

# Savannah River Site

## Transuranic and Solid Waste Program Update

Presentation to the SRS Citizens Advisory Board  
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# Purpose

**To satisfy Waste Management Committee Work Plan by:**

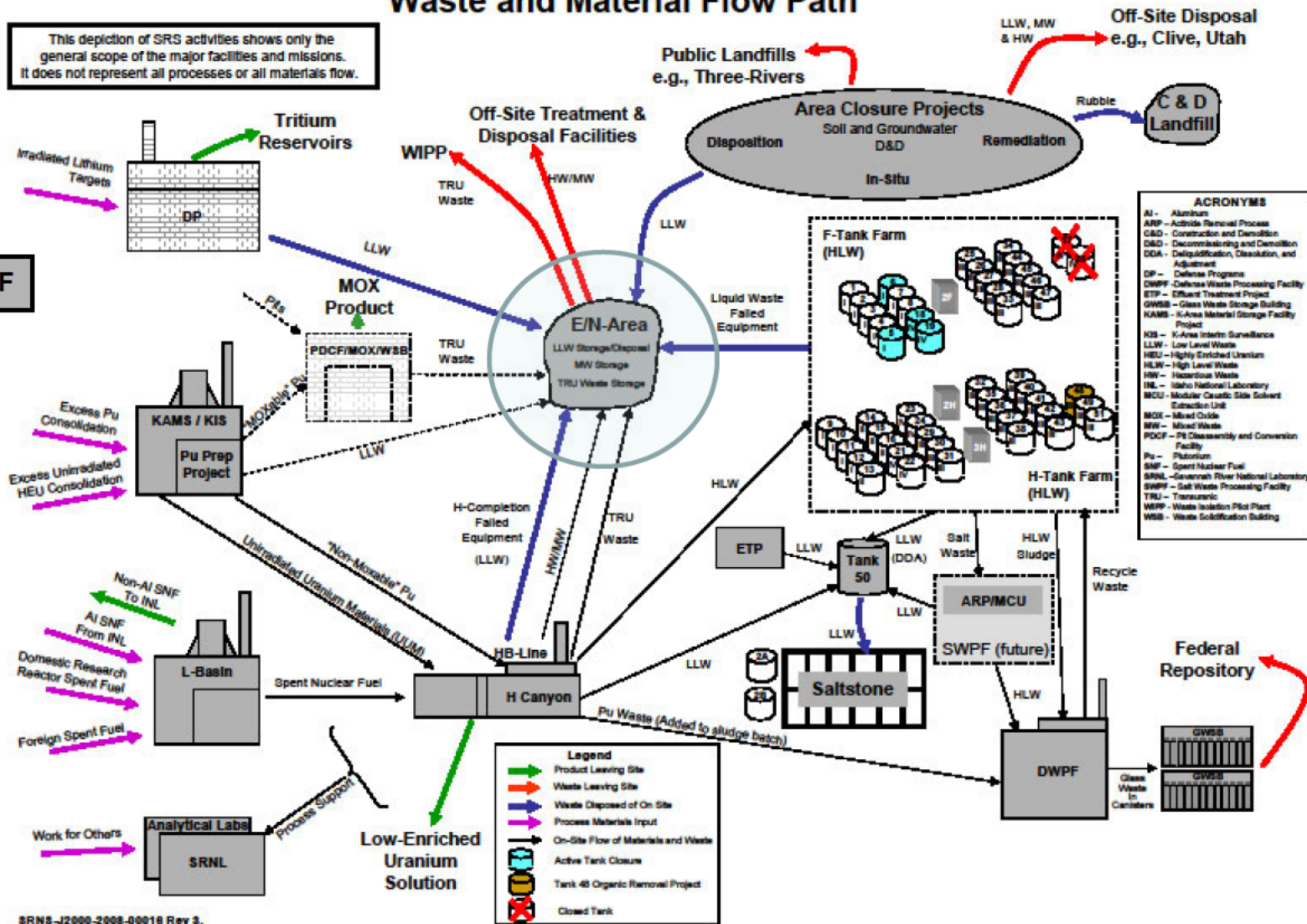
- 1) Providing update to CAB on the SRS Transuranic (TRU) Waste Program and Waste Isolation Pilot Plant (WIPP)**
- 2) Providing update on disposal activities for other Solid Waste streams**



# Savannah River Site Waste and Material Flow Path

This depiction of SRS activities shows only the general scope of the major facilities and missions. It does not represent all processes or all materials flow.

