

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 21, 2020

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** M. Bradisse, B. Caleca and P. Fox, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending August 21, 2020

**300 Area:** A worker noticed a one gallon container of an unknown liquid in the 300 Area and notified the Building 324 Building Emergency Director (BED). As a precaution, the BED issued a take cover in the 300 Area and coordinated with the site's Emergency Coordination Team. While access controls around the container were established, Hanford Fire Department personnel responded, and the BED was able to use photographs to determine that the container was a bottle of iodine cleaning solution, and the take cover was lifted. Access controls were maintained until the contents of the bottle could be confirmed.

**Tank Farms:** Tank Farm Operations Contractor (TOC) personnel installed an enhanced reach sluicing system (ERSS) into single-shell tank AX-104. This is the third of three ERSSs that will support retrieval of waste from that tank. The other two systems were installed prior to the COVID 19 partial stop work (see 3/20/2020 report). Although the TOC had added caustic liquid to the tank to help shield the systems from the radiation field located within the tank headspace (see 1/17/2020 report), radiation levels remain high and there was concern that the radiation exposure might have damaged the previously installed systems. Consequently, after replacing the in-tank cameras, which had failed due to radiation exposure, TOC personnel performed a visual inspection of the ERSSs, and then energized and exercised the systems to check their performance. The checks did not identify any performance issues.

The TOC Plant Review Committee (PRC) met to discuss the results of analyses performed after declaring a Potential Inadequacy of the Safety Analysis for the freeze protection of safety significant buried transfer lines in the tank farms. The analysis was performed to replace a prior calculation which had several non-conservative assumptions that affect eight transfer lines that might be damaged without a change to freeze protection controls. The PRC determined that an unreviewed safety question does exist and implemented compensatory actions to address the condition until the technical safety requirements for freeze protection are modified.

**Liquid Effluent Retention Facility (LERF):** DOE held a public meeting that supports ongoing public comment periods for two Resource Conservation and Recovery Act permit modifications. One permit modification would allow construction of a fourth basin at the Liquid Effluent Retention Facility (LERF). The new 7.8 million gallon basin is intended to support operation of the Waste Treatment Plant (WTP) Low Activity Waste (LAW) Facility by providing additional capacity to hold LAW facility secondary waste at LERF until it is processed by the Effluent Treatment Facility. The other permit modification would allow connection of the 242-A evaporator process condensate transfer line to the new basin. The WTP backup transfer line for the LAW facility secondary waste stream connects to the 242-A transfer line. Consequently, the connection would provide an alternative flow path for the LAW facility waste stream to LERF. The backup transfer path would provide flexibility to support maintenance of the primary transfer path that routes LAW facility secondary waste directly to LERF Basin 42. Both public comment periods end on September 8. The Washington State Department of Ecology will use any comments received to support their evaluation of DOE's permit modification requests.