

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 27, 2023

TO: Katherine R. Herrera, Acting 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 January 27, 2023

DNFSB Staff Activity: Board's staff member S. Lewis was onsite to observe the F-Area emergency preparedness (EP) annual evaluated exercise consisting of a transuranic waste drum explosion and fire. Actions included declaration of a Site Area Emergency and activation of the Emergency Response Organization.

H-Canyon Spill: A radiological spill of approximately one to two gallons of contaminated liquid occurred during a valve replacement maintenance activity. Multiple work groups failed to adequately perform procedurally required checks to ensure a drainage path existed from a leak collection device (installed to support the valve replacement) to a collection bottle. When a Radiological Protection Department (RPD) inspector moved the collection bottle to support scaffolding installation prior to the maintenance occurring, the rubber hose disconnected for an unknown reason. The RPD inspector taped the end of the hose and left it draped over the scaffolding but did not inform anyone, assuming that they would be present when the job continued the next night. On the next shift, operations, RPD, and maintenance personnel replaced the valve without verifying the drainage path was intact. The spill initially occurred the third level, seeping down to second level where an operator took spill actions. All appropriate response actions were taken, and no personnel were contaminated during this event. The highest contamination levels recorded were 4000 dpm/100cm² α and 500,000 dpm/100cm² β - γ by probe.

Emergency Preparedness Training: SRS Site Training delivered facility specific training to the Emergency Response Training and Evaluation Group over the last month as part of their improvement plan (see 12/2/22 report). The resident inspector (RI) attended one session which was noted by the drill team and the RI as significantly missing expectations with the class lasting 15 minutes and incorrect information (e.g., the L-Area basin contains heavy water kept at below freezing temperatures) provided in response questions at the end of the event. The training has been revised and is scheduled to be reperformed.

Tritium Extraction Facility (TEF): TEF personnel conducted an EP drill that simulated a contamination event outdoors. Command and control at the scene and RPD response to the contamination was generally good with some opportunities for improvement. While players did discuss wind direction and personnel arriving at the scene came from upwind, personnel remained nearby and downwind of the contamination. There was also some confusion as to whether the drill would terminate after recovery actions were discussed or whether to continue through recovery actions.

L-Area: Contrary to processes and procedures, security personnel requested operations install a seal on a piece of nonaccountable security equipment that should not have used an accountable tamper indicating device (TID) seal. Two operators were responsible for the installation and destruction of the TID seal, one which was trained and authorized, and one which was not. This

was discovered during a quarterly audit for TID seals. Both Centerra and L-Area operations are developing corrective actions.