

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 24, 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 April 24, 2015

Zachery Beauvais provided site representative support this week.

**F/H Laboratory:** The Low Activity Drain system (LAD) collects potentially contaminated liquid wastes from sources including lab sinks, safety showers and eyewash stations. The LAD includes two tanks. Last week, an operator discovered that liquid had overflowed from the primary tank into a normally empty tank. Facility personnel previously placed “emergency use only” signs and caution tags on all liquid sources to the nearly full LAD tank. Despite a sign, a chemist actuated an eyewash station as part of his lab checkout procedure. Due to a faulty handle, water continued to flow from the eyewash station into the LAD tank following the chemist’s check. An operator filling in for the shift manager initially acknowledged the alarm, but took no action because he mistakenly thought it was the sump alarming due to recent rainfall. Furthermore, operations staff did not take any action during the next ~17 hours since the alarm was not highlighted during shift turnover. Management is pursuing actions to improve alarm response and shift turnover.

**Criticality Safety:** The Corrective Action Review Board reviewed the results of 1) an extent of condition review focused on specific administrative controls that rely on sampling programs and 2) common mode failures identified for the sampling program (see 2/20, 2/27, 3/6, and 3/27/15 reports). A multidisciplinary team recommended adding functional requirements to the HB-Line documented safety analysis to clarify expectations for obtaining a representative sample. These functional requirements include positive verification of mixing (e.g., ammeter readings, chemical spiking, and agitator inspections), minimum mixing times, and sample expirations. The team also evaluated and considered other control options, including transferring filtrate from the filtrate tanks in smaller batches or installing in-line concentration monitors; however, SRNS ruled out each option from immediate implementation since they required further development.

**HB-Line:** Workers replaced three valves per their instructions and correctly applied and removed a lockout to support this replacement. However, operations staff did not recognize the need to perform a partial system alignment check afterwards to ensure the new valves were in the required close position. An operator found one of the valves to be partially open as they started to pressurize process water. This was found before there was a detectable level increase in the associated cold feed preparation tank.

**235-F:** SRNS is installing a new breathing air system in the building to support material removal. Engineering may be changing the design though because the air compressor can deliver breathing air at a pressure that would invoke requirements for additional weld inspections. In addition, the design failed to adequately account for building interferences and this error will result in additional threaded joints and a repositioning of one of the headers. The site rep has requested a copy of the design specifications and will be meeting with facility and design engineering personnel.