235-F



**ACRONYMS**

- AI - Aluminum
- ARP - Actinide Removal Process
- C&D - Construction and Demolition
- D&D - Decommissioning and Demolition
- DOA - Decontamination, Dissolution, and Adjustment
- DP - Defense Programs
- DWPF - Defense Waste Processing Facility
- ETP - Effluent Treatment Project
- GWSB - Glass Waste Storage Building
- KAMS - K-Area Material Storage Facility
- MOX - Mixed Oxide
- KOB - K-Area Inertial Surveillance Project
- LLW - Low Level Waste
- HEU - Highly Enriched Uranium
- HLW - High Level Waste
- HW - Hazardous Waste
- INL - Idaho National Laboratory
- MCU - Modular Ceramic Solvent Extraction Unit
- MOX - Mixed Oxide
- MW - Mixed Waste
- PDCP - Plutonium Dissolution and Conversion Facility
- Pu - Plutonium
- SNF - Spent Nuclear Fuel
- SRNL - Savannah River National Laboratory
- SWPF - Salt Waste Processing Facility
- TRU - Transuranic
- WIPP - Waste Isolation Pilot Plant
- WSS - Waste Solidification Building

**Legend**

- Green arrow: Product Leaving Site
- Red arrow: Waste Leaving Site
- Blue arrow: Waste Disposed of On Site
- Purple arrow: Process Materials Input
- Black arrow: On-Site Flow of Materials and Waste
- Blue circle with 'X': Active Tank Closure
- Blue circle with 'O': Tank 48 Organic Removal Project
- Red circle with 'X': Closed Tank

SRS-J2000-2008-00018 Rev 3.



**EM** Environmental Management  
safety ♦ performance ♦ cleanup ♦ closure



# SRS TRU Waste Program

- Definition - Radioactive waste that contains alpha-emitting radionuclides with an atomic number greater than 92 (uranium), half-lives greater than 20 years, in concentrations greater than 100nCi/g.
- Generated and managed from SRS operations since 1970s
- Requires off-site disposal at WIPP
- Stored legacy TRU waste at SRS peaked in 2002 at 12,000 cubic meters and 1.2 million curies
- Federal and State regulated



# TRU Waste Disposal Success

- WIPP opened in 1999
- First SRS shipment to WIPP  
May 8, 2001
- 1,525 SRS shipments of TRU waste have been disposed at WIPP
- Approximately 12,000 cubic meters of legacy SRS TRU waste disposed to date



# H- Canyon Box Remediation



Pictures of waste inside large boxes



# TRUPACT-III



Back of open TRUPACT-III



Waste box on platform



TRUPACT-III Truck and Trailer



# SRS Legacy TRU Waste Status

- 700 cubic meters of original volume remain to be disposed
- ~40 cubic meters left to remediate/repackage
- Remediation activities to be completed by 9/30/13
- WIPP characterization/certification to be completed in fiscal year (FY) 2014 if funding available
- Shipments to WIPP to be completed in FY 2015 if funding available





# SRS Future TRU Waste Program

- Maintain WIPP certification and perform annual shipping campaigns to WIPP
- TRU waste generators include:
  - Non-MOX plutonium disposition
  - Future 235-F Deactivation
  - On going H-Canyon and Savannah River National Laboratory Operations
  - Future MOX operations



# Solid Waste Disposition Update

## **Solid Waste Program Manages the Treatment, Storage, and Disposal of:**

- **Transuranic (TRU Waste**
- **Radioactive Low Level Waste (LLW),**
- **Mixed Low Level Waste (MLLW), and**
- **Hazardous Waste (HW),**



# Low Level Waste Program

- Definition - Any radioactive waste not classified as High Level Waste, or Transuranic Waste. It does not contain chemically hazardous constituents.
- Waste generated from SRS operations, D&D, and environmental cleanup.
- Disposed on site (some exceptions).



LLW Disposal Trench



LLW Disposal Trench



# Hazardous Waste (HW) and Mixed Low Level Waste (MLLW) Program

- Definition:
  - HW is any toxic, corrosive, reactive or ignitable material that could damage the environment or negatively affect human health according to the Resource Conservation and Recovery Act (RCRA.)
  - MW contains both radioactive and chemically hazardous constituents, as defined by RCRA.
- Generated from SRS operations, legacy TRU waste (MLLW), and environmental cleanup.
- Disposed off site.



MLLW waste boxes



# FY 2013 Disposal Volume

LLW disposed to date	6,055 cubic meters
MLLW disposed to date	87.8 cubic meters
HW disposed to date	133.8 cubic feet



# Summary

- Solid Waste Operations remain regulatory compliant and efficient
- Ongoing Low-Level, Mixed and Hazardous Waste operations keeping pace with SRS demands
- Completion of Legacy TRU waste disposition dependent on availability of FY 2014 funding

