

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 2, 2022

TO: Christopher J. Roscetti, 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 September 2, 2022

H-Area: The resident inspector (RI) observed an Emergency Preparedness drill that involved a large radioactive spill with a fire due to leaking solvent from Tank 904. The scenario contained the potential for a significant radiological fire event, but drill artificialities reduced training opportunities on a few occasions. The operator who discovered the fire called the control room vice the Savannah River Site Operations Center and limited drill simulations kept the scope of the fire response to one side of the diked area, with the first fire-fighting agent applied 17 minutes after dispatch. This was a simulated large pool fire (>1000 gallons) surrounding other large tanks containing solvent, and the potential scale of this event was not evaluated or discussed by any of the teams involved. Confusion led first responders to delay application of water because they were unaware of the fire constituents and also had to approach the scene differently than they would in real life due to actual radiological areas. Following extinguishment, the fire fighters unknowingly spread simulated contamination due to a controller misunderstanding, which allowed them to egress without monitoring. The public address system does not adequately cover the affected portion of H-Outside Facilities, which precluded announcements from being heard at the scene. Facility personnel, specifically the senior observer, showed improved self-criticism and provided valuable feedback during the debrief. Due to the difficulties observed, the senior observer requested that the drill be re-performed in a few weeks.

Savannah River National Laboratory (SRNL): BSRA personnel completed the management outbrief for the apparent cause analysis (ACA) related to the response for the failure of instrument air that resulted in a significant impact to operations (see 7/8/22 and 7/22/22 reports). The RIs provided significant comments regarding the quality of the draft ACA, including pointing out that important lines of questioning regarding technical safety requirement administration were not included in a meaningful way and that the problem statement serving as the basis of the ACA largely omitted issues with the response. The final ACA report incorporated these comments.

The RIs performed a walkdown of F-Wing and identified some radiological control issues. The one radiological buffer area (RBA) exit was not properly marked and the sign at the exit stated that monitoring was not required because the RBA was established for exposure control; however, due to a change in the activities nearby, the RBA was changed from being established for exposure control to contamination control in August 2021, which does require monitoring. The exit markings were corrected immediately by radiological protection department (RPD) personnel. Additionally, the count rate meter at the main exit for the RBA did not have the proper alarm setpoint. Thus, personnel were unable to complete the required source check when frisking out of the area. Based on discussions with RPD management, the count rate meter weekly check had been performed seven days prior to the RIs identifying the issue.