U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

AMWTP Future Mission

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Advanced Mixed Waste Treatment Project

- Advanced Mixed Waste Treatment Project (AMWTP) is scheduled to complete characterization and processing the legacy waste stored at Idaho in mid-2019.
- The Department is evaluating the potential to extend the future mission of the AMWTP by treating off-site waste from other generator sites, in particular Hanford, Los Alamos, and several other small quantity sites.
- This on-going evaluation considers potential benefits and costs to treat the waste at AMWTP versus at the generator site, including various shipping and packaging options (and the associated costs) to send the waste to AMWTP.
- If INL and TRU waste generator sites determine that treating off-site waste at AMWTP is beneficial, discussion with the State, regulators and stakeholders would be necessary.
- No decisions have been made.

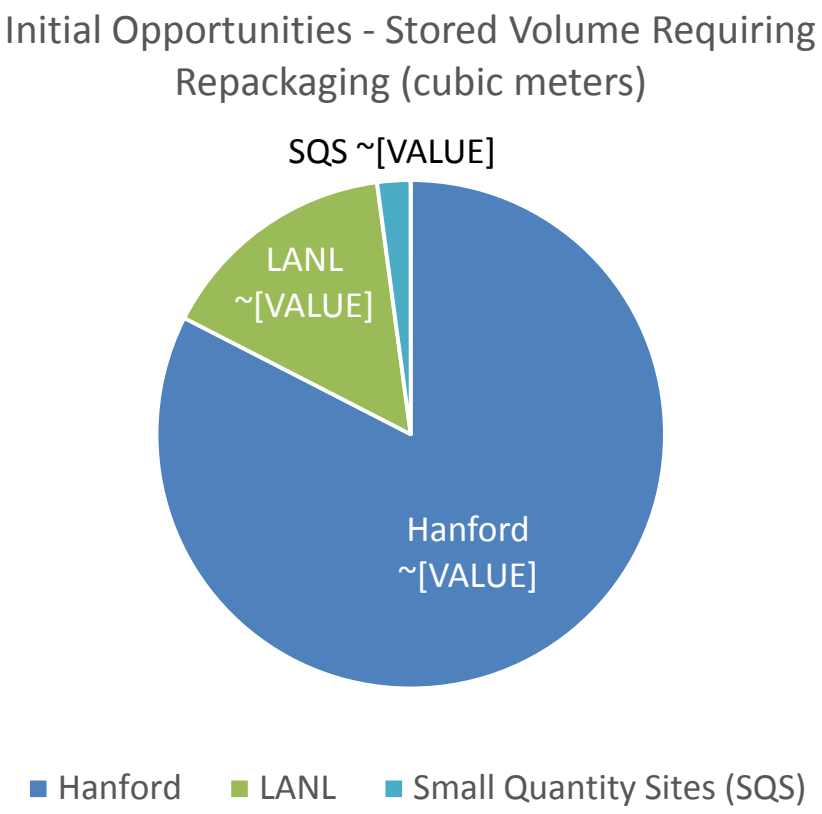
Contact-Handled TRU Waste Inventory

Initial Opportunities Under Consideration

- Stored contact-handled (CH) waste requiring repackaging (up to 8,500 cubic meters)
  - Hanford – drums, standard waste boxes (SWBs), and large boxes in above ground storage
  - LANL – drums and SWBs in above grade and below grade storage
  - Small Quantity Sites (SQS) – miscellaneous containers
  - Stored waste at other large quantity generator sites (e.g., Savannah River Site) does not require repackaging

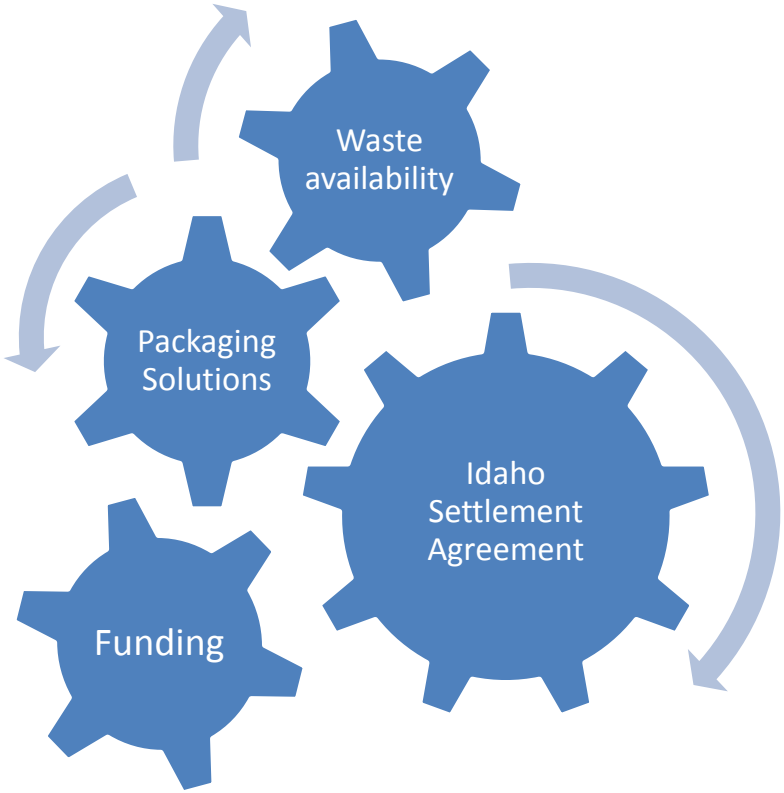
Other Potential Opportunities

- Projected CH waste from ongoing/future cleanup activities and other DOE missions (volume to be determined)



Challenges

1. Overall cost and schedule benefits require more detailed analysis by Idaho and TRU waste generator sites, e.g.,
   - Some sites (e.g., Hanford) need to standup characterization/pay loading capability
   - Much of LANL waste is in below grade storage (requires retrieval)
   - Packaging solutions required to ship waste (next slide)
   - May require re-alignment of generator site funding, project baselines and priorities
2. Funding:
   - Need to determine funding capability, methods, and roles/responsibilities
   - For example, should generator sites or INL pay for waste characterization and pay loading for shipments to AMWTP?



Solutions must align to support economical feed rate to AMWTP (`1,500 cubic meters per year)

Challenges (cont'd)

3. Waste Isolation Pilot Plant (WIPP) Land Withdrawal Act: Shipments to WIPP shall be in a Type B package certified by U.S. Nuclear Regulatory Commission
   - TRUPACT-II, TRUPACT-III, HalfPACT, and RH-TRU 72-B used for WIPP Shipments
   - Established protocols also typically apply this requirement to inter-site TRU waste shipments
4. Alternative packaging needed to ship waste to AMWTP for treatment
   - Waste container does not meet current NRC Type B packagings' Certificates of Compliance or is too big to fit inside existing Type B packagings
   - Develop Type B Equivalent Package for large boxes
5. Idaho Settlement Agreement: requires <u>blanket exception or removal</u> of 6-month in/6-month out requirement.

Large box containing TRU waste requiring repackaging for disposal at WIPP