

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 30, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending November 30, 2018

DNFSB Staff: B. Caleca arrived onsite and commenced his assignment as a DNFSB Hanford Site Resident Inspector.

Building 324: A resident inspector observed a meeting that was held to kick off a review of the nearly complete design package for the structural modifications that will be used to stabilize Building 324 while contaminated soil is excavated from the area below the Radio-chemical Engineering Complex B-cell. The design includes micropiles to provide support for the B-cell structure (see 6/15/2018 report). The contractor reported that results from micropile strength testing that was performed in October and November exceeded expectations. Despite the higher capacity, they intend to retain the same number of micropiles. This should result in increased design margin. The Resident Inspector notes that, while there have been changes to smaller scope items such as removal of articles that could interfere with the structural modification work, the primary change from the 60% design package is the maturation of structural designs, including more detailed calculations and drawings. Contractor engineers are aiming to collect comments by mid-December and contractor management intends to move toward final design and sub-contractor mobilization in early 2019.

Waste Treatment Plant: A resident inspector walked down the Low-Activity Waste (LAW) and High-Level Waste (HLW) facilities. He observed that general housekeeping in the LAW facility is on a declining trend compared to previous walk downs. In particular, he noted an unmarked temporary installation, damaged or missing cleanliness covers on piping systems, non-compliant staging of Q level material, placement of laydown and work areas where activities could jeopardize installed equipment, unattached marking tags, informal component status markings, and untagged items with deficient conditions. Lastly, he observed that conditions in the HLW facility are also degrading. Examples of conditions found included water intrusion resulting in corrosion of roofing and structural steel, collection and pooling of water in covered areas including areas containing what appeared to be in use electrical equipment, substantial evidence of bird intrusion, warehousing of large quantities of unused office furniture, and missing or deficient covers on installed piping systems.

Tank Farms: The contractor reported the results of a control decision meeting held in mid-October to identify hazard controls to support the design of the Tank-Side Cesium Removal System. The primary focus of the controls is protection of the facility worker from explosions of flammable gas that can accumulate in the ion exchange column because of radiolysis. Controls were also developed to protect workers from radiological and chemical consequences of spray leaks, direct radiation exposure, and release of used ion exchange media because of impact damage to the media container. The control set also contains controls to protect onsite workers from exposures resulting from damage to systems caused by seismic events. There are no identified events that pose an offsite radiological or toxicological hazard.