



Advanced Mixed Waste Treatment Project Status Update

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Idaho
Cleanup
Project

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Advanced Mixed Waste Treatment Project Mission

The U.S. Department of Energy's (DOE's) Advanced Mixed Waste Treatment Project (AMWTP) is committed to meeting all of the technical and regulatory requirements to safely retrieve, characterize, treat and package approximately 65,000 cubic meters of transuranic waste and shipping it out of Idaho to the Waste Isolation Pilot Plant in New Mexico.

Operations at AMWTP require the retrieval, characterization, treatment and packaging of transuranic waste currently stored at DOE's Idaho Site. The project's schedule is aligned with court-mandated milestones in a 1995 Governor's Settlement Agreement between the state of Idaho, the U.S. Navy and DOE to remove the waste from Idaho.

AMWTP Progress

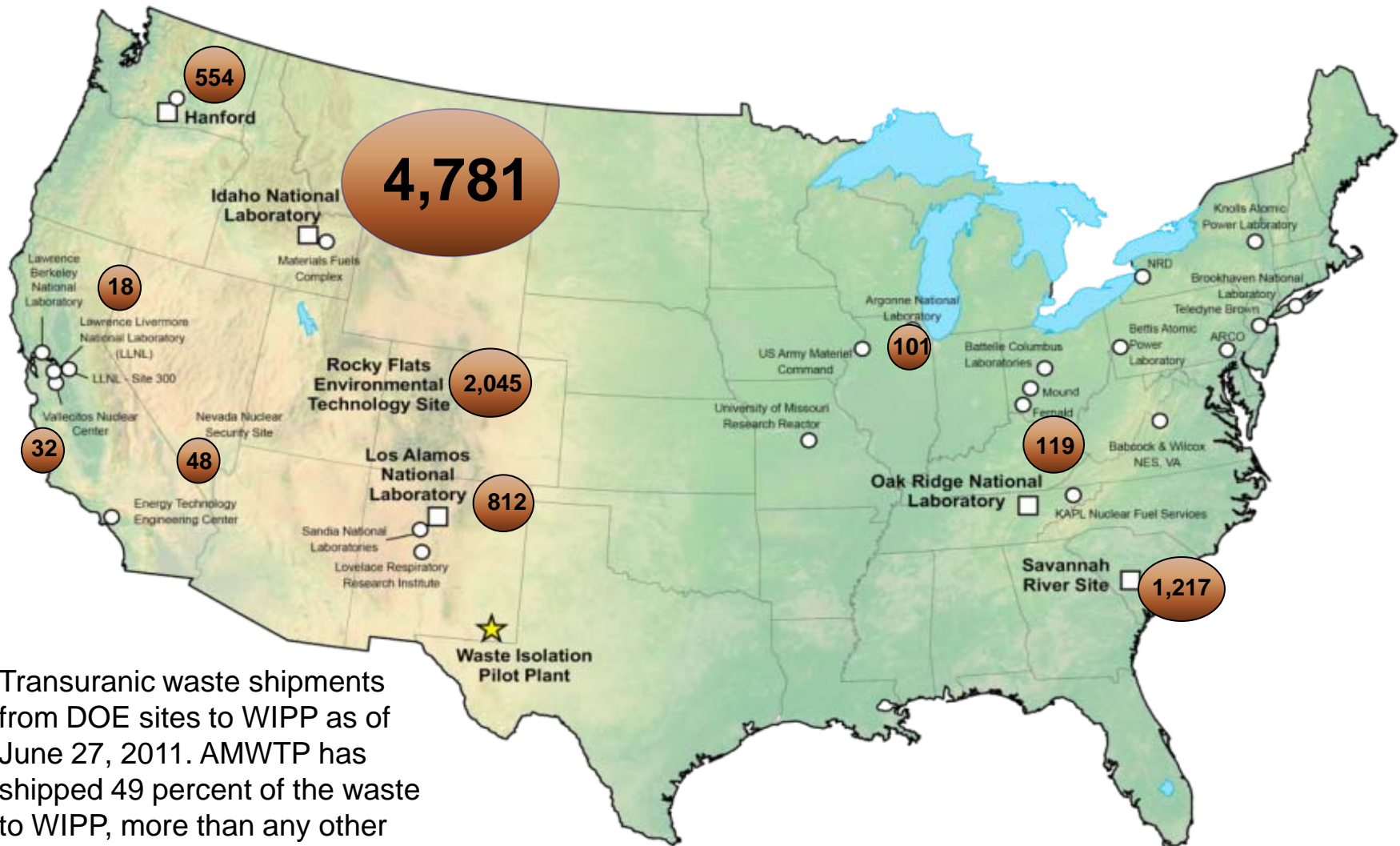
- **Cumulative:** Since initiating shipments in 1999, Idaho has safely shipped more than 44,173 m³ of waste – out of approximately 65,000 m³ of waste that was historically managed as transuranic waste – out of Idaho for disposal. *This volume includes:*
 - 36,074 m³ of CH-TRU waste,
 - 8,099 m³ of MLLW (historically managed as TRU waste) and
- **Annual:**

