success Indicators:
 - Continue aggressive progress: 30 CH and 5 RH shipments per week
 - Complete disposal of legacy defense TRU from 8 small quantity sites



EM is Significantly Accelerating TRU Waste Shipments

To WIPP, from:	Annual goal
Schedule Comments (non-shipping periods)	
ANL (RH)	67
BAPL (RH)	5
INL (CH)	691
INL (RH)	53
LANL (CH)****	177
Hanford-RL (RH)*****	10
Hanford-RL (CH)	127
ORNL (CH)	43
ORNL (RH)*****	51
SRS (CH)	186
SRS (RH)	11
SNL (RH)	6
Total CH	1224
Total RH	203
WIPP Total	1427
Intersite [to INL/AMWTP]	Annual goal
ANL (CH)	4
SNL (CH)	2
RL (CH)	37
NRD (CH)	4
LBNL (CH)	1
Total Intersite	48

TOTAL SHIPMENTS	1475
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← FY 2011 Shipping Goals

- TRU Acceleration Plan has been developed and revised once to optimize the National TRU Program through FY 2015; Rev 2 of the Acceleration Plan was issued December 2010.
 - Striving for an average of 30 contact-handled and 5 remote-handled TRU shipments per week using ARRA & base funding
 - Integrated sites' plans – including ARRA projects
 - Identified opportunities for further acceleration
 - Informed development of FY 2012 budget request and out-year strategic planning
- **FY 11 shipping goals are tied to the high-level strategic goal to complete disposition of 90% legacy TRU by 2015**

What's New in TRU Waste Disposition

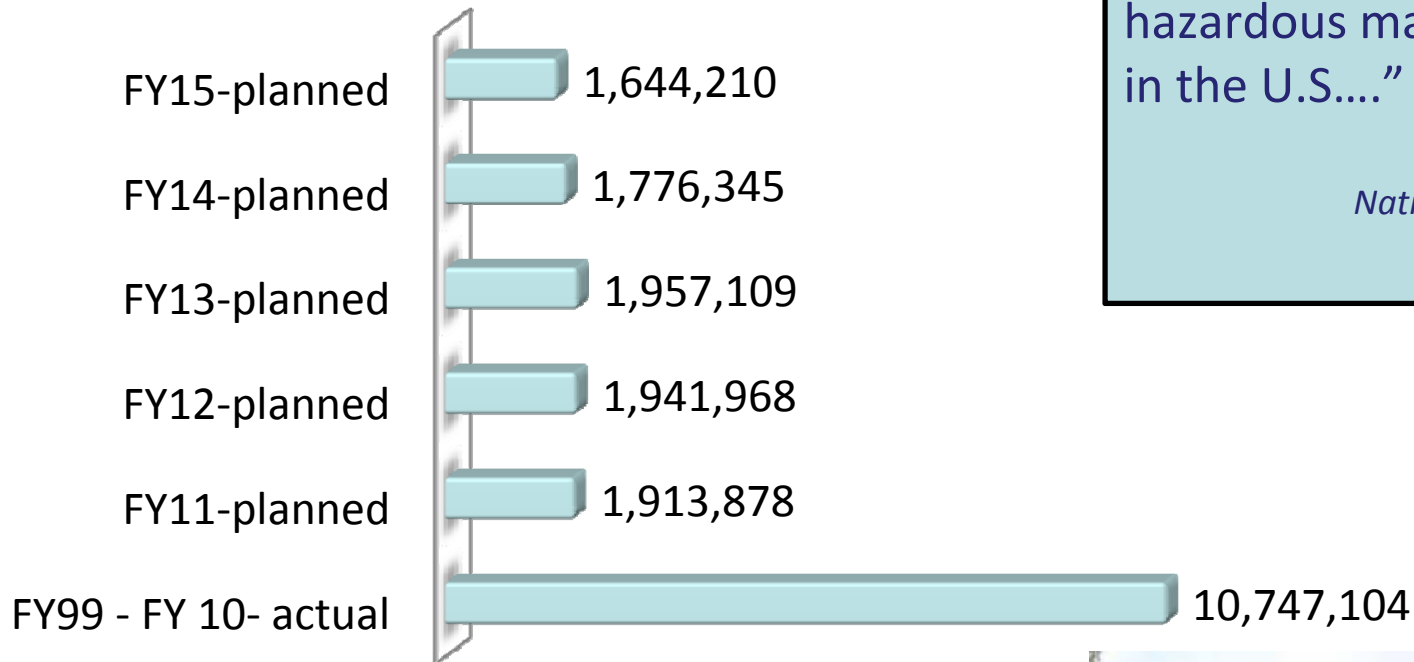
- TRU waste processing and disposal efforts continue to be accelerated through the *American Recovery and Reinvestment Act*
 - FY 2010 marked significant TRU shipping accomplishments with 1,128 contact-handled and remote-handled shipments.
 - FY 2011 shipment goal is 1,475 CH-TRU, RH-TRU, and intersite shipments.
- In FY 11, disposition of legacy TRU waste from 5 more small quantity sites are planned
- Hanford TRU program is being accelerated.
 - Received baseline approval December 2010
 - Resumed direct shipments to WIPP the week of February 14th.
- Legacy TRU removed from 17 sites since WIPP opened in 1999.
- WIPP's Compliance Recertification Application approved by EPA November 18, 2010.
- WIPP's Hazardous Waste Permit Renewal Application approved by the New Mexico Environmental Department November 30, 2010.



