**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

April 19, 2024

**TO:** Timothy J. Dwyer, Technical Director
**FROM:** L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors
**SUBJECT:** Savannah River Site Activity Report for Week Ending April 19, 2024

**Tank Farms:** During water additions to Tank 9, control room personnel discovered that the Tank 11 level was increasing. The shift operations manager initially attributed this to noise in the reel tape level measurement before the facility determined it to be an actual level increase on the third day. Personnel determined that the cause of the level increase was a leak-by of the single point general service isolation valve to Tank 11. Tank 11 was noted to previously be in a limiting condition for operation (LCO) that prohibited additions due to the purge ventilation system being inoperable. Additions into radiological waste tanks can increase hydrogen generation and decrease the amount of vapor space. After personnel confirmed the increase by camera inspections, they stopped water additions. Approximately 4,000 gallons of water had been added to Tank 11. Unlike for radiological waste transfers, operations personnel do not monitor for inadvertent transfer locations during water additions. The facility is developing corrective actions to include procedural changes to monitor for inadvertent additions. This event was characterized as a Technical Safety Requirement violation. It is noteworthy that this LCO relies on a single general service isolation valve without verification to maintain compliance by ensuring no transfer or addition to a waste tank while safety equipment is out of service.

**H-Canyon:** The facility installed new electrolytic dissolver equipment in 2022 to support the Fast Critical Assembly (FCA) campaign. Personnel ran the dissolver with simulated cans for readiness activities and did not observe any issues until the failure during the twelfth run. After inspecting the busbars inside the canyon, personnel discovered that the cathode and anode busbars had been switched during installation. The cathode busbar is slightly larger; therefore, the two busbars were not properly seated on the guide pins and studs on the through-wall connector and on the dissolver flange. Personnel found severe loss of material on the guide pins and studs, and they observed debris around the busbar connections. During the issue investigation, personnel noted that neither the through-walls, busbars, nor dissolver flange were labeled to distinguish between the anode and cathode connections. In addition, while a special procedure was used to install most of the dissolver equipment, the busbars were not included in that special procedure. Instead, a generic procedure for installation of equipment within the canyon was used, which did not account for these unique components nor have a hold point for inspection. The site is fabricating new busbars and through-wall connectors that will use updated fabrication drawings and a new procedure for installation. The resident inspector also noted that it may be beneficial to evaluate the site manual on conduct of engineering for potential improvements to ensure proper consideration is given for unique components.

Last month, a system engineer discovered that H-Canyon and HB-Line five-year internal pipe inspections were not being performed as required by NFPA 25. It appears that the first- and only-time personnel performed the internal inspections was in 2012 for HB-Line and 2017 for H-Canyon. Though both of those work order instructions noted that preventive maintenance work orders should be generated, these were never set up. The facility implemented fire impairments on the systems and an extent of condition review is ongoing.