	CH-TRU Shipped	MLLW Shipped	Total Shipped
– FY 2007	6,158 m ³	21 m ³	6,179 m ³
– FY 2008	5,335 m ³	2,254 m ³	7,589 m ³
– FY 2009	5,504 m ³	2,778 m ³	8,282 m ³
– FY 2010	4,396 m ³	2,007 m ³	6,403 m ³
– FY 2011	1,883 m ³	307 m ³	2,190 m ³

Note (1): FY 2011 progress is through June 30, 2011

Note (2): 'MLLW Shipped' is MLLW historically managed as part of the 65,000 m³ TRU waste inventory

TRU Waste Shipments to WIPP



Transuranic waste shipments from DOE sites to WIPP as of June 27, 2011. AMWTP has shipped 49 percent of the waste to WIPP, more than any other facility in the complex.

Capital Improvement Projects

- *Retrieval Contamination Enclosure/Inner Contamination Enclosure (RCE/ICE)*
- *AMWTF Sludge Treatment*
- *Macroencapsulation of MLLW*
- *Gas Generation Test Installation*
- *Analytical Chemistry Laboratory*

Retrieval Contamination Enclosure/Inner Contamination Enclosure (RCE/ICE)

- *Operational events disclosed the need for enhanced confinement of retrieval activities inside the Transuranic Storage Area Retrieval Enclosure (TSA-RE).*
- *Significant amounts of waste yet to be retrieved:*
 - *800 boxes in various stages of degradation.*
 - *19,000 drums, in-place since 1971.*
- *Construction of the Retrieval Contamination Enclosure/Inner Contamination Enclosure (RCE/ICE) began in April, 2011.*
- *Construction is substantially complete; start-up will occur by August 31, 2011.*

Retrieval Contamination Enclosure/Inner Contamination Enclosure (RCE/ICE)



View of airlock under construction

North wall under construction



Retrieval Contamination Enclosure/Inner Contamination Enclosure (RCE/ICE)



Framework for Inner Contamination Enclosure (ICE) with mock-up waste boxes.

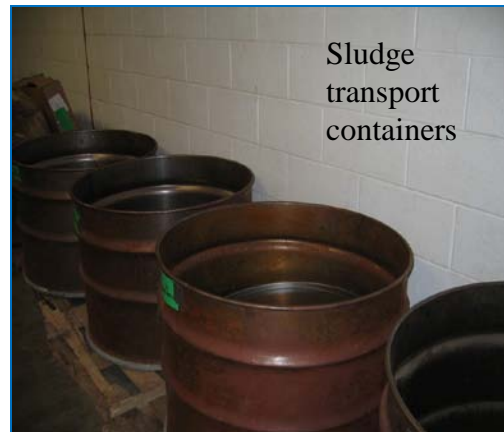
Frame will be enclosed with fabric, similar to RCE, and moved inside the RCE.

Sludge Treatment in Treatment Facility

- *Current practice is to process drums containing sludge one at-a-time through the Drum Treatment Tent in WMF-628.*
 - *Capacity is 49 drums per week*
 - *4000-5000 drums remaining*
 - *~30% reject rate*
- *New process will be capable of six drums at-a-time, using the remote Brokk arm to mix sludge with Microcell-E solidification agent.*
- *Drums will enter as a six-pack, and exit in new liners and drums through a glovebox.*

New Technologies - Sludge Treatment

- *Uses existing capabilities to process ~850m³ of organic PCB contaminated sludge waste.*
- *Provides safety protection inherent in the Treatment Facility*
- *Expedites sludge treatment by one year*



Macroencapsulation of MLLW

- *Current practice is to ship mixed low-level waste offsite for treatment to LDR standards and subsequent disposal.*
 - *PermaFix NW in Washington for treatment, then to NNSS for disposal*
 - *EnergySolutions in Utah for treatment and disposal (disposal at Clive facility necessary because of Utah permit requirements.*
 - *Bear Creek Facility in Tennessee for vacuum-assisted thermal desorption.*
 - *Treatment at PFNW/Es most often entails grouting waste in containers.*
 - *Either method is more costly than direct disposal at NNSS.*
- *Macroencapsulation is an acceptable treatment method to meet LDR.*
 - *Consists of cargo containers modified with stainless steel inner liner.*
 - *Filled with waste to achieve <10% void volume in accordance with NNSS waste acceptance criterion.*
 - *End plate welded in place for impermeable closure.*
- *Treatment method and waste stream profile accepted by NNSS for disposal*
- *Proof-of-principle testing to determine cost-effectiveness for life-cycle of the facility.*