WIPP Projected Loaded Miles

WIPP Shipments

■ Total Loaded...



“...The [WIPP transportation] system is safer than that employed for any other hazardous material in the U.S....”

*National Academy of Sciences,
WIPP Panel*



DOE Order 435.1, Radioactive Waste Management

- Developed methodologies for updating 435.1
 - Complex-Wide Review Completed in 2010
- Established chapter-specific Core Teams
 - General Requirements, LLW, HLW , TRU
- Developed detailed project plan to complete update
 - Multi-year effort, to complete in 2012
- Coordinating, as needed, with NRC and other stakeholders
- **Public meeting this Friday at the Phoenix Hyatt Regency (Regency A Ballroom, 8:30-5:00) on DOE's efforts to update O 435.1 and NRC actions related to 10 CFR Part 61**
 - Will include a joint DOE/NRC Panel discussion to respond to and explain agencies' positions, future plans and specific views regarding the LLW management framework.
 - Will also address public and stakeholder suggestions and comments.



Compliance Status

- DOE has entered into approximately 40 Environmental Regulatory Agreements (CERCLA and RCRA) for cleanup which contain enforceable milestones
 - In FY 2010, EM met 95% of the 141 major enforceable agreement milestones
 - In FY 2011, there are ~160 major enforceable agreement milestones
- **Recent successes:**
 - Settlement of lawsuit regarding missed Tri-Party Agreement (TPA) milestones related to the Waste Treatment Plant
 - Agreement on Cleanup of Energy Technology Engineering Center (ETEC)
 - ARRA funding will enable the acceleration of ~46 major enforceable agreement milestones
 - All DOE Low-level Waste Disposal Facilities meet performance objectives per the performance assessments and Disposal Authorization Statements



What's New for High-Level Waste

- EM continues to safely store, retrieve, and treat/repackage HLW at existing sites
- FY 2012 Request fully funds tank waste management and treatment activities across the complex
- EM will continue to assess technical needs and fund research and development to ensure safe, cost-effective operations, treatment, and extended storage
 - With goal to optimize tank waste disposition resulting in technology insertion points into the tank waste retrieval and treatment system that will yield significant cost savings and reduce the period of execution
- **Upcoming:**
 - Evaluating potential need for extended onsite storage



What's New in LLW/MLLW Disposition

- The *American Recovery and Reinvestment Act* continues to provide needed funding for solid waste disposition, soil and groundwater remediation, and facility decontamination and decommissioning projects
 - Increased disposal volumes of LLW/MLLW are expected to continue in FY 2011.
 - As of 1/31/11, ARRA projects report 71,457m³ of LLW/MLLW disposed out of a life-cycle total of 85,005m³
- Pending and new EM cleanup and operations contracts include significant waste management scope
- Continued use of onsite disposal at large cleanup sites
 - New onsite disposal cells being considered for Paducah and Portsmouth
- Continued operations of DOE disposal facilities to meet complex-wide needs, especially for those wastes that cannot be disposed at commercial
- **Recent developments and changes...**
 - New complex-wide treatment contract(s) were awarded in July 2010
 - NNSS new mixed waste cell completed and old mixed waste cell (Pit 3) closed
 - WCS Federal Disposal Facility in Texas under construction



New Mixed Waste Disposal Cell in Nevada



Workers place the first container of mixed low-level waste in the new MWDU.



Workers test the leachate collection system.



