

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 29, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: B. Caleca, P. Fox, and P. Meyer, Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending March 29, 2024

DNFSB Staff Activity: B. Sharpless was onsite for training and routine oversight support.

Tank Side Cesium Removal (TSCR): Contractor personnel successfully restarted the TSCR process to remove the excess cesium detected in AP-106 last year (see 2/2/2024 report). This reprocessing of approximately 800,000 gallons of waste will be performed over four batches.

Tank Farms: A resident inspector observed a corrective action review board (CARB) that met to review a hazardous energy exposure while performing cold temperature excursion surveillances in the tank farms. The apparent cause analysis performed noted deficiencies in the pre job briefing, work package, data sheets, and worker training to recognize which cabinets were safe to access all contributed to the event. CARB members and a DOE observer present provided constructive feedback to revise and expand certain corrective actions during the meeting, and the causal analysis with corrective actions were approved with comment.

A resident inspector observed an event investigation of a spill that occurred while disconnecting a hose from a waste-water tote. The work evolution involved gravity-draining liquid from a tote through a 2-inch line into Double Shell Tank SY-102. When the operator disconnected the hose from the tote, approximately 2 – 3 ounces of liquid spilled out. The investigation determined that pipe-stands used to support the hose connection to the tote prevented residual liquid from draining, and the work instruction did not specify removal of the pipe-stands prior to disconnecting the drain hose. Additionally, no catch container with absorbent material was used.

Waste Treatment Plant (WTP): A resident inspector observed preparations by WTP radiological control personnel to start radiological operations at the analytical laboratory (LAB) facility, starting with open-source work. This work requires dissolving ampules of radioactive materials in tank waste simulant to create a Laboratory Control Standard (LCS) for use in equipment that supports the tank waste vitrification mission at the low activity waste facility. After familiarizing facility personnel, the LAB established posted radiological areas and is ready to support this activity. However, work was paused due to issues with the simulant to be used for the LCS. The resident inspector noted that the pre- and post-job meetings to discuss the aborted evolution were thorough and self-identified multiple areas for improvement. Workers placed their work area in a safe and stable condition upon discovering the sample discrepancy and showed a questioning attitude both during and after the job was paused.

Central Waste Complex: While performing waste container movements, workers identified a corrosive material on the sidewall near the bottom of an 85-gallon overpack container. Further inspection with a borescope identified a pinhole-sized breach. Operators performed surveys, which did not identify any radiological contamination. The contractor entered the appropriate limiting condition of operation (LCO) for loss of safety significant container integrity. The container was subsequently overpacked and the LCO was exited.