Idaho Cleanup Project Update

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Leadership in Nuclear Energy Commission
Progress in Cleanup: Buried Waste

Buried waste exhumation remains about two years ahead of the regulatory schedule and is 88% complete overall. Exhumation in ARP VIII was completed on March 13, 2019. Operations began in ARP IX (final ARP) on April 17, 2019, with actual exhumation of buried waste beginning on April 25, 2019. Waste exhumation is expected to be completed in about a year.

Completed exhumation of targeted buried waste in Accelerated Retrieval Project (ARP) VIII.

The interior of ARP IX prior to waste exhumation activities.
Fluor processed the last box of Mound facility waste on April 18, 2019. This box contained significant amounts of contamination. Due to the hazards present an additional evaluation was performed to determine how to safely treat the material. The crews were able to process the contents of the waste box without breaching the inner glovebox, keeping contamination levels present in the worker space well within the safe requirements.
Progress in Cleanup: Transuranic Waste

Highlights:
- Continue to fill the pipeline with shipments to WIPP.
- Averaging between 6 and 9 shipments per week.
- Continue to ship waste that assays as mixed low-level waste to disposal sites in Utah, and Nevada.
- Treatment of debris waste expected to be complete this summer.
- Treatment of sludge waste will move into Accelerated Retrieval Project (ARP) VII facility later this year.
- Closure of treatment facility will begin later this year.
- Completed treatment of the “Mound boxes.”

Treated waste awaiting shipment to WIPP; every step of the process (retrieval, characterization, treatment and repackaging) makes the waste safer until it leaves the state. (Right)

(Left) workers have successfully completed treatment of “Mound boxes” – containers that were contaminated primarily with Pu-238.
Once waste treatment and shipping activities are complete, the RWMC area will be closed and an evapotranspiration (ET) cap will be installed. ET caps employ natural desert vegetation – cap will blend in and be nearly indistinguishable from today’s desert landscape. Cap will be about one-half height of the white ARP structures visible today.
Current Simulant Run:
- IWTU has processed 45,000 gallons of simulated waste and surpassed day 30 of the 50-day run on May 10th.
- Completed 8 of 14 Test Conditions, including System Performance Test (SPT) dry-run.

Preparing for Rad Operations:
- Preparing key planning activities for upcoming maintenance outage.
- Constructing mockups of wet and dry vessel and cell decontamination systems.
- Design and testing of Canister Decontamination System continues.
**Highlights:**

- All Navy fuel has been moved from the basins at CPP-666 to dry storage at Naval Reactors Facility (NRF).
- DOE remains on schedule to meet Settlement Agreement milestone to move all spent fuel to dry storage by 2023.
- Innovative bucket design will allow spent fuel from the Advanced Test Reactor to be dry stored in CPP-603 without cooling in underwater basins first.
## Principal Idaho Waste Streams

<table>
<thead>
<tr>
<th>Waste Type</th>
<th>Origin</th>
<th>Volume Remaining</th>
<th>Amount Shipped</th>
<th>Ultimate Destination</th>
<th>Applicable Agreements</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-Level Waste</td>
<td>Reprocessing of spent nuclear fuel</td>
<td>4,300 cubic meters</td>
<td>None</td>
<td>Geologic repository</td>
<td>Idaho Settlement Agreement, Site Treatment Plan</td>
</tr>
<tr>
<td>Spent Nuclear Fuel</td>
<td>Site, research and commercial reactors</td>
<td>243.57 Metric Tons Heavy Metal (EM-only)</td>
<td>153 TRIGA elements 0.03 MTHM (for reuse)</td>
<td>Geologic repository</td>
<td>Idaho Settlement Agreement</td>
</tr>
<tr>
<td>Transuranic and Mixed Low-Level Waste</td>
<td>Rocky Flats Plant, other DOE facilities, INL operations</td>
<td>5,849*</td>
<td>45,022</td>
<td>Waste Isolation Pilot Plant</td>
<td>Idaho Settlement Agreement, Site Treatment Plan</td>
</tr>
<tr>
<td>Sodium-Bearing waste</td>
<td>De-Con of reprocessing facilities</td>
<td>900,000 gallons</td>
<td>None</td>
<td>Geologic repository</td>
<td>Idaho Settlement Agreement, Site Treatment Plan, Notice of Non-Compliance/Consent Order</td>
</tr>
<tr>
<td>Buried Waste</td>
<td>Rocky Flats Plant, other DOE facilities, INL operations</td>
<td>3,079 cubic meters awaiting shipment; 768 cubic meters to be exhumed</td>
<td>6,028 cubic meters</td>
<td>Waste Isolation Pilot Plant</td>
<td>FFA/CO (CERCLA), Agreement to Implement</td>
</tr>
</tbody>
</table>

*Settlement Agreement volume; does not include newly-generated waste
Video: 30 Years of Cleanup Progress in Idaho