

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 18, 2014

TO: S. A. Stokes, Technical Director
FROM: D. L. Burnfield, Site Representative
SUBJECT: Savannah River Site Weekly Report for Week Ending April 18, 2014

Mark Sautman was offsite this week.

H-Canyon: Last week SRNS conducted an integrated loss of power test for the 221-H diesel. (See 4/11/14 report.) As planned, SRNS personnel were to open the breaker for the normal power, and the diesel generator was expected to start, the 52B breaker should have then closed and assumed the load on the generator but it did not. Because of this failure, power was lost to the instrument air compressor and pressure dropped below the alarm set point of 57 psig and the safety significant instrument air low pressure alarm was activated. Facility personnel terminated the test and returned to normal power. The facility entered the correct Limiting Conditions for Operation. In addition, a programmable logic controller (PLC) uninterruptable power supply associated with purge air was exhausted during the failed load test and the PLC lost its stored programming. This week a fact-finding meeting related to this incident revealed several conduct of operations lapses that the site intends to pursue for extent of condition.

HB-Line: During the drawing of the HB-Line cooling water sample (BCW) the alpha alarm operated as expected but did not clear. The crew took the necessary actions to clear the alarm. HB-Line personnel normally expect approximately 4 liters of cooling water to be delivered to the sample tank during this operation. The failure of the alarm to clear could have resulted in a small amount of additional water in the sample tank. On the next shift (approximately 12 hours later) an operator noticed that a leak of approximately 1 drop per second coming from the funnel on the top of the flush tank. The top of the flush tank is also connected to the top of the sample tank via a length of small diameter tubing and if the sample tank was over filled water could end up overflowing the funnel as well. A catch pan is located beneath the tanks and it held approximately 1" of water. Facility personnel stated that upon discovering the drip they performed an initial investigation, where they checked for correct valve line-up and drained the sample tank. The drip subsequently stopped. The site rep performed a walkdown of the cooling water system. The volume of the two tanks and associated tubing appears to be more than 30 liters. The site rep attended the fact-finding meeting for the night shift and will attend the fact-finding meeting for the first shift on Monday morning.

Modular Caustic Side Solvent Extraction Unit (MCU): Last week it was noted that SRR personnel attempted to start the facility but the unit tripped on both strip effluent accumulator high level and strip solvent heater high temperature. MCU personnel found that Extraction Contactors #1 and #2 had high vibration readings. They flushed the contactors with acid, with no significant improvement. MCU personnel then performed an 8-hour acid soak of Contactor #1 and the vibrations worsened. They performed a similar flush on Contactor #2 and will perform vibration readings again this weekend.

Saltstone: Engineering is working on an acceptable re-design of the grout line to remove the Victaulic-type expansion joints currently installed and replace them with flanges. A successful test of one such redesign was successfully completed. SRR is also planning the installation of the replacement motor for the grout pump with temperature monitoring inherent to the design.