Macroencapsulation of MLLW (cont'd)



Macroencapsulation (Continued)

- *Efficient and cost-effective*
- *Uses standard cargo container with stainless steel liner that is welded at closure*
- *Containers receive full RTR and assay prior to loading*
- *Proven process for waste currently being disposed at the Nevada National Security Site*



Gas Generation Testing

- *Used for testing and support of TRUPACT shipping of organic sludge*
- *Organic sludge is largest waste stream on site with ~8,000 drums*
- *Installed 40 additional units (doubled current capacity).*
- *Project completed in June, 2011.*



Analytical Chemistry Laboratory

- *Turnover of the CWI lab to AMWTP*
- *Safely and compliantly characterize TRU waste for profiling and shipment to WIPP*
- *Performs chemical and radionuclide analysis*
- *Complements AMWTP characterization capabilities*
- *Located at the RWMC site*



Contract Issue

- *DOE - Idaho awarded the Advanced Mixed Waste Treatment Project (AMWTP) completion contract on May 27, 2011 to the Idaho Treatment Group (ITG).*
 - *Contract takeover was to occur on August 1, 2011.*
 - *On June 14, 2011, a protest was filed by one of the unsuccessful bidders, invoking an automatic stay of performance.*
 - *DOE-ID announced its intention on June 22, 2011 to extend the current contract with BBWI through September 30, 2011.*

Offsite CH-TRU Waste

- *AMWTP has received offsite contact-handled transuranic waste from five sites during this fiscal year.*
 - *The total amount of waste received is approximately 124 cubic meters through June 30, 2011.*
 - *The estimated volume that might yet be shipped this fiscal year is approximately 7-8 cubic meters.*
- *There is one additional site that might send up to 20 – 25 cubic meters of offsite contact-handled transuranic waste to AMWTP this fiscal year.*
- *AMWTP does not anticipate any significant project cost or schedule impacts from processing offsite contact-handled transuranic waste during this fiscal year.*

AMWTP Key Facilities



- Treatment – 1
- Retrieval - 2
- Storage – 3
- Characterization – 4
- Payload – 5
- Shipping - 6

Backup Information

- *Built and operated by BNFL until 2005*
- *Current contractor Bechtel BWXT, Inc. (BBWI)*
 - *Initial BBWI involvement was a one-year extension to INL contract.*
 - *Followed by a series of extensions, including: a two-year extension, a seventeen month extension, a four month extension with two one-month options and a four month extension with a one month option.*
 - *2011 contract extension included a base of six months with two three-month options. The first three-month option was exercised followed by one-month out of the final three-month option. Two months - of the final three-month option - can still be exercised (Aug – Sept 2011).*

Backup Information

2010 Contract Issue

- *DOE - Idaho awarded the Advanced Mixed Waste Treatment Project (AMWTP) completion contract on March 29, 2010. Contract takeover was to occur on May 1, 2010. On April 13, 2010, protests were filed by both unsuccessful Bidders, invoking an automatic stay of performance. In addition, supplemental protests were filed by both Bidders.*
- *On May 21, 2010, DOE notified GAO that it had reviewed the allegations set forth in the protests, and determined that it was appropriate to take corrective action. This corrective action has been initiated. Once the corrective action is completed, DOE will review the evaluation and prepare a new selection decision. The outcome of that decision will provide better insight into the impacts of this contract on the Environmental Liability.*

Backup Information

Offsite CH-TRU Waste

- *Hanford (through 6/30/11)* *39 ship 467 drums 99 m3*
 – *No additional waste shipped during remainder of FY 11*

- *SNL (through 6/30/11)* *2 ship 16 drums 3.4 m3*
 – *Remainder of FY 11* *2 ship 18 drums 3.8 m3*

- *SR (through 6/30/11)* *1 ship 14 drums 3.0 m3*
 – *Remainder of FY 11* *2 ship 17 drums 3.6 m3*

- *LBNL (through 6/30/11)* *1 ship 1 drum 0.212 m3*
 – *No additional waste shipped during remainder of FY 11*

- *NRD (through 6/30/11)* *3 ship 87 drums 18.4 m3*
 – *No additional waste shipped during remainder of FY 11*

- *ANL-E (est. August 2011)* *7-8 ship 90-120 drums 20-25 m3*