

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 21, 2025

TO: Acting Technical Director
FROM: Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending February 21, 2025

Low-Activity Waste (LAW) Facility: The WTCC Plant Management Review Board (PMRB) met to evaluate revisions of the LAW Facility Documented Safety Analysis and Technical Safety Requirements. These changes address recommendations identified by the Cold Commissioning Management Assessment teams (see 11/1/2024 and 11/8/2024 reports). The PMRB determined that the changes are ready for evaluation and approval by the DOE Safety Basis Approval Authority.

A resident inspector observed an electrical work performance demonstration in a radiologically posted area led by the facility's radiological protection group. These demonstrations are intended for craft workers with limited work experience. The radiological control technicians (RCTs) that held the demonstration were knowledgeable and provided useful coaching to the workers. However, the resident inspector noted that key differences in performing electrical work in radiological areas could not be demonstrated. Workers' questions about integrating the appropriate arc flash-rated personal protective equipment with anti-contamination clothing, and how the facility will control specialty equipment items that are limited in number but required in both clean and potentially contaminated areas, could not be answered because these details had not yet been worked out. As a result, the only significant difference between this demonstration for electrical work and the generic performance demonstration for work in contamination areas was taking a smear to sample contamination in a simulated electrical box, limiting its training benefit.

Hanford Integrated Tank Disposition Contract (HITDC): Effective February 24, 2025, HFO is transitioning the responsibility for tank waste operations and disposition, which includes the management of liquid waste storage, single-shell tank retrievals, support for liquid waste treatment activities, including the preparation of LAW Facility feed, and management of effluents from ongoing site operations from WRPS to H2C under the HITDC (see 3/1/2024 report). WRPS performed these functions for over 16 years. The HITDC has a 10-year ordering period and expands on the functions covered by the previous tank operations contract to include eventual operation of the Waste Treatment and Immobilization Plant.

High Level Waste (HLW) Facility: Resident inspectors observed a technical steering group meeting, where the results of Vitreous State Laboratory and Pacific Northwest National Laboratory physical and analytical testing of potential high level waste glass formulations were presented. The goal of these formulations was to allow for higher waste loading in glass produced to increase the throughput of the facility using the new composition of the waste expected in the Direct Feed High-Level Waste (DFHLW) stream. Both presentations indicated that these glass formulations were unsuitable for the project due to potential risks, including premature melter failure or safety issues with the development of a salt layer in the melter. The presenters noted that significant improvements to the glass formulations were possible, and there would be two more rounds of new formulations being tested that are more suitable for the DFHLW feed and melter design later this year.