



Idaho Treatment Group

TRU Waste Processing Capabilities at AMWTP

*Idaho Citizens Advisory Board
Thursday, July 10, 2014*



ITG Mission

Workers at AMWTP focus on the safe and compliant retrieval, characterization, treatment and shipment of 65,000 m³ of legacy stored contact-handled transuranic waste and mixed low-level waste for permanent disposal at sites outside of Idaho and to support the receipt and processing of transuranic waste from other DOE sites for shipment to the Department's Waste Isolation Pilot Plant (WIPP).



A shipment of transuranic waste from Los Alamos National Laboratory arrives at DOE's Idaho site on Nov. 18, 2013. This was the first shipment made to AMWTP using the 10-160B shipping cask. AMWTP ultimately received 10 shipments of LANL waste, the last arriving on April 10, 2014.



AMWTP Inventory



- From 1952 to 1970 transuranically-contaminated solid wastes and low-level wastes were buried in a series of pits and trenches located within the Radioactive Waste Management Complex (RWMC) in the Subsurface Disposal Area (SDA)
- In 1970, burial of the transuranic-contaminated waste was discontinued and above-ground storage initiated at what is today AMWTP.



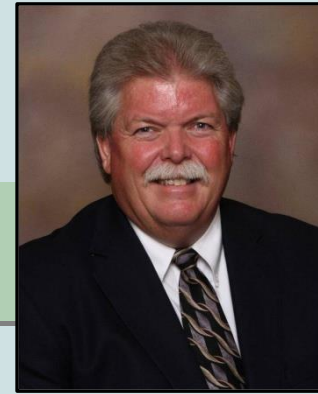
AMWTP Experience

- Multiple types and sizes of containers; boxes, bins, drums
- Severely degraded containers
- Prohibited items; pressurized cylinders; liquids; sealed internal containers; excessive decay heat; excessive fissile content; excessive plutonium equivalent curie content
- Pyrophorics
- PCBs
- RH components



