

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 11, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca, P. Fox, and P. Meyer, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending March 11, 2022

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

242-A Evaporator: Facility personnel are preparing to replace pressure relief valve PSV-PB2-1 and vacuum breaker PSV-CA1-4. PSV-PB2-1 is a safety significant (SS) component that protects 242-A facility slurry jumpers and tank farms piping from overpressure. PSV-CA1-4 is a SS component located in the 242-A facility that protects tank farm components from damage due to water hammer that could develop under some conditions. The safety basis requires periodic replacement of both components to ensure they function when needed. The contractor's Joint Review Group (JRG) met to evaluate the adequacy of supporting work instructions and the work team's readiness to perform the work. They determined that the work instructions are adequate pending resolution of minor comments. The JRG chairperson also determined that the assigned Field Work Supervisor is adequately prepared to lead the work activity.

Tank Farms: During borehole push activities in U Farm, at a depth of approximately three to four feet, the crew drilled through something hard and then the drill string dropped about a foot. The drill rig operator immediately shut down the work evolution. The push being performed was within the five-foot diameter "safe zone" identified by engineering and ground penetrating radar reviews. A video camera put down the hole revealed a damaged concrete encasement. Two pipelines located inside the encasement did not appear to be damaged. No radiation dose rate above background or contamination was found in the push hole. Contractor personnel are performing an event investigation which is focused on the accuracy of the drawings used to determine interferences below ground, engineering's interpretation of those drawings, the drill rig's location relative to engineering's instructions, and the accuracy of the ground penetrating radar check performed by a subcontractor.

Tank Side Cesium Removal (TSCR): The Tank Farms Operations Contractor completed its first run of the TSCR process. The TSCR system has processed approximately 200,000 gallons of liquid waste. Two expended ion-exchange columns will be replaced to support the next run.

Building 324: A resident inspector and a DNFSB cognizant engineer observed the pre-job briefing and monitored via camera the fourth airlock entry at Building 324 since the pause in high-risk radiological work in 2019 (see 11/22/2019 report). The pre-job briefing was extensive for a complex work activity, requiring approximately thirty workers to support three workers making the entry into the high contamination, high radiation, airborne radiation area of the airlock. Workers who entered performed maintenance to a manlift, then removed and replaced guide blocks for the hot cell crane wiring. Facility personnel simultaneously grouted a micropile in Room 18, which could also be monitored via camera. The resident inspector noted donning and doffing of personal protective equipment and contamination control improvements developed as part of corrective actions following the 2019 pause had improved worker performance.