



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
ENVIRONMENTAL
MANAGEMENT

SRS Transuranic Waste Program Update

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Purpose

- Present an update on the progress SRS is making on disposition of its legacy transuranic (TRU) waste project
- Presentation requested as a topic for the Waste Management Committee 2014 Work Plan

Acronyms

CCP	Central Characterization Project
CFR	Code of Federal Register
CH	Contact Handled
DOE	Department of Energy
EPA	U.S. Environmental Protection Agency
HEPA	High Efficiency Particulate Air
MST	Mountain Standard Time
NRC	Nuclear Regulatory Commission
RCRA	Resource Conservation and Recovery Act
RH	Remote Handled
SCDHEC	South Carolina Department of Health & Environmental Control
TRU	Transuranic
TRUPACT	Transuranic Package Transporter
WAC	Waste Acceptance Criteria
WIPP	Waste Isolation Pilot Plant

Agenda

1. TRU Waste Description
2. DOE TRU Waste Program and WIPP
3. Recent Events at WIPP
4. Recent SRS Accomplishments
5. SRS legacy TRU Waste Inventory
6. SRS Storage of TRU Waste
7. Plans for Completing Disposal of SRS legacy TRU waste
8. Summary



WIPP Site and TRUPACT-II Truck

TRU Waste Description

- ❑ *The Land Withdrawal Act of 1992*, as amended, defines TRU waste and limits disposal at the Waste Isolation Pilot Plant (WIPP) to transuranic waste resulting from atomic energy defense activities which meets this definition.

Definition

TRU waste is radioactive containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for:

- 1) High-level radioactive waste;
- 2) Waste that the Secretary of Energy has determined, with concurrence of the Administrator of Environmental Protection Agency (EPA), does not need the degree of isolation required by 40 Code of Federal Register (CFR) Part 191 disposal regulations; or
- 3) Waste that the Nuclear Regulatory Commission (NRC) has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61

TRU Waste Description (cont.)

- ❑ TRU waste requires geological disposal at the Waste Isolation Pilot Plant (WIPP)
 - Located in Carlsbad, New Mexico
 - Geologic Salt Formation Disposal Facility (Mine)
 - Operates 2,150 feet below the surface
 - Permitted capacity is 175,000 cubic meters of waste
- ❑ SRS legacy TRU waste
 - Mainly generated on site from years of nuclear material processing
 - Debris type waste contaminated with plutonium -238 and -239 isotopes
 - Most of the waste was packaged and stored before the waste acceptance criteria (WAC) at WIPP was finalized



TRU Pad 1 Waste Retrieval

DOE TRU Waste Program and WIPP

- DOE began managing TRU waste in the 1970s and is generated throughout the DOE Complex
- Extensive characterization and certification process of the waste conducted at the generator site to assure the waste meets the WIPP waste acceptance criteria (WAC)
- Two types of TRU waste and requires different handling at WIPP
 - Contact Handled (CH)
 - Remote Handled (RH)
- Key aspects of the National TRU Waste Program
 - WIPP waste characterization and certification program (Central Characterization Project, CCP)
 - WIPP mine operations
 - Transportation of the waste to WIPP
- Some key dates to remember:
 - WIPP began receiving waste in March 1999
 - SRS made it first shipment in May 2001

Recent Events at WIPP

- Two isolated events took place at WIPP in February.
- On February 5, a salt haul truck caught fire. Workers were evacuated and the underground portion of WIPP was shut down. Several workers were treated for smoke inhalation, but no injuries occurred.
- On February 14, a second, unrelated event occurred when a continuous air monitor (CAM) alarmed during the night shift; no employees were in the underground. The CAM measured airborne radioactivity close to the location of waste emplacement. A small amount of radioactivity leaked by the exhaust-duct dampers, through the unfiltered exhaust ducts and escaped aboveground.
- There is no indication that the fire and radiological release incidences are related.
- As the result of these events, the WIPP repository is not accepting any waste shipments. The Department is developing a recovery plan, one of many steps and processes that need to be completed before WIPP returns to operations.
- The Department is evaluating impacts on commitments made to states regarding the removal of TRU waste from DOE sites, and is developing options and executing approved plans to minimize consequences on commitments, based on available funding.
- Visit the WIPP Recovery website for additional information: <http://www.wipp.energy.gov>

