

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 27, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: A. Z. Kline, L. Lin, Z. C. McCabe, E. P. Richardson Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending May 27, 2022

Andrew Kline reported for duty as a Savannah River Site Resident Inspector.

K-Area: While cutting and removing a slab of concrete within the 105-K Assembly Area, an initially energized conductor was severed in three different locations over the course of three weeks without the team being aware. The cut conduit containing wire was discovered when the slab was lifted on 5/16/22. Investigative checks proved that the wires in the conduit supplied a nearby (<1 ft) receptacle and were energized when they were cut. Prior to cutting the slab, the SRNS team conducted extensive drawing reviews and utilized ground penetrating radar (GPR) on two separate occasions but did not identify the conduit running under the six-inch thick slab. After visual discovery, the GPR team was able to identify the conduit utilizing the same personnel and equipment. The GPR supervisor has been formally trained and conducts field training for the other members of the group, but it is limited to finding rebar and does not cover locating conduit. Due to equipment age and technological advancements, the site is evaluating options to upgrade their GPR equipment. The event was reported as an ORPS 2D(2).

Savannah River Tritium Enterprise (SRTE): Three curies of tritium were released from the 233-H stack on 5/22/2022 following a suspected process leak in the reservoir loading system. Ventilation duct and stack tritium air monitoring alarms were received, but no room monitors alarmed. Elevated activity was detected in an associated solenoid valve cabinet. Nearby personnel submitted bioassay samples which were negative. Of note, there were no indications that any of the released tritium was drawn back into the building. Two resident inspectors performed a field walkdown of the event with SRTE personnel and have been notified of extensive testing and troubleshooting in progress to definitively identify the release mechanism. This is a noted improvement from the initial response following the January 30th, 2022, tritium release (see 2/4/2022, 2/11/2022, 2/18/2022, and 2/25/2022 reports). An issue investigation will take place on 5/31/2022.

Savannah River National Laboratory (SRNL): The resident inspectors observed an emergency preparedness drill at SRNL this week. This drill was the same scenario as the previous, which involved a breached waste container outside of the facility and a downed power line nearby discovered after a tornado. The previous drill performance suffered due to less than adequate communications, control and over-reliance on simulations (see 5/6/2022 report). The most recent drill conduct and performance showed improvements in each of these areas. Most notably, the controller organization tasked with control room personnel took coaching opportunities when they presented themselves and were able utilize the drill as a teaching opportunity, such as over-delegation of authority by the Facility Emergency Coordinator. Following the drill, the observers and controllers noted areas that could still be improved. For instance, at times during the drill performance, the downed power line hazard was not assigned as high of a priority as it should have been.