DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 15, 2025

TO: Technical Director
FROM: Hanford Site Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending August 15, 2025

Low-Activity Waste (LAW) Facility: To feed the LAW facility melters, simulant slurry is delivered by truck and pumped into the facility through hoses. A slurry drain tote receives excess material once the trucks are emptied. To prevent pressurization of the tote, the slurry delivery procedure requires that workers vent the tote prior to the transfer. During a transfer of slurry, a tote pressurized and sprayed slurry on two workers and the surrounding area. The workers were wearing spill-resistant personal protective equipment and were medically cleared afterward. WTCC personnel, at a subsequent fact-finding meeting noted that while the procedure states to vent the tote, the step is not explicit. The procedure's intent was to remove a vent plug for the duration of the transfer. However, workers interpreted the step to mean removal of the larger tote cap that includes the vent plug and hose connections, and immediately resecure it prior to the transfer. As a result, the tote was unvented when the transfer was performed. Pressures exceeded 100psi before the cap ruptured. Fact-finding participants identified that the venting step should be replaced with explicit language to remove the vent plug, followed by a step to replace the plug once the transfer is complete. In addition, participants suggested qualification of personnel to perform slurry loadouts and the use of auto-venting caps as an engineered control.

100-K Area: A Radiological Control Technician (RCT) identified contamination on the cheek of an individual assigned to a team that moved a transfer cask from its overpack into a waste box. The worker had completed their work when the RCT discovered the contamination during a post- activity survey of the individual. RCTs subsequently decontaminated the individual. A review of the event determined that the most likely cause of the skin contamination was contact transfer from the individual's anti-contamination clothing. However, the review also noted that absorbent material, which other workers had placed around the transfer cask during a previous work activity, had adhered to the cask. The material fell off while the workers moved the cask to the waste box, releasing clouds of dust into the work area. The dust may have also contributed to the contamination event. The team did not pause the movement when they saw the dust clouds because they determined that it would be safer to complete the move rather than leave the cask suspended from crane rigging or return it to the overpack. However, once the skin contamination was identified, they stopped work and placed the area in a safe condition. The team applied fixative to the area around the waste box and overpack to prevent additional contamination spread until planners develop work instructions to recover the area.

Tank Side Cesium Removal System: H2C nuclear safety analysts determined that correction of the previously identified passive ventilation flow rate calculation error (see 8/8/2025 report), which led to the need to modify event frequencies for spent Ion-Exchange Column (IXC) deflagrations and detonations, will also reduce the calculated time available for installation of safety equipment on a loaded IXC. A plant review committee subsequently determined that this condition is an unreviewed safety question. H2C nuclear safety is evaluating the safety of the situation.