

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 14, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending February 14, 2020

Salt Waste Processing Facility: DOE completed their Operational Readiness Review (ORR). The staff observed simulated inter-facility transfers, a spill exercise, and various interviews and discussions by the ORR team. The ORR team identified 13 pre-start and 11 post-start findings. The team concluded 22 objectives were met, one radiation protection objective and two fire protection objectives were not met, and one maintenance work control objective was partially met. These three programs also had objectives that were not met during the contractor ORR. Other areas with multiple findings include quality assurance, nuclear safety, and operations.

HB-Line: The Process Control and Automation Engineering group uploaded a software change to the HB-Line Personnel Accountability System (PAS) prior to performing an unreviewed safety question (USQ). The change to the PAS (Level D software) removed the previous facility entry training (FET) and criticality safety training that were no longer required in favor of the new layout FET. The software modification had been uploaded for several days before the HB-Line personnel questioned whether a USQ determination was needed for the change. Once the issue was identified, HB-Line personnel performed the USQ, which was determined to be negative. SRNS personnel are drafting corrective actions.

Construction personnel were performing work involving splicing and soldering in HB-Line. Prior to performing the work, construction personnel discussed this evolution with the fire protection coordinator (FPC), who walked down the area and concluded that a fire impairment was not required due to the airflow in the room and proximity of the work to the smoke detector. The work caused a smoke detector to alarm in the control room. However, according to the discussions during the issue investigation after the fact, it appears that the FPC's judgement was logical and defensible. Further investigation into the event and work order revealed a separate issue where construction personnel did not have the procedure-required hot work permit. Previously, the FPC determined that a hot work permit was not necessary. Construction personnel were aware of this decision, but failed to revise the work order to not require one.

Savannah River National Laboratory (SRNL): Control room personnel received an alarm for low differential pressure for the Section B Off-Gas Exhaust (OGE) system. Per the SRNL alarm response procedure, the control room dispatched an operator to the field to verify the low differential pressure reading at the credited (safety significant) gauge. The operator confirmed that the reading, 38 inches water column (WC), was below low set point, 40 inches WC, but still above the lo-lo set point, 15 in WC. As such, SRNL personnel declared the system inoperable and entered the appropriate limiting condition for operation. Shortly after, SRNL personnel (with management concurrence) were able to swap the Section B OGE system fans and restore the differential pressure above the minimum and exit the LCO after approximately 1 hour. Investigation after the event revealed that a copper instrument airline had failed and leaked. This resulted in the partial closure of damper, which caused the low differential pressure. The fans, dampers, and instrument airline are all general service.