DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO:	Acting Technical Director
FROM:	Hanford Resident Inspectors
SUBJECT:	Hanford Activity Report for the Week Ending February 14, 2025

High Level Waste (HLW) Facility: The resident inspectors (RIs) discussed the waste delivery interface between the tank farms and the HLW Facility with WRPS and BNI management. BNI is designing the HLW Facility under the assumption that the tank farms will deliver feed that meets specific waste acceptance criteria (WAC). The RIs focused on feed sampling since this activity will be critical to ensuring HLW Facility feed is within the WAC. They noted that, under current plans, the feed will be prepared and sampled in very large tanks. Obtaining a valid sample would most likely require complete mixing of the material in the tank to obtain a uniform media, which will be very difficult to accomplish. They also noted that non-representative sampling could result in conditions where heavy particles that fall outside of the WAC, including those containing fissile material, are not detected. If fed into the plant, those particles could accumulate within tanks and components resulting in criticality concerns. WRPS managers stated that work related to mixing and sampling is too immature to discuss a proposed approach. BNI managers reiterated that they are basing their design on the presumption that feed received from the tank farms will be compliant but acknowledged that that the interface issue will need to be addressed to have confidence that received feed meets the WAC. The RIs also noted that the current design does not include a capability to return non-compliant feed to the tank farms. BNI managers stated that they believe it is unlikely they will receive non-compliant feed, but if it was received and discovered, they would most likely be able to establish conditions that would allow them to safely feed the non-compliant material through the facility. These topics will require further DNFSB staff technical evaluation once additional information is available.

Central Waste Complex (CWC): While relocating waste containers to minimize fire risks associated with wood pallets (see 10/6/2023 and 9/27/2024 reports), an operator discovered a hole in the side wall of a mixed transuranic waste drum with visual evidence of material release. Metal waste containers are considered safety significant containment and are required to be always operational. An RI observed recovery planning, and the contractor conservatively decided to classify the overpacking of the drum as a high-risk activity due to uncertainties in the drum's contents. The RI made entry with the recovery team to observe the operation. The team executed the steps of the work instruction methodically and exhibited a high level of proficiency. No contamination release was identified before or after the work execution and the drum was successfully overpacked. The RI notes that established surveillance procedures are limited in their ability to identify all degraded containers with the current physical configuration of drums. Consequently, as drum moving operations in support of wood pallet mitigation continues, it is likely additional breached containers may be discovered during relocation operations.

Hanford Site and Pacific Northwest National Laboratory (PNNL): DOE closed Hanford site (except for essential work) for parts of two day shifts, a swing shift, and a graveyard shift because of adverse conditions resulting from a snowstorm. Pacific Northwest Site Office implemented similar closures for the PNNL campus.