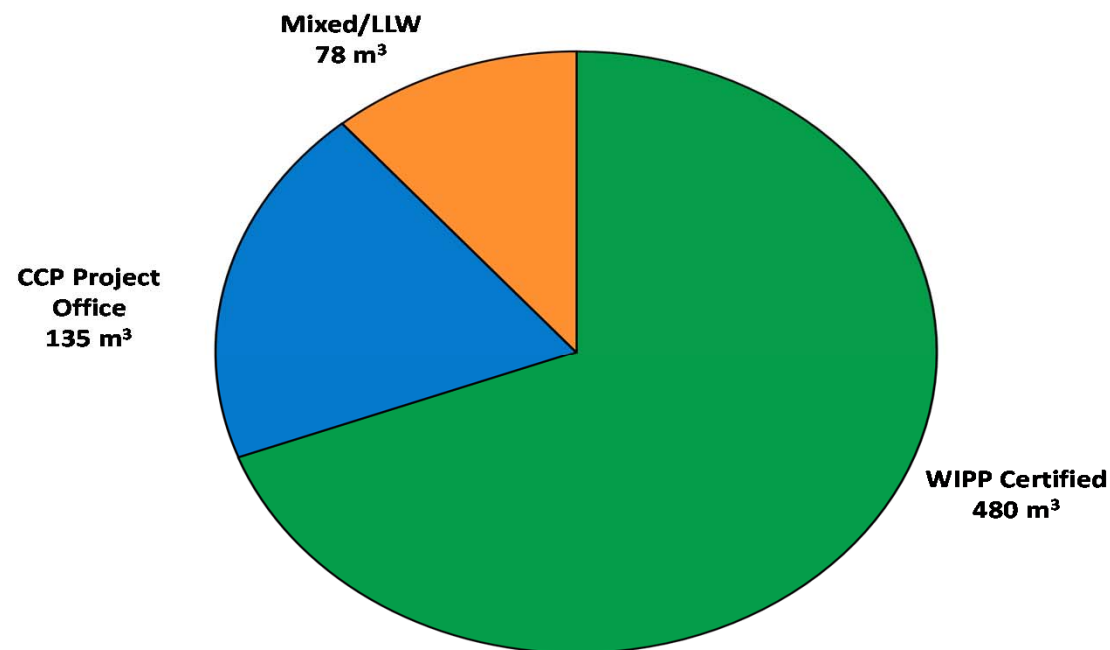
Recent Site Accomplishments

- Reduced the legacy TRU waste stored at SRS from over 12,000 cubic meters to 615 cubic meters today
- Made 1,652 shipments to WIPP
 - Completed 232 TRUPACT-III shipments to WIPP
- Completed all repackaging of legacy TRU waste containers into WIPP compliant containers earlier this fiscal year
- Completed all field WIPP certification activities on SRS legacy TRU waste last month



WIPP Trucks leaving SRS

SRS legacy TRU Waste Inventory



Total legacy inventory is 693 cubic meters (TRU waste to WIPP is 615 cubic meters)

Site Storage of TRU Waste

- SRS TRU Pads are located in E-area at the central part of the Site
- SRS TRU waste is stored in cover above grade concrete pads
- SRS TRU waste pads are permitted under Resource Conservation and Recovery Act (RCRA) by South Carolina Department of Health and Environmental Control (SCDHEC).
- TRU Waste Storage Pads also meet Federal Standards and DOE Orders for the management of radioactive waste
- TRU waste containers are inspected routinely by trained and qualified Site personnel



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Plans for Completing Disposal of SRS Legacy TRU Waste

- SRS legacy TRU waste is all compliantly packaged and field certification activities complete
- Remaining waste certification activities at WIPP expected to be completed later this year and will make all SRS waste certified and ready for shipment to WIPP
- Waste will remain safe and compliantly stored on TRU waste Pads in E-area until shipped
- Approximately 125 shipments to WIPP are required to complete the SRS legacy TRU waste program



Waste disposed at WIPP

Summary

- SRS has completed all field activities and will have all its legacy TRU waste certified and ready to ship later this year
- Waste will be safely stored at SRS until it can be shipped to WIPP
- DOE will continue to keep the CAB informed on the WIPP recovery