

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 8, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending December 8, 2023

DNFSB Staff Activity: Members of the Board Staff D. Brown, J. Parham, P. Foster conducted a teleconference with DOE-SR and the contractor on maintenance of safety class and safety significant batteries at the Savannah River Site.

F-Area and E-Area: Following an F-Area emergency preparedness drill in November where support from E-Area was simulated (see 11/10/23 report), the drill team and facility management decided to perform an F-Area drill verifying response from E-Area radiological protection department (RPD) personnel. The scenario involved simulating a vehicle collision, which resulted in a radiological release from standard waste boxes being transported, a fire, and a medical injury. The resident inspector (RI) observed the response from E-Area. E-Area RPD management received the initial call from the F-Area RPD first line manager asking for two E-Area RPD inspectors to support and to wait for a call from either the site Emergency Duty Officer (EDO) or F-Area Shift Operations Manager (SOM) for a safe route. E-Area personnel discussed potential safe routes based on wind direction, but they did not have details about the event from F-Area. Neither the EDO nor the F-Area SOM contacted E-Area personnel. Forty-five minutes after the initiating event, after the simulated fire in F-Area was put out and while the firefighters exiting through the decontamination line, E-Area personnel called the F-Area RPD and control room, asked for a safe route, and dispatched their RPD inspectors.

Defense Waste Processing Facility (DWPF): An RI observed DWPF personnel attempting to conduct a bi-annual Technical Safety Requirements (TSR) surveillance on diesel generator (DG)-200. The test consisted of opening feeder breakers to cause a loss of power, followed by DG-200 automatically starting and supplying power to the required buses. Next, the facility would trip the highest electrical load and verify that DG-200 did not trip on overspeed. Following the formal pre-job brief on 12/6/23, DWPF personnel noticed that two power interrupters were in an incorrect configuration per procedure and had to be repositioned, which drove management to postpone the test. The team re-assembled the next morning and commenced the test by opening the two feeder breakers. DG-200 started as designed, however one of the bus-tie breakers failed to close. This left the B7 bus de-energized, which caused the plant to automatically shift to the emergency cooling water system. While the control room was entering the abnormal operating procedures for the event, an operator reported smoke (from the faulted breaker) on 2nd level, which prompted fire department response. The loss of the B7 bus also caused the loss of announcement repeaters throughout the building, which hampered communications during the emergency. The team shifted to alternate means of communications and completed building evacuation. Following the all-clear from the fire department, management shifted focus to B7 restoration. Operations, engineering, and maintenance management weighed multiple options and appropriately chose to manually de-energize all of the loads on B7 prior to restoring power to eliminate the potential for further equipment damage. Throughout this event, all levels of DWPF operations and management exhibited good communication, teamwork, and conservative decision making.