

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 19, 2025

TO: Technical Director
FROM: Hanford Site Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending September 19, 2025

Low-Activity Waste (LAW) Facility: The Deputy Secretary of Energy approved Critical Decision-4A, *Approve Start of Operations or Project Completion*, for the direct-feed LAW portion of the Waste Treatment and Immobilization Plant Project. HFO is now able to approve the introduction of pre-treated tank waste to the facility once the Washington State Departments of Ecology and Health complete permitting actions based on results of the recently completed environmental performance demonstration test. HFO management has communicated that HFO and the contractor remain focused on achieving a safe transition to operations with tank waste.

High-Level Waste (HLW) Facility: To support the direct feed HLW mission, BNI is planning several efforts to develop and verify HLW processes and equipment. These efforts include scaled testing and the construction of an HLW Mockup Facility (HMF). Project management met this week to discuss the specification for engineering-scale agitator testing and the results of a value engineering workshop on the HMF scope. The resident inspectors note that the use of physical scaled testing and mockups allows the project to address both system functionality and refine future operations in a controlled environment. Past use of mockup facilities at the Hanford site has identified equipment or design issues and potential improvements prior to installation of equipment in a radiological or chemically hazardous environment, improving safety. The value engineering workshop provided recommendations regarding facility location and configuration, and which systems will provide the most benefit if installed and operated at HMF.

Tank Farms: H2C reported completion of single-shell tank (SST) A-101 retrieval activities. Contractor retrieval activities started in July 2024, and their report indicates that the retrieval process successfully removed over 97% of the 350,000 gallons of high-level waste originally contained in the tank. The retrieved waste is now contained within the double-shell tank system. A-101 is the first SST completion in the Hanford Site A Tank Farm and, so far with the completion of waste removal from this tank, DOE has completed the retrieval of 22 of the 149 SSTs on Hanford Site. H2C retrieval efforts in the Hanford Site 200 East Area will now focus on finishing the retrieval of SST A-102, and the preparation for retrieval of waste from SST A-106.

The resident inspectors met with H2C nuclear safety managers and subject matter experts to discuss their ongoing work to develop a revised documented safety analysis (DSA) for the Tank Farms that complies with DOE Standard 3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*. H2C is using a qualitative risk ranking approach to support safety control selection. The described approach would allow cases where safety controls are not selected for some high consequence events if the occurrence frequency is qualitatively determined to be less than 1 chance in 10,000. The contractor intends to justify these decisions in the DSA. The meeting attendees also reviewed the status of contractor efforts to address safety issues noted in the Board's Technical Report 48, *Hanford Tank Farms Safety Basis Review*, dated September 2021, as part of this effort.