DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 15, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: L. Lin, Z. C. McCabe, E. P. Richardson Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending April 15, 2022

F-Area: The resident inspector observed the F-Area annual exercise on 4/12/2022. This was the first exercise run in the facility in nearly three years and performance drift was evident in the drill team and F-Area personnel. The scenario involved a truck crashing into the LR-56S Tanker (used to transport radioactive liquid from F/H Labs) while operators were filling it. This caused both vehicles to catch fire, an operator to fall 12 feet from the top of the tanker, and the transfer line to dislodge, spilling liquid on the ground. Beyond simulated role player actions that disabled the transfer, there was no action taken to combat the spill at the scene throughout the event. This problem was exacerbated through self-imposed drill team restrictions by not providing any visual simulation of the leaking liquid; instead relying on approved verbal directions to the role players. No contamination was simulated on any of the participants which also led to the confusion. Spill information was not relayed to the Shift Operations Manager (SOM) so no actions (including remain indoors) were directed. Less than one hour after initiation, the exercise was terminated due to poor performance. Following termination, the drill team decided to immediately re-run the event as a limited scope drill focused only on the control room and incident command post. This was not properly briefed and led to more confusion amongst participants and the Savannah River Site Operations Center. The re-run drill was terminated roughly 40 minutes later following coached performance of anticipated protective actions and classification of the event. Of note, the fire department response and their coordination with radiological control personnel were professional and as expected.

Savannah River National Laboratory (SRNL): Last week, R&D personnel were performing housekeeping activities and discovered a small spill of plutonium-bearing nitric acid solution within a secondary container in a glovebox. This week, R&D personnel attempted to collect the spilled liquid when they identified another bottle in the secondary container had HEPA filter material in it that would need to be filtered out of the nitric acid solution. They attempted to filter the HEPA filter material; however, the nitric acid in the solution began dissolving the filter mechanism. R&D personnel were able to stop the dissolution by diluting the solution with water. Afterwards, R&D personnel took a time out to reconsider their path forward. They then developed a new set of R&D directions and successfully remediated the spilled solution. The resident inspector attended the pre-job briefs for both the initial effort to clean up the spill and the briefing prior to re-commencing the efforts after the issue with the filter. The resident inspector provided some feedback on the first pre-job briefing regarding the lack of discussion of the hazards associated with the evolution. This feedback was incorporated into the second briefing.

The resident inspector reviewed a preparation, loading, and shipment procedure for a rarely used shipping container and provided substantial comments to SRNL regarding the quality of the procedure. SRNL personnel have placed it on administrative hold.