

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 23, 2025

TO: Technical Director
FROM: Savannah River Site Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending May 23, 2025

Surplus Plutonium Disposition (SPD) Project: As part of construction work for the SPD project, the sub-contractor is hydrolazing, which uses a high-pressure water jet to remove part of the concrete walls to make penetrations for utilities. During hydrolazing, the equipment experienced some fault codes. The orange fault codes—such as those triggered by the machine sensing obstructions—do not necessarily require them to stop hydrolazing. They can usually clear these by jogging the hydrolazing equipment (traversing laterally), which allows debris to fall out before resuming the cut. In this instance, they could not clear the fault codes, and they contacted an equipment representative for troubleshooting. During this time, they continued hydrolazing until they experienced a red code, likely caused by the failure of the primary location sensor, at which point they stopped the machine and water pumps. However, the machine had already traversed and cut eight inches beyond the maximum dimensions set for the cut during the time it took to shut down the machine and water pumps.

SPD project personnel called a time out for hydrolazing work, notified the facility, and initiated a non-conformance report for the unintended cut into the safety-class structure. Upon investigation, the sensor had corrosion on the contacts, where they connect to the wiring. During the issue investigation, personnel indicated that hard stops should have been installed on the machine rails, which would have prevented the machine from going past the maximum dimensions. SRNS and the sub-contractor had discussed the use of a hard stop during mockups, but it had not been incorporated as a control in the field. As a result of this issue, the sub-contractor installed hard stops on the machine rails, replaced all three sensors, and incorporated a weekly inspection of the sensor lines. In addition, the sub-contractor will perform dry runs (i.e., run the machine without water) during troubleshooting, and they will stop and investigate each fault code, regardless of severity. This issue marks another instance in which the SPD project damaged the existing structure during construction work (see 2/21/2025 report).

Defense Waste Processing Facility (DWPF): DWPF personnel have been making four entries a day into the Crane Maintenance Area (CMA) for maintenance and construction work during the outage. The area is an airborne radioactivity area, requiring plastic suits with supplied breathing air. Last week, an electrician had the breathing air hoses in the plastic suit bottoms work themselves out of the suit bottoms, though he retained breathing air to the suit top. This occurred again with the same electrician the following day. No contamination was found on the electrician either time. DWPF management believes the plastic suit was too large for the electrician and has since issued him a smaller size. The Resident Inspector (RI) observed donning of plastic suits at DWPF and noted that Radiological Protection Department (RPD) inspectors assist each plastic suit user. Soon after one of the entries into the CMA, one of the breathing air hoses got caught and pinched in the door, resulting in the plastic suit user losing breathing air. He immediately returned to the airlock and was processed out by RPD inspectors. He cleared the personnel contamination monitor. The Shift Operations manager and the RPD manager were notified. The RI noted that the response was quick and appropriate.