



Idaho Treatment Group

AMWTP MLLW Challenges and Process Improvements

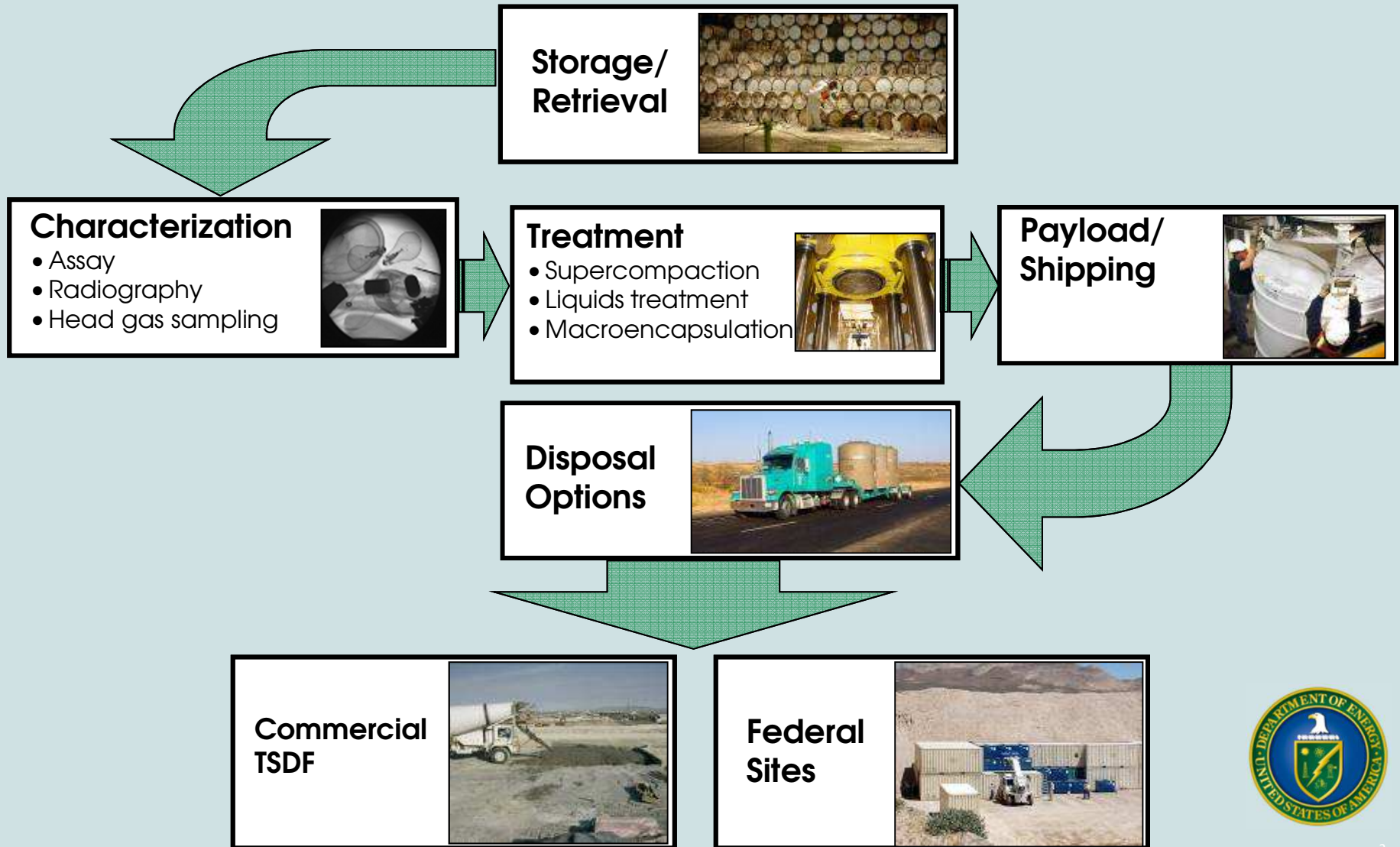
Waste Management Symposium

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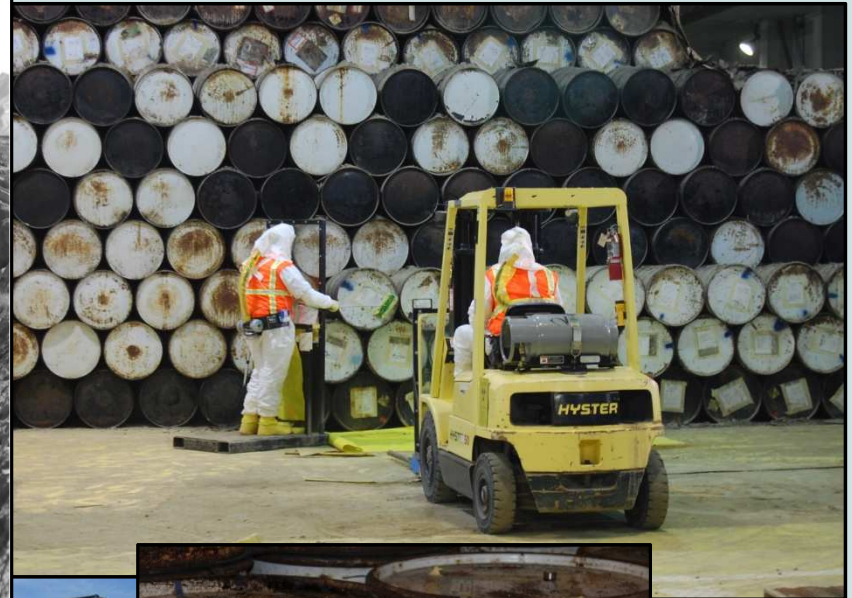
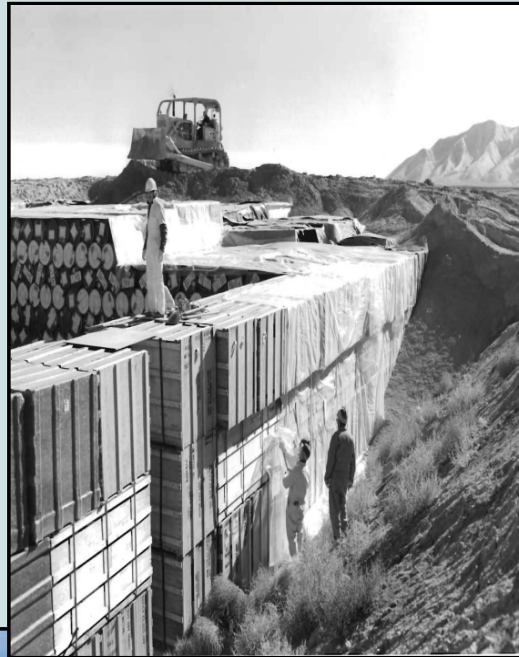


AMWTP LLW/MLLW Treatment Process



AMWTP Experience

- Multiple types and sizes of containers; boxes, bins, drums
- Severely degraded containers
- Pyrophorics
- PCBs
- RH components



Dealing With Reduced MLLW Funding

- Estimated 50 percent of remaining inventory historically managed as transuranic waste is actually Mixed Low-Level Waste (MLLW)
- ITG has processed and safely shipped offsite ~2,750 m³ of LLW/MLLW
- On track to process and ship ~2,150 m³ of LLW/MLLW in FY2013
- MLLW shipments expected to increase through duration of contract



Another shipment of AMWTP treated Mixed Low-level Waste leaves the Idaho National Laboratory site and soon, the state of Idaho.



LLW/MLLW Challenges



Drums and boxes containing stored legacy waste at AMWTP

- ITG contract requires 28,000+ LLW/MLLW containers, primarily drums, dispositioned by Sept. 30, 2015
- Previous MLLW program not capable of processing projected volumes
- Difficult to process containers, such as NCRs, unknowns, prohibited items, characterization gaps, large items, missing data, etc. set aside for future processing
- Manual transfer of container data from WTS to IWTS software was not efficient
- MLLW debris requires LDR treatment prior to disposal
- Large portion of MLLW is non-debris waste, requiring commercial LDR treatment, such as stabilization, or VTD



Macroencapsulation

