

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 31, 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 July 31, 2015

**Readiness Reviews:** The DOE Readiness Assessment (RA) team for the H-Canyon second uranium cycle is concerned that the operators may not have been trained as expected because some tasks in the task-to-training matrix were missing in the on-the-job training guide and the team found several operational evaluations that were not completed as required. Furthermore, the team found that operators failed to adequately demonstrate good conduct of operations principles and understand how to correctly respond to upset conditions. Due to the number of issues identified in the contractor and DOE RAs associated with conduct of operations, the team stated that it did not appear that the facility had an effective program to maintain formal and disciplined operations. The team noted that every evolution had significant problems. Furthermore, in light of problems with several recent RAs, the DOE Assistant Manager directed that SRNS will not conduct any more RAs until they develop and implement a corrective action plan for achieving readiness. As a result, L-Area will not be starting a RA on Monday.

**H-Canyon:** The vendor fabricating a new dissolver informed SRNS that the dissolver failed their preliminary seismic analysis calculation. SRNS suspended all dissolver operations when their engineers were unable to locate a seismic calculation qualifying the two existing dissolvers, whose designs are similar to the dissolver being fabricated. SRNS later declared a Potential Inadequacy in the Safety Analysis

**Saltstone:** SRR engineers believe that a catastrophic failure of the east grout pump rotor three weeks ago allowed the formation of a “short-circuit” that allowed the west grout pump head to pump grout back to the grout hopper or reduced the pumping capacity such that the grout hopper overflowed. After reviewing several possible causes, SRR believes the likely cause of the pump failure was an anomalous material defect. SRR did not find any evidence that the failure was caused by foreign material, vibration or over-torque. Furthermore, all the process data was within the design of the grout pump. SRR plans to restart grout operations next week following replacement of the grout pump.

**Recommendation 12-1, Savannah River Site Building 235-F Safety:** SRNS will be starting invasive operations such as the repair/replacement of manipulators and removal of the plutonium-238 for cells 6-9. This plutonium-238 has a high specific activity and was ball milled to an aerodynamic diameter that is very favorable for respiration. While the atmosphere that the particles have been exposed to since the end of the mission may have resulted in a less favorable respirable diameter, the contractor cannot rely on this being the case. The site rep has discussed the hazards of working with this very mobile material with the site and has expressed concern that the current control set (e.g., local ventilation, containment) as documented in the procedure and the radiological work permit may allow very small particles to escape the plastic containment undetected and be inhaled by nearby workers. Unless this release was detected, normal internal dosimetry response actions may not be invoked and the inhalation may not be detected until the next routine bioassay.