

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 6, 2013

**TO:** S. A. Stokes, Technical Director  
**FROM:** M. T. Sautman and D. L. Burnfield, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending December 6, 2013

**Saltstone:** SRR conducted the first grouting run of Tank 50 waste since August. After receipt of about 2600 gallons, the grout pump variable frequency drive (VFD) experienced an overload fault due to high current and the pump stopped running. The transfer of dry feed to the mixer automatically stopped, and the shift manager switched to manual mode and stopped the transfer of waste. In the ~1 minute it took for this occur, 90 gallons of waste passed through the mixer. The hopper was nearly full of grout, but there were no immediate indications of a hopper overflow or damage/leaks from the grout pump. Operators were able to reset the VFD, proceeded with a manual shutdown, and flushed the system. Engineers are investigating the cause of the fault.

**Defense Waste Processing Facility:** The cause of a recent laboratory spill was a plugged drain line (see 11/1/13 and 11/15/13 reports). This week, SRR used an auger to remove the plug and verified its removal with radiography. SRR intends to conduct periodic radiography of the drain line to identify when cleaning is needed to prevent future plugs.

**Tank Farms:** As part of the closure project for Tank 6, SRR personnel are grouting the cooling coils that are present in the tank. During grouting, tank farms personnel called a timeout when the flush water from a cooling coil caused the radiation levels (200 mrem/hr at 30cm) to exceed the radiological work permit (RWP) suspension guide. Personnel cleared the area, extended the high radiation area boundary, and placed lead blankets around the source of the increased radiation levels. Radiological control personnel also found elevated contamination in the cooling coil valve house, where the flush water hose is connected, and revised the RWP to provide personnel protective equipment to account for the contamination.

SRR previously found a small hole in the purge exhaust fan housing of Tank 37. During the repair contaminated water was found. Later, SRS troubleshooting found that a reheater failure had occurred. While reheaters are normally replaced after 20 years of service, this reheater had only been in place for 17 years. Tank Farms personnel have installed a temporary modification (HEPA filter) to the stack downstream of the purge exhaust fan to preclude the escape of contamination.

**Actinide Removal Process (ARP)/ Modular Caustic Side Solvent Extraction Unit (MCU):** SRR completed transfers from Tank 49 to ARP and attempted to start MCU to demonstrate the use of the next generation solvent. Upon initial startup of MCU, SRR noted that the strip effluent coalescer pump would not adequately control the level in the hydraulic accumulator. SRR began troubleshooting, but could not find anything that would have caused the observed problems. SRR will attempt to restart MCU.

**Training:** SRNS identified that an error in their training database allowed five operators to recertify on the H-Canyon product evaporator without conducting the required operations evaluation. While SRNS has not recently operated this evaporator, some of these operators were not properly certified for several years. SRNS also identified that the required oral board had also been inappropriately deleted from the qualification card.

**K-Area:** The site rep observed SRNS conduct the semi-annual test of the safety significant gaseous fire suppression system and associated dampers. The workers properly responded to an error in their procedure and later suspended work when a nearby construction lockout interfered with the test. The site rep provided conduct of operations and procedure observations to fire testing management.