

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 23, 2018

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending March 23, 2018

Staff Activity: B. Caleca and M. Randby were on site for a walkdown of H-Canyon and discussions with SRNS and DOE concerning the H-Canyon Justification for Continued Operations (JCO). L. Lin performed walkdowns of 235-F and the tritium facilities. D. Cleaves was at SRS for site familiarization activities.

Savannah River National Laboratory: DOE sent a letter to SRNL expressing concern about several operational events that point to weakness in key safety management systems. These included the 1) untimely implementation of the discovery Unreviewed Safety Question process, 2) untimely investigation of operational events, 3) JCO Limiting Conditions for Operation rigor, 4) hazard analysis, 5) work planning and control, and 6) radiological controls. The letter acknowledged that SRNL self-identified the issues and conducted a safety pause. DOE requested SRNL to perform an evaluation of the situation to determine the underlying causes and what actions are deemed necessary to reverse the negative trend.

SRNL personnel made two entries to measure dose rates around old strainers with unknown holdup in a high activity waste piping gallery. (See 3/9 and 3/16/18 reports).

H-Canyon: Approximately 625 gallons of 50% sodium hydroxide (caustic) drained from an H-Canyon Outside Facilities (OF) storage tank into a sump. The sump eventually overflowed and a small portion of caustic spilled onto a nearby sidewalk and gravel area. Earlier, an OF operator failed to properly complete a lockout work order. This left three valves in the open position when they should have been closed. A step in the work order directed the operator to allow the header to drain for 15 to 20 minutes, but the operator did not see any caustic drain during this period. Approximately an hour later, the OF Control Room received a sump high-level alarm for the sump below the aforementioned drain. The OF Control Room Operator silenced the alarm and requested another operator to inspect the sump. This operator found a small stream flowing from the drain into the sump. This flowrate was what the work order anticipated during the 15 to 20 minute draining step that was performed approximately an hour earlier. Because of this, H-Canyon OF personnel did not take any further actions to monitor the sump level or to stop the caustic from flowing. After the operator stopped observing the stream, the caustic draining flowrate increased significantly. Another hour later, another person walked by and noticed that the sump was overflowing onto the sidewalk and into the gravel area. They called the OF Control Room. OF personnel then took the necessary actions to stop the draining and contain the spill, but they did not inform the H-Canyon shift operations manager of the issue until approximately 13 minutes later.

Tank Farms: SRR issued their technical basis for proposed operation of the 3H Evaporator with known leak sites. SRR is proposing interim operation with enhanced surveillance to support Salt Waste Processing Facility operations and maintain progress towards emptying high-level waste from aging tank while permanent options (repair or replacement) are made ready.