DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO:	Technical Director
FROM:	Hanford Site Resident Inspectors
SUBJECT:	Hanford Activity Report for the Week Ending May 9, 2025

Hanford Site: The DOE-EM Chief of Nuclear Safety was onsite for meetings with HFO and contractor personnel to discuss several ongoing nuclear safety efforts that impact the Hanford Site. The resident inspectors observed and participated in these sessions as they relate to staff projects of interest, including the Advanced Modular Pretreatment System and West Area Risk Management projects, a proposed Contact-Handled Waste Packaging facility to support the transuranic waste mission, and the site's liquid waste strategy to feed to the High-Level Waste facility (HLW) using a combination of infrastructure upgrades in tank farms and a proposed Waste Transfer Vault (WTV). The resident inspectors note that, contrary to what was previously communicated, the WTV will not be the point of compliance for HLW waste acceptance criteria verification. Rather, the contractor plans to sample within a double-shell tank employing mixer pumps to ensure the feed meets the HLW waste acceptance criteria.

Low-Activity Waste (LAW) Facility: Plant personnel introduced simulant feed containing nitrates into melter #2. The nitrated feed will result in the production of nitrogen oxides, which are removed by the process off-gas system. The off-gas system uses ammonia vapor to treat the nitrogen oxides. The presence of both nitrogen oxides and ammonia in the off-gas system represents a significant increase in facility hazards.

An independent contractor team completed a review of LAW Facility readiness to support radiological operations (see 05/02/2025 report). During the review, plant personnel successfully demonstrated their ability to support selected radiological operations. Additionally, the review team determined that the plant was on track for completing successful implementation of the nuclear safety basis and was prepared to manage hazardous waste produced by the facility. The team identified two pre-start findings that plant personnel must resolve prior to DOE's evaluation of facility readiness, which is expected to occur in early June.

Tank Farms: Operations personnel stopped a waste transfer from double-shell tank (DST) AP-103 to DST AY-101 when they did not observe the expected change in tank levels in either tank. Their subsequent investigation determined that a valve on the discharge of the AP-103 waste transfer pump was incorrectly positioned. Consequently, instead of being sent to AY-101, the waste was being recirculated back into AP-103. Further review by operations and engineering personnel determined that the correct lineup had been identified by engineering during the transfer planning process, but an error was made during the development of the transfer procedure. The error was not identified during subsequent reviews. The resident inspectors have noted a recent increase in the number of operational errors at tank farms. In addition to the above event, the errors include administrative lock errors and hazardous energy control deficiencies. They discussed this perceived increase in the number of operational errors with H2C management. H2C management had already identified the trend and has started actions to address the issue.