**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

July 18, 2025

**TO**: Technical Director
**FROM:** Hanford Site Resident Inspectors
**SUBJECT:** Hanford Activity Report for the Week Ending July 18, 2025

**Tank Farms:** Following a minimum staffing Technical Safety Requirements (TSR) violation (see 6/6/2025 report), H2C management initiated a common cause analysis of over two dozen recent events during which contractor personnel did not have the necessary qualifications or training to perform work. Participants in the common cause analysis sessions noted that the paper qualification card process, last-minute changes to work crew composition, and lack of awareness of certain qualification requirements were some of the most common contributing causes. The resident inspector noted that participants were candid about past difficulties with existing processes and eager to use this effort to reduce potential error traps, such as developing more powerful automated means of verifying training and qualification.

Following a TSR violation that occurred while performing blowdowns of the Tank Side Cesium Removal (TSCR) system (see 7/11/2025 report), H2C implemented compensatory measures, including having a senior supervisory watch (SSW) to ensure TSR compliance. During performance of subsequent blowdowns, a DOE facility representative (FR) observed operators taking pressure readings required by the TSR using a non-safety instrument instead of the required safety-significant pressure indicator. The FR reported this failure to perform the TSR-required step to the responsible manager for TSCR, who then directed the blowdown be paused. H2C's position is that the TSR was not violated a second time because the procedure was paused halfway through, and as a result, only held a post-job meeting with no further investigation. The resident inspector notes that the H2C operators, operating engineer directing the work, and the SSW all failed to recognize the error, that they had not participated in this activity before, and would have proceeded through the procedure in its entirety if not for the intervention of the FR.

**Low-Activity Waste (LAW) Facility:** LAW Facility off-gas nitrogen oxide (NOx) concentrations are expected to decrease below a level of concern within two hours after waste feed is secured to a melter. This expectation establishes the duration for analyzed accidents that release NOx to the environment. However, in May, operators noted unexpectedly high NOx concentrations more than two hours after idling melters following two operational events. WTCC nuclear and chemical safety management directed additional analysis. The preliminary analysis results indicate the amount of adsorbed NOx in the carbon bed may be higher than previously thought and that the original calculations used for NOx releases may not be conservative under conditions in which a carbon bed media fire is accelerated by another fuel source. The NOx levels identified in the analysis appear to indicate a need for additional safety-significant controls. Facility management has restricted the use of nitrated feed (simulant or waste), pending an evaluation of the safety of the situation and agreement from the HFO that the restriction can be lifted. The postulated initiator for this event is an aircraft crash that releases fuel, resulting in a fire that includes the carbon bed media. Engineering is reviewing the conservatism of the aircraft crash analysis to determine whether the postulated event can be ruled out to allow resumption of operations with nitrated feed.