The ITG Team

President and Project Manager
Danny Nichols



ES&H

Duane McLane



Waste Programs

Dave Haar



General Counsel

Florence Phillips



Plant Manager

Wes Bryan



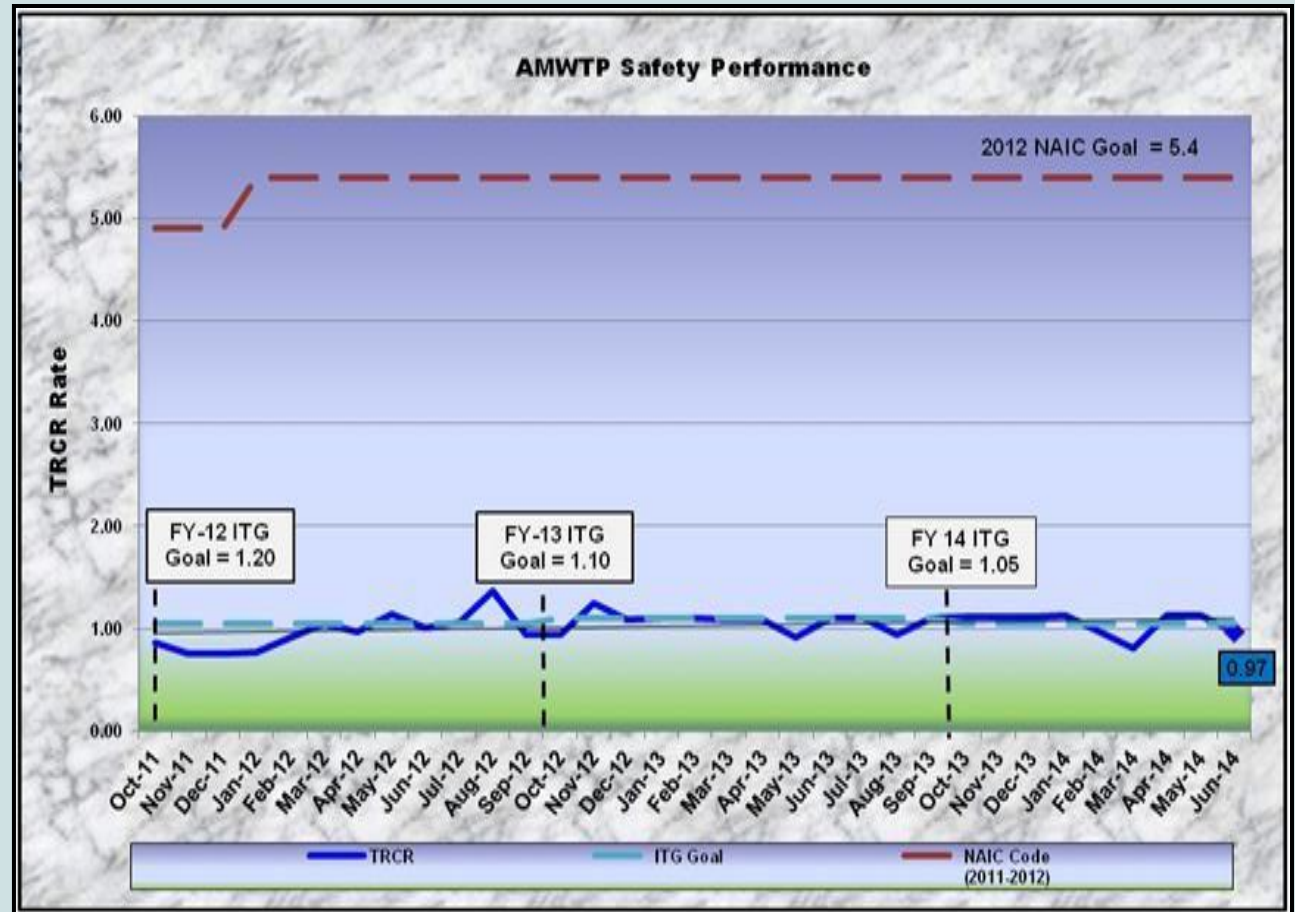
Business Services

Mark Barth



Safety Performance

- AMWTP last Lost Time Injury: December 7, 2003
- AMWTP Cumulative Hours: Over 15 Million
- ITG Million and Beyond Hours Without a Lost Time Injury: Over 3 Million
- Based on results of a June 2014 VPP audit, AMWTP will be recommended to retain VPP Star site designation



AMWTP Facts

- Term: Oct. 1, 2011 through Sept. 30, 2015
- Paid when waste leaves Idaho
- Project baseline with an Earned Value Management System
- New approaches to waste processing
- Employee Count: 620 (Plant, 557; Town, 63), operating 24 X 7 X 365
- Offsite waste: AMWTP has processed ~700 cubic meters of waste from 15 DOE sites



1 = Retrieval
3 = Storage
5 = Payload & Shipping

2 = Characterization
4 = Treatment





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AMWTP Waste Treatment Process

Offsite
Waste



Onsite
Storage/
Retrieval



AK Review



Characterization

- Assay
- Radiography
- Head gas sampling



Treatment

- Supercompaction
- Liquids treatment
- Sizing



Payload/
Shipping

- TRU waste
- MLLW waste



Disposal
Options



WIPP



Commercial
TSD



Federal
Sites



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Waste Storage & Retrieval



Retrieval of waste drums, boxes, and practicing cargo container waste retrieval in the Transuranic Storage Area Retrieval Enclosure.



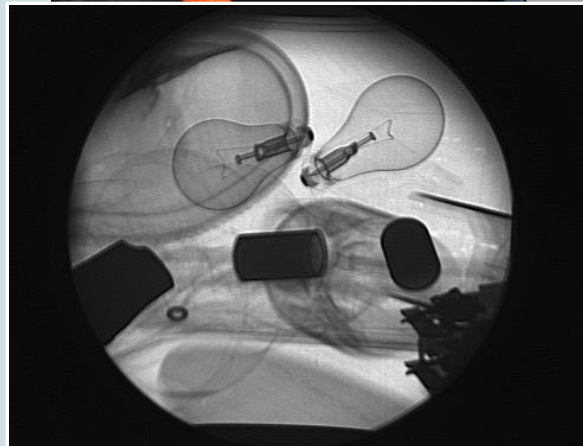
Characterization Capabilities

Radiography

- Validates the contents of drums and boxes by looking “inside”

Radioassay

- Measures the radiation intensity of contents in drums or boxes



Treatment Capabilities



Soils, sludges, and debris waste:

- Prohibited item removal
- Liquid absorption
- Repackaging
- Venting

For debris:

- Supercompaction



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Shipping

AMWTP Sends Waste To:

- WIPP for all transuranic waste
- Nevada National Security Site for higher intensity Low-Level Waste and Mixed Low-Level waste
- Clive, UT Bulk Waste Facility for lower intensity Low-Level/Mixed Low-Level waste

AMWTP certified transuranic waste arriving at WIPP



Crews loading a Mixed Low-Level Waste shipment destined for Clive, UT

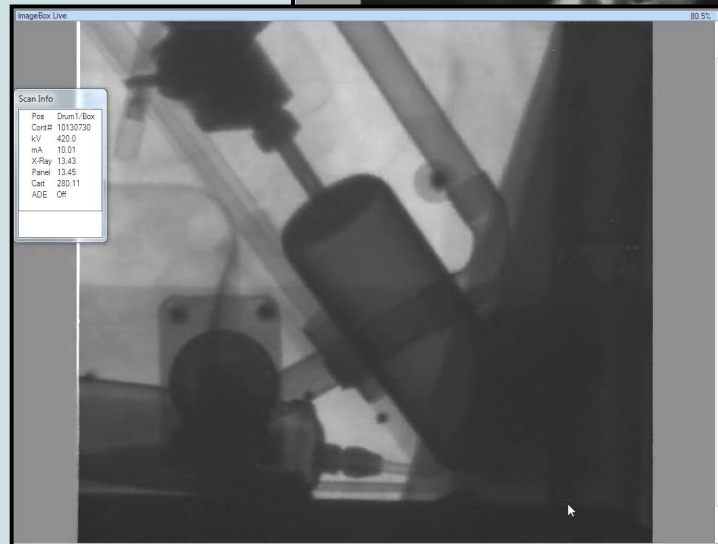


A Mixed Low-Level Waste shipment for the Nevada National Security Site



Treatment Facility Box Line Event

- Event happened at 3:20 p.m. on Sept. 20, 2013 in the Treatment Facility North Box Line
- Occurred during remote operations in the west trough
- CO₂ line fire suppression line separation
- Fire lasted ~two hours; embers lasted ~five more hours



X-Rays of Argon East AE-100 Bin, showing canisters and tubing thought to be the source of the fire.

