



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

Status Building 235-F Project

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DOE-Savannah River

Citizens Advisory Board

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Provide information regarding ongoing risk reduction activities in the 235-F Facility



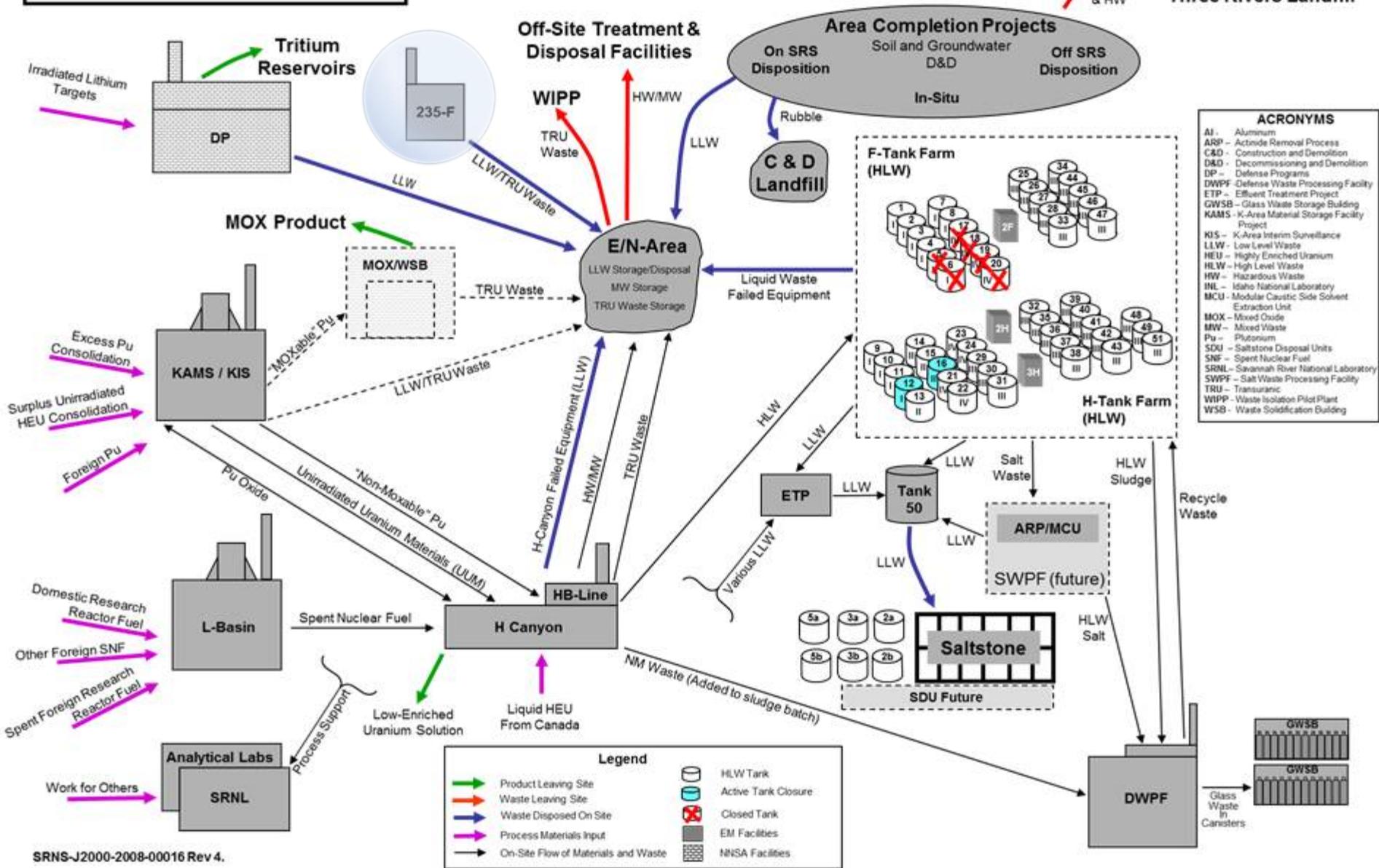
Savannah River Site Waste and Material Flow Path



EM NM Facilities

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.

