DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 19, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: L. Lin, Z.C. McCabe, and E.P. Richardson, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending July 19, 2024

Staff Activity: Members of the Board's technical staff, A. Boussouf and W. Dumayas, were on site to discuss infrastructure projects across the site, which included walkdowns at the Savannah River Plutonium Processing Facility, Savannah River Tritium Enterprise, Surplus Plutonium Disposition (SPD) project at K- Area, and the Defense Waste Processing Facility.

SPD: SPD construction personnel performed a crane lift in their laydown yard without the proper controls and approvals required, given the nearby energized power lines. SPD personnel were aware of the requirements for crane use near energized power lines but incorrectly estimated that the crane was not within 150 feet of the power lines, which would require controls. The morning of the lift, SPD personnel informed the K-Area Shift Operations Manager (SOM), of their plans, but, due to imprecise communications, the SOM believed that SPD personnel were only bringing the crane into the area and did not give authorization to perform a lift. Later that morning, K-Area operations personnel saw the lift and questioned the lack of controls and informed the SOM. The work was paused without incident. K-Area conducted an issue investigation to identify the shortcomings that resulted in the improper controls.

Savannah River National Laboratory (SRNL): Last year, SRNL received three items from an outside organization for material characterization analysis. The organization provided SRNL with some preliminary information as to what the items containing special nuclear material were. Due to prescribed restrictions, SRNL personnel were unable to perform a typical method for material characterization, and SRNL instead developed a non-standard approach. This required additional analysis to interpret the results of the measurement. After several months, SRNL personnel completed the analysis and determined that the sample mass was an order of magnitude greater and had significantly different isotopic makeup than expected. However, they failed recognize the impacts of the unexpected results and take the appropriate actions.

Tank Farms: During startup of the chromate cooling water system on the H-Tank Farms east hill, operators noticed a leak due to a decrease in the surge tank level. The chromate pumps interlocked due to low level in the surge tank. Approximately 10 gallons of chromate cooling water leaked onto the ground outside the chromate pump house but within containment. Maintenance had recently performed work on the chromate pumps and operations placed it back in service. The lockout had three valves in the pump house that were to be opened to drain the system for the corrective maintenance and restored to the closed position upon lockout removal, which was written on one line. Upon investigation, personnel discovered that two drain valves were in the open position. As a result of this issue, the facility is evaluating corrective actions to

include reviewing the equipment status board and system deviation sheets prior to starting equipment, enabling field operators to update equipment status, and including support systems on turnover sheets.