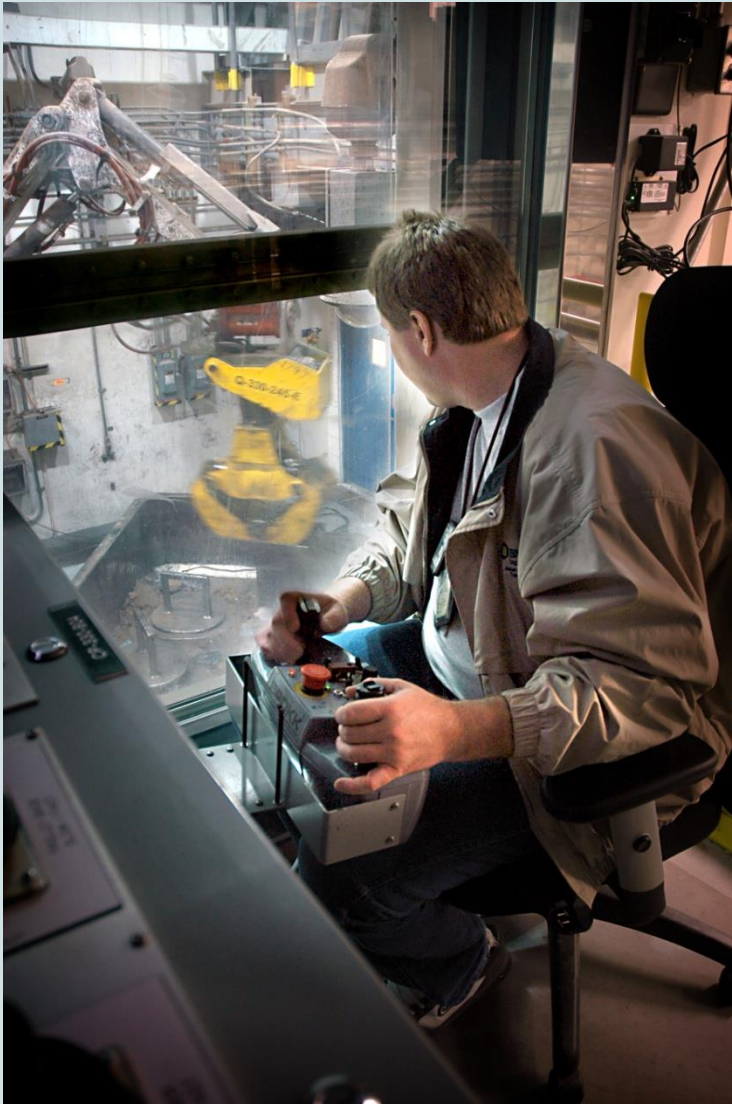




View of North Box Line processing trough after fire event.



No Surprises



- Box line designed for this type of event; no employee injured, no release of radiation no damage to facility
- Personnel responded as trained, and facility performed as designed
- Event demonstrated best location in DOE complex for handling and treating difficult waste is AMWTP



WIPP Impacts On AMWTP

ITG has developed a path forward allowing a minimum of two years of on-site storage while we await reopening of WIPP and continue working toward meeting the regulatory milestone for transuranic waste disposal contained in the Idaho Settlement Agreement.

- Creating new waste storage areas
- Shifting to Mixed Low-Level waste where possible
- Storage in dense pack arrangement

Above, stacks of sludge repackaging project drums await placement into a shipping configuration for eventual shipment to WIPP. Right, a row of 14 Drum Overpacks is stationed between two rows of Ten Drum Overpacks, certified and ready to ship to WIPP.



ITG Idaho Treatment Group DOE Premier Contact Handled- TRU Waste Processing Asset

- To date AMWTP has received, validated, treated and shipped ~700m³ from 15 sites
- DOE Record of Decision allows “more than 8,700m³” to be shipped to AMWTP from other complex sites



Inspecting shipment received from G.E. Vallecitos Nuclear Center, CA



Lawrence Livermore National Laboratory waste



Processing Hanford waste in AMWTP Treatment Facility



AMWTP: A National Asset



AMWTP...The distinguishing feature of the AMWTP is its unique capability to process hazardous material. As this facility is a national asset, it could potentially be used inside the DOE complex as a strategic resource — for example, to sort, characterize, and repackage similar mixed waste at other DOE sites — once the INL site cleanup effort is completed.

Idaho Leadership In Nuclear Energy Commission
Final Report, Feb. 6, 2013

