DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 7, 2025

TO: Acting Technical Director
FROM: Savannah River Site Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending February 7, 2025

Staff Activity: Members of the Board's staff were onsite this week. They met with NNSA personnel to discuss the status of the Tritium Finishing Facility project and conducted a familiarization walkdown. They, along with a resident inspector, conducted an onsite review of the Savannah River Tritium Enterprise emergency preparedness and response program, which included lines of inquiry response discussions, personnel interviews, and the observation of an emergency preparedness drill.

Liquid Waste: SRMC completed their review of work planning and control across their facilities' maintenance and construction organizations after a series of issues at the end of last year (see 9/27/2024 report). The team reviewed 81 work packages and conducted 23 interviews. Their results showed that approximately half the assisted hazards analysis (AHA) had evidence of adequate planner, subject matter expert (SME), and worker walkdowns during the planning phase. The other half either did not include all the appropriate work groups, did not have the appropriate documentation, or did not include justification for why a walkdown was not needed. Several of the AHAs missed a hazard or lacked sufficient justification for why a hazard did not need mitigation. Many of the work packages had a control identified in the AHA that was missing in the subsequent technical work documents (TWD). Some of the documentation supporting the work was either missing or was of poor quality. The review found that the current program relies on experienced work planners and SMEs. However, most of the personnel interviewed had less than five years of experience. SRMC is pursuing several corrective actions. Management will brief planners and SMEs on the expectation for adequate participation and documentation in the AHA database and on ensuring controls are properly dispositioned in TWDs. SRMC training will develop a curriculum that includes on-the-job training for work planners and SMEs, which will then be included in their initial training. SRMC is also considering developing standardized work orders with hazards and controls for some low-risk, routine tasks that will minimize the review and approval burden.

Tank Farms: During routine rounds, an operator noticed a broken mercury collection sight glass at the 242-16H evaporator. The evaporator was not processing waste but was in operations mode, which requires the safety significant sight glass to be operable and the evaporator mercury inventory to be less than 750 mL since there is the potential for a chemical release during an event. The shift operations manager entered the appropriate limiting conditions of operation, and the evaporator has since been placed in shutdown mode. The site experienced freezing temperatures in the days leading up to the broken sight glass. During the investigation, maintenance personnel found that the heater for the building containing the sight glass was not functioning properly because it had low voltage and the thermostat controlling the heater was wired incorrectly. While evaluating the broken sight glass, personnel also discovered an unrelated mercury spill of approximately two tablespoons inside the room. There was a poly bottle on the floor at the spill location, and personnel believe the liquid came from this bottle that was likely used to collect evaporator overheads, which contain a small amount of mercury.