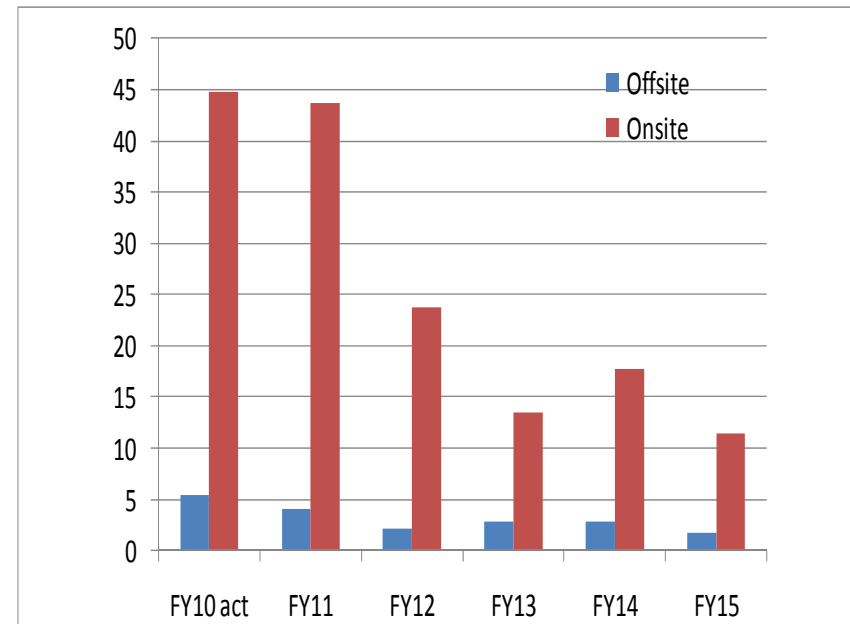
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DOE LLW/MLLW Challenges

- Increasing costs due to growing scope and market conditions and changes in disposal marketplace
- Uncertainty in availability of future disposal capacity
- Potential challenges to DOE policies and strategies
- Inquiries from outside DOE for access to DOE low-level and mixed low-level waste facilities, due to changing circumstances
- Uncertainty over commercial disposal access for Class B & C wastes
- Possible increased disposal demand to address disused sealed sources
- Contemplated changes in NRC waste classification systems and waste related guidance documents
 - Branch technical position on concentration averaging (blending)
 - Revisions to 10 CFR 61 waste classification; e.g., depleted uranium

Offsite/Onsite Disposal Forecast Trends
(in millions of cubic feet)



Source: Draft 2011 WIMS data; excludes “TBD” streams



What's New...

Greater-than-Class C Environmental Impact Statement

- Draft EIS distributed to Congressional delegations, Governors, Tribal Nation Leaders, and interested stakeholders on 2/16/11; Notice of Availability issued 2/25/11
 - 120-day public comment period (ends 6/25/11)
 - Nine public hearings in April/May at each of the proposed sites and in Washington, DC
- Proposed Disposal Methods: deep geologic repository, intermediate depth borehole; enhanced near-surface trench, and above-grade vault
- Proposed Disposal Locations: Hanford, INL, LANL, WIPP/WIPP vicinity, NNSS, SRS, and generic commercial locations
- DOE does not have a Preferred Alternative; to be included in Final EIS based on public comment
- Goal is to issue Final EIS in 2012
- Before issuing ROD, DOE must submit a Report to Congress describing disposal alternatives and await Congressional action.

For additional information on the GTCC EIS visit <http://www.gtcceis.anl.gov/>



What's New in EM's New Mercury Management Project

- *The Mercury Export Ban Act of 2008* requires DOE to provide storage and long-term management of mercury (non-radioactive) generated in the U.S.
 - Final EIS published in January 2011
 - Sites analyzed in the EIS are Hanford (WA); INL (ID); Grand Junction (CO); Hawthorne (NV); SRS (SC); Andrews (TX); and Kansas City (MO)
 - WCS facility in Andrews, TX is Preferred Alternative
- Critical Milestones
 - DOE issued Interim Guidance on operating the proposed mercury facility – 11/14/09
 - DOE published Draft EIS – 01/29/10
 - Final EIS – 1/28/11
 - Final Record of Decision and selection of mercury storage site(s) - Summer 2011
 - Mercury storage facility ready to accept mercury – 01/01/13
 - Ban on export of mercury from the U.S. effective – 01/01/13
 - DOE mercury storage facility operating under RCRA permit – 01/01/15
- Outreach
 - Public hearings at nine locations: 2/23/10 – 3/9/10
 - Public comment period: 1/29/10 – 3/30/10



Conclusion

- The EM portfolio is one of our Nation's largest liabilities
 - EM has the responsibility to relieve future generations of environmental and financial liability.
- EM has over 20 years of progress and experience in safely managing radioactive wastes and nuclear materials and is well positioned for continued success.
- EM continues its strong partnership with our regulators, stakeholders, and industry to maintain and support the DOE waste and materials disposition system.
- EM has demonstrated progress through funding by the *American Recovery and Reinvestment Act* with accelerated cleanup and increased waste and materials disposition.
- EM has demonstrated that we are poised to meet our challenges by leveraging strategic investments to meet compliance and maintain cleanup momentum.