Off-Site Disposal
e.g., Clive, Utah,
Three Rivers Landfill



ACRONYMS

- Al - Aluminum
- ARP - Actinide Removal Process
- C&D - Construction and Demolition
- DP - Defense Processing Facility
- DWPF - Defense Waste Processing Facility
- ETP - Effluent Treatment Plant
- GW5B - Glass Waste Storage Building
- KAMS - K-Area Material Storage Facility
- KIS - K-Area Interim Surveillance
- LLW - Low Level Waste
- HEU - Highly Enriched Uranium
- HLW - High Level Waste
- HW - Hazardous Waste
- INL - Idaho National Laboratory
- MCU - Modular Caustic Side Solvent Extraction Unit
- MOX - Mixed Oxide
- MW - Mixed Waste
- Pu - Plutonium
- SDU - Saltstone Disposal Units
- SNF - Spent Nuclear Fuel
- SRNL - Savannah River National Laboratory
- SWPF - Salt Waste Processing Facility
- TRU - Transuranic
- WIPP - Waste Isolation Pilot Plant
- WSB - Waste Solidification Building

Legend

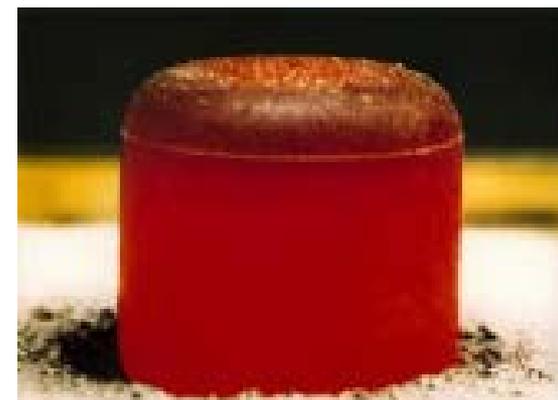
- Green arrow: Product Leaving Site
- Red arrow: Waste Leaving Site
- Blue arrow: Waste Disposed On Site
- Purple arrow: Process Materials Input
- Black arrow: On-Site Flow of Materials and Waste
- Grey cylinder: HLW Tank
- Blue cylinder: Active Tank Closure
- Red X: Closed Tank
- Grey box: EM Facilities
- Black box: NNSA Facilities

Building 235-F Background

- Building 235-F has had numerous missions over the years, with the most recent being fabrication of Pu-238 in the Plutonium Fuel Form Facility (PuFF) for use in construction of power sources for NASA deep space missions in the 1980's
- Residual material in the nine PuFF facility cells was last measured in 2006
- About 1.5 kilograms of Pu-238 material remain in the cells
- In a seismically induced full facility fire accident scenario the calculated unmitigated dose is about 29,000 rem onsite and 11.4 rem offsite
- The building is safely maintained in the surveillance and maintenance mode
- The project objective is to reduce the unmitigated onsite dose to less than 100 rem by reducing Pu-238 levels in PuFF
- The facility end state will be determined through an agreement with State Regulators



Space Mission



Fuel Form

Key Accomplishments



Radioactive Material Measurement

- Completed readiness reviews and authorized field work to begin
- Completed mechanical and electrical isolation of cells 6 – 9
- Removed outer shield windows and cleaned inner windows of cells 3 – 9
- Established cell lighting in cells 3 – 9
- Completed measurements of the amount of material in cells 3– 9

Key Plans for FY 2017

- Remove outer manipulator control arms from cells 1 – 2
- Remove outer shield windows and clean inner windows of cells 1 – 2
- Established cell lighting in cells 1 – 2
- Complete measurements of the amount of material in cells 1 – 2
- Complete mechanical and electrical isolation of cells 3 - 5

PuFF Cells 4 and 5 Current State



