

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 15, 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 June 15, 2018

H-Tank Farms: SRR has been conducting heel removal in Tank 15. Tank 15 is an old-style tank that had 26 previously identified leak sites. During a recent inspection using digital photography, SRR identified six new leak sites. Five of these are inactive, but a small stream of liquid is spraying from one site. The flow rate is below the design basis leak rate and the annulus level has remained unchanged. If the sludge level in the tank supports it, SRR would like to pump ~220 gal of waste out of the tank to lower the waste level to below the active leak site.

SRR entered a Limiting Condition for Operation (LCO) for Tank 48 in April due to an inoperable composite lower flammability limit (CLFL) analyzer. The LCO required compliance to be restored within 7 days, but the CLFL analyzer has failed multiple attempts to meet the surveillance requirement. SRR is proposing to extend the current response plan to September 3 to allow additional time to diagnose and correct the issue with the CLFL Analyzer. Meanwhile tank ventilation is operating, SRR is taking flammable vapor concentration measurements every 12 hours, and there have been no signs of an elevated flammable vapor concentration.

Emergency Preparedness: The resident inspector (RI) observed a night shift drill at H-Area New Manufacturing (HANM) that simulated a cart transporting several reservoirs overturning and releasing tritium. During the drill, the facility experienced a tritium monitor and two oxygen monitor alarms. The drill was suspended after each alarm until the alarm was resolved. The RI also observed an uncoached fire drill at the Salt Waste Processing Facility.

235-F: The RI discussed observations with preparations for Cell 1 remediation with DOE and SRNS. SRNS is now planning to conduct drills simulating a continuous air monitor alarm, loss of ventilation, and a puncture wound along with management field observations. The RI observed workers change a glovebox glove and respond to a puncture wound on a mockup.

During the annual calibration of the safety-significant Plutonium Fuel Form facility Lo Differential pressure switch, SRNS found the setpoint to be 0.51 in WC vs the expected 0.8 in WC. SRNS replaced the pressure switch since it likely failed. Management of a related setpoint change was not timely or rigorous. During an annual E5 exhaust ventilation instrument loop test, a safety-significant exhaust fan started up as expected, but then shut down a few seconds later. A general service interlock tripped, but the safety-related one did not. SRNS later determined that the ventilation fan motor starter fuse had blown and replaced it.

Electrical Storm: A lightning storm caused power blips that impacted numerous facilities. This included a total loss of ventilation at the Tritium Extraction Facility; loss of HANM tritium monitors; loss of cooling water at H-Canyon, which interrupted the first dissolution in a new dissolver; and the losses of Zone 2 exhaust ventilation, a melter dome heater, and a chemical process cell purge air compressor at the Defense Waste Processing Facility.