

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 8, 2015

**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 May 8, 2015

**Recommendation 2012-1:** As committed in the Implementation Plan, DOE conducted their annual emergency exercise for Building 235-F. The scenario simulated a fuel truck crashing into the side of Building 235-F, igniting, and damaging the safety significant exhaust duct resulting in a relatively minor and localized plutonium-238 release. Personnel in the F-Area Complex and F-Tank Farms took protective actions. The Fire Department (FD) did not coordinate their equipment deployment with the Incident Scene Coordinator upon arrival and set up some equipment inside the hot zone. The FD response involved less simulation than normal. Radiological Protection personnel did not clearly identify the boundaries of the hot zone or communicate contamination levels to the Incident Commander. As a result, several FD personnel were discovered inside the hot zone without having donned adequate personal protective equipment. The control room response was adequate although personnel could have been more proactive in planning future actions and verifying which actions had been completed. SRNS has not assigned a grade for this evaluated exercise yet. John Mercier of the Board's staff was at SRS to observe the 235-F drill.

DOE and SRNS discussed the number of findings in the contractor's Readiness Assessment (RA) and their closure. SRNS decided to bring in some additional resources and spend the next several weeks improving their state of readiness prior to the start of the DOE RA.

**Emergency Preparedness:** The site representative reviewed SRR's progress in addressing his concerns with their drill program (see 11/14/14 report). A site representative review of the supporting draft data and training records resulted in many questions.

**HB-Line:** In light of recent criticality issues (see 2/20 – 3/6/15 reports), SRNS revised the Phase II Double Contingency Analysis and the Documented Safety Analysis. To prevent common mode failures due to lack of agitation in the filtrate tank, operators will verify the current readings on the two agitator motors, verify the variable frequency drive frequency upon setup and reset, perform periodic inspections of the agitators (also installing new agitators), and require a 60-minute mixing time. Each batch in the recycle tanks will be spiked with a known material and then sampled to ensure adequate mixing. In addition, two valves will be used to isolate some cold feed tanks to prevent a process water leak that could affect the plutonium valence state and thus its detection by the colorimeters.

**Tank Farms:** SRR declared a Potential Inadequacy in the Safety Analysis when it was determined that the current credited controls may not adequately provide protection against siphoning of waste between two Type I tanks. For this to occur, the cooling water coils in each tank would be required to have a leak and the tank waste levels relative to each other would have to support a siphon. Current waste levels and the required heights of the high level liquid conductivity probes (HLLCP) would not support a siphon. However, if the HLLCP heights and waste levels changed in the future, it could. SRR has precluded raising the HLLCPs.