

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 15, 2018

TO: S. A. Stokes, Technical Director
FROM: P. Foster and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending June 15, 2018

105-KW Basin: The contractor performed their first sludge transfers (see 6/8/2018 report) from a basin sludge container to a Sludge Transport and Storage Container (STSC). The transfer system performed as designed and operators encountered only a few minor technical and operational problems during the transfers. The resident inspectors observed the second day of transfer activities including multiple pre-job briefings, decanting and loading operations, and the informal post-job review after the morning's work. Operator performance was professional and their control of the transfer evolutions was exemplary. During the post-job review, the engineering and operations teams identified a number potential operational improvements.

Tank Farms: The contractor completed the transfer of approximately 800,000 gallons of waste from AW-106 to AW-102. The transfer supports a 242-A evaporator campaign that the contractor intends to start next week.

DOE recently performed a small trial of an alternative low-level tank waste disposal process. Under the trial, three gallons of waste tank supernate was delivered to PNNL where it was processed through a filter to remove solids and an ion exchange column to remove radioactive cesium. The processed supernate was then sent to a local radioactive and mixed waste treatment vendor who immobilized the waste using grout. The grouted waste was then shipped by truck and buried as low-level solid waste at a disposal facility in Texas. Based on the successful trial, DOE decided to perform a larger trial using 2000 gallons of waste tank supernate. To perform the trial, which is called the Test Bed Initiative, the contractor will install a filter and ion exchange column in the 242-A evaporator building. The supernate will be processed through the filter and ion exchange column into transport containers for delivery to the radioactive and mixed waste treatment vendor for grouting. The expanded trial is expected to occur in December.

Building 324: The resident inspector observed a demonstration of the equipment that the contractor intends to use to install micropiles inside Building 324. The micropiles are a part of the system that they propose for support of the building during their excavation of contaminated soil from below the facility. The resident inspector notes that the process appears feasible for use within the building, is relatively clean, and appears to be reasonably controlled. However, the contractor must still identify appropriate radiological controls for system use. Additionally, the contractor is working to finalize their supporting structural calculations. The calculation and associated review approaches that were described to the resident inspector appear appropriate considering the nature of the project and the potential for introducing adverse structural loads.

Workers identified exposed wiring protruding from an electrical raceway and determined that one of the exposed conductors was energized. The contractor held a critique and determined that the wiring is most likely a legacy condition resulting from equipment removals that were performed over ten years ago. The contractor also identified compensatory actions that they will use until longer term corrective actions can be completed.