

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 16, 2017

**TO:** S. A. Stokes, Technical Director  
**FROM:** M. T. Sautman and Z. C. McCabe, Resident Inspectors  
**SUBJECT:** Savannah River Site Resident Inspector Report for Week Ending June 16, 2017

**H-Canyon Exhaust (HCAEX) Tunnel:** A review of the recent HCAEX Tunnel crawler inspection video revealed that a 180 feet long section of the HCAEX Tunnel had significantly more exposed reinforcement bar (rebar) than previously known and considered in the structural analysis. SRNS personnel subsequently declared a potential inadequacy in the safety analysis (PISA) because the ability of the HCAEX Tunnel to perform its safety class function is indeterminate. SRNS engineers are currently revising the structural analysis calculation to determine if the HCAEX Tunnel will be able to perform its safety function. SRNS expects the revision to conclude that the tunnel can perform its safety function and therefore determined no compensatory measures are required at this time. The amount of concrete that has degraded, fallen, and built up on the floor of the HCAEX tunnel appears to be unchanged between the two most recent videos. Additionally, the most recent inspection incorporated some lessons learned from previous inspections that led to better picture quality. Therefore, SRNS personnel believe that the additional exposed rebar is not newly exposed from recent degradation but rather only newly seen and likely has been there for some time. However, if this is newly exposed rebar it may be difficult to discern a difference in the concrete debris on the tunnel floor between the two most recent videos if only a small amount of concrete cover was remaining before it degraded.

**Saltstone:** While performing a periodic flush of the grout hopper, the grout line pressure and flow began to rapidly drop. This was quickly followed by a high level alarm in the Saltstone Hopper Overflow Container (SHOC). Although dry feed to the mixer was stopped and flushing began, the SHOC filled up with grout and grout began to flow onto the floor. Grout also spilled near the east grout pump. Engineers believe that the hose of one of the grout pumps (a peristaltic pump) failed, which allowed grout to pass through the grout pump's vent lines to the SHOC. SRR put the hose in service last July and it was far from the expected end of service life. SRR also added magnetic separators after an earlier hose failure to prevent foreign material in the dry feeds too. Grout line and equipment flushes performed after the failure should reduce the amount of hardened grout that needs to be removed.

**235-F:** While installing a replacement outer window assembly (OWA) in Cell 5, workers cracked the OWA and the safety significant inner window. Engineers are investigating whether the dimensions of the replacement OWA may have caused it to bind and riggers are reviewing how the OWA was supported to see if stresses on the glass caused the cracks. No contamination was released through the cracks.

**Defense Waste Processing Facility (DWPF):** In response to the recent contamination event at DWPF involving SRNS environmental sampling personnel, SRNS temporarily suspended waste sampling and will use senior supervisory watch when sampling resumes. SRNS and SRR are including this event in a radiological protection program review. SRNS and SRR are also working together to ensure the work scope is understood by both organizations and the proper radiological controls are in place in the future.