DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 3, 2014

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 July 3, 2014

Defense Waste Processing Facility (DWPF): Following successful tests of the air start receiver leak rates, SRR began manually charging the air start receivers and exited the limiting condition for operation early Saturday morning. This week, SRR modified the starting air compressors to eliminate the previously identified pressure relief issues (see 6/27/14 report). SRR conducted an extent of condition review to make sure other air compressors did not have similar issues. A preliminary investigation by SRR indicates that the original design issues were due to design changes made before DWPF commenced operations.

Emergency Preparedness/Rec. 2012-1: SRNS submitted their after action report for the 2014 site evaluated exercise. Two objectives were graded "not met" – 1) facilities and equipment and 2) exercise control and conduct. While SRNS stated the equipment issues were relatively minor individually, the cumulative impact was that the emergency equipment needed to effectively respond to emergencies is seriously degraded. The most serious exercise control issue was that controllers allowed firefighters to violate a temporary (and real) radiological buffer area at the incident scene. SRNS graded four objectives as being "partially met" – radiological/chemical monitoring, emergency response facility staffing and activation, notifications, and offsite interactions. The overall rating was "partially met." Four of the six objectives that were graded partially or not met this year had been graded partially or not met in either the 2012 or 2013 annual evaluated exercises. The report highlighted two open issues related to the Emergency Planning Hazards Assessment (EPHA). First, SRNS implemented a Remain Indoors protective action for a two-mile radius around the incident scene although the EPHA estimates that the protective action criteria of 1 rem could be exceeded up to 3.8 miles. Furthermore, the EPHA estimates the threshold to early lethality (100 rem) could be exceeded up to 885 feet from the point of origin, but all three locations used as the incident command post were within that radius (see 5/16 and 5/30/14 reports). Some SRS personnel believe the protective actions taken and incident command post location were adequate based on known field conditions.

Solid Waste Management Facility (SWMF): A radiological protection department (RPD) technician found an unusual condition near a large steel box (LSB). Routine surveys of the area found contamination on the ground as high as 1700 dpm α. The LSB was located inside a radiological material area. Further examination revealed that the LSB had a broken drain line on the side of the container and that water had pooled near the broken drain line. A walkdown of other LSBs in the area revealed another box with a similar broken drain line. SRNS covered the area with plastic and made the appropriate notifications. SRNS plugged the broken drain lines using an epoxy type material.

F-Tank Farm: While beginning the excavation work on the failed transfer line from F Pump Pit 1 to F-Diversion Box 2, the workers discovered a piece of concrete that was dyed red. The concrete had not been identified by ground penetrating radar and was not on the current drawings. They established a one-foot buffer for the area dyed red and continued the excavation. Engineering is updating the drawings to match the as found conditions.

Tank Closure: Tank 15 has several known leak sites including a crack approximately 15 in long but relatively high in the tank. Some of the smaller leak sites are fairly close to the waste. It has been dry for several years to preclude opening a leak site. SRR must begin rewetting operations to allow removal of the remaining waste. During this phase of tank closure, Tank 15 has an increased probability of revealing an existing unknown leak site. SRR is also preparing tank 16 for grouting.