

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 8, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: A. Z. Kline, L. Lin, Z. C. McCabe, and E. P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending July 8, 2022

Staff Activity: Hanford resident inspector (RI) B. Caleca was on site for RI augmentation and support of the Defense Waste Processing Facility (DWPF) readiness assessment.

Savannah River National Laboratory (SRNL): Due to a cooling water outage, SRNL was supplying the facility instrument air system through a primary and secondary portable air compressor. After running without issue for approximately one week during the outage, the primary compressor failed. After manually starting the secondary compressor, it also failed. Over the next hour, SRNL personnel restarted the secondary and primary compressor once more to no avail. The failure of the general service instrument air system impacted several Technical Safety Requirement (TSR) systems, including the Off Gas Exhaust system, the E-Cell Block Exhaust System and the fire water tank level as pneumatic dampers in the ventilation systems failed closed, causing loss of ventilation and a dry-pipe fire water system to fill. Personnel were evacuated from the affected areas, applicable Limited Conditions of Operations (LCO) were entered, and the areas were barricaded. Both portable air compressors were replaced by Site Services that same day and the LCO's exited that night. On the following day, both replacement compressors failed, impacting the TSR systems again. A larger air compressor was then brought in (after seven failures) that provided the required compressed air to operate the systems.

Although, the RI's investigation did not reveal any immediate safety concerns they identified poor TSR administration and weaknesses in the abnormal event response. SRNL personnel convened a fact-finding meeting, which focused solely on the failure of the general service equipment. After the fact-finding was completed, the RIs brought up their concerns, including the use of Abnormal Operating Procedures (AOPs), satisfying LCO required actions, entering LCO conditions, and overall logbook keeping. Most egregiously, the logbook indicated not completing two separate LCO required actions within the required completion time. In one instance, further investigation revealed that the appropriate actions were taken and documented on the mode tracking database. On the other, investigation discovered no documented evidence that the required actions were conscientiously performed. However, SRNL senior management have determined that the required actions for the subsequent condition that should have been entered within the required time were completed. Further, the fact that these and other weaknesses were not discussed or investigated by SRNL or DOE-SR until the RIs raised concern speak to a less than adequate event investigation.

Defense Waste Processing Facility (DWPF): The RIs shadowed a Contractor Readiness Assessment (CRA) team reviewing DWPF's readiness to start operations using glycolic acid in place of formic acid to produce glass. CRA team members observed operators performing daily rounds and a walkthrough of the process to load sodium permanganate into the facility from a tanker truck.