

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 24, 2009

**TO:** T. J. Dwyer, Technical Director  
**FROM:** D. L. Burnfield and M. T. Sautman, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending December 25, 2009

**Field Walkdowns:** The Site Reps observed transuranic waste remediation at F-Canyon, reservoir activities at H-Area New Manufacturing, and walked down the Salt Waste Processing Facility construction site. More than 50% of the walls to 116 feet have been placed.

**Solid Waste Management Facility:** The Site Rep watched the dewatering of a standard waste box. The Site Rep also walked down Pad 16 and the outside of the "Green is Clean" building, both of which contain High Radiation Areas (HRA). The HRA at the "Green is Clean" facility was not appropriately controlled. The Site Rep noted that neither the proper hierarchy of controls nor robust entrance requirements were used for the HRA. A simple and effective option would be fencing similar to that used at Pad 16. This deficiency was later addressed by the Facility Manager.

**Tank Farms:** SRR developed a Waste Tank Catastrophic Failure Waste Removal Response Plan to address a beyond-design-basis seismic event that causes a brittle failure of both a non-compliant primary tank and partial secondary containment wall. The leak rate in this scenario could exceed the pumping rate of the annulus transfer jet or a portable contingency annulus transfer pump. In case a single compliant tank does not have space available to accommodate this waste volume, the plan identifies the transfer routes for transferring waste from the 10 vulnerable tanks to either Tanks 5 or 6. These are non-compliant tanks that have undergone bulk waste removal. The plan notes that the condition of the Tank 13 waste transfer jet, discharge piping, and isolation valves are faulty, deficient, or unknown. The plan recommends: 1) to design, fabricate, test, and stage an alternative primary transfer system and 2) develop a method to immediately implement the identified transfers since these procedures do not currently exist.

**Year in Review Part One:** SRNS's nuclear materials, waste, and closure accomplishments included:

- H-Canyon finished dissolving 324 containers of Super Kukla uranium metals from Y-12.
- H-Canyon finished dissolving the 32 containers of metals from Lawrence Livermore.
- H-Canyon charged all 115 drums of high enriched uranium-molybdenum.
- HB-Line processed 30 kgs from 3013 cans and repacked U-235 and U-233 from Y-12.
- HB-Line completed the neptunium Part II processing mission. HB-Line also completed flushing Phase II and transferred the Np flush to H-Canyon, where it processed.
- K-Area received 928 containers of plutonium and uranium as part of complex-wide consolidation, including 13 Hanford Unirradiated Fuel Packages containing Fast Flux Test Facility fuel.
- Completed 49 non-destructive examinations and 19 destructive examinations of 3013 containers.
- Received and unloaded 24 nuclear fuel casks, storing 568 spent nuclear fuel assemblies, at L-Basin.
- Shipped 1,545 drums and 191 boxes of transuranic waste to the Waste Isolation Pilot Plant (WIPP).
- Shipped 17.4 m<sup>3</sup> of remote handled transuranic (TRU) waste containers to WIPP.
- Repackaged 622 TRU polyboxes and disposed of 3,780 m<sup>3</sup> of low-level waste on-site.
- Shipped 5,408 drums of depleted uranium oxide from F-Area to Utah.
- Restarted TRU drum remediation in F-Canyon and remediated 39 drums.
- Completed deactivation of the P Reactor to support in situ decommissioning and started installation of evaporators for 4 million gallons of water in the disassembly basin.
- Accelerated deactivation of the R Reactor and placed 13,000 cubic feet of grout in the seismic slot between the disassembly basin and the reactor room.
- Achieved cold and dark status at the Heavy Water Components Test Reactor.