- New on-site LDR treatment (macroencapsulation) program started operations August 1, 2013
- HDPE liner (macro-pack) loaded with certified product drum
- Capability of treating up to eight drums per hour
- To date, 928 product drums treated; no treatment rejects
- Cost savings of \$1,000 per unit verses commercial treatment
- Estimated cost savings to date ~\$928K



A product drum containing Mixed Low-Level Waste is lowered into a high density polyethylene “macro-pack.” The lid of the macro-pack contains heating wires. An electric current is sent through the wires to permanently seal the container.



Shipping

ITG's first MLLW shipment leaving in a flurry for Nevada National Security Site.



AMWTP currently sends MLLW to:

- Nevada National Security Site for LLW/MLLW up to 100 nCi/gram of TRU alpha activity bearing waste
- Clive, UT Bulk Waste Facility for LLW/MLLW less than 10 nCi/gram
- Currently evaluating using Perma Fix and shipping to Waste Control Specialist in Andrews, TX



Crews loading a MLLW shipment destined for Clive, UT.



LLW/MLLW Program: Continually Improving

- Streamlined and restructured the LLW/MLLW program to handle the projected volumes
- Project Team in-place to address container issues and data gaps
- Improved and enhanced LLW/MLLW program, resulting in more effective and efficient operations
 - Automated the transfer of data from WTS to IWTS software
 - Integrated TRU and LLW/MLLW program resources
 - Implemented on-site LDR treatment for MLLW debris resulting in substantial cost savings
- Statistical characterization approach of inorganic solid evaporator salt waste stream resulted in ~3,300 drums processes and shipped in three months

