

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 1, 2024

**TO:** Timothy J. Dwyer, Technical Director  
**FROM:** B. Caleca, P. Fox, and P. Meyer, Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending November 1, 2024

**Low-Activity Waste (LAW) Facility:** An independent contractor team completed field assessments to determine whether WTCC is ready to start using hazardous chemicals, including ammonia, in facility operations (see 10/18/2024 report). The chemicals are needed to complete testing of the LAW Facility and for future tank waste processing operations. The assessment team was well prepared and performed a thorough assessment in accordance with objectives and criteria identified in an approved implementation plan. Based on their interactions with plant operations and support personnel, the assessment team determined that WTCC leadership has successfully established a good foundation for a strong nuclear safety culture at the facility. However, the assessment team also identified several areas that plant leadership needs to strengthen before they allow the use of hazardous chemicals in plant processes.

In addition to actions related to chemical safety system operations and emergency response, the team identified a need to improve the procedure review process so that plant personnel can perform work as expected. Further, the team noted that maintenance work instruction development process improvements are needed to reduce the number of work instruction deficiencies. The team leader also noted during the assessment out brief that WTCC plant personnel are performing well. However, the hazardous nature of future operations will require them to implement a higher degree of discipline in their conduct of operations to support the pivot from the startup and construction mode to plant operations with significant hazards.

A DNFSB staff team observing the assessment agrees that, as presented, the assessment team results accurately reflect the state of the WTCC safety culture and the need to improve procedures, maintenance instructions (see DNFSB letter 10/3/2024), and operational discipline. However, the staff team also observed several cases where plant equipment did not support the accomplishment of evolutions during the assessment. There are also several temporary system modifications that support key plant functions. The assessment team lead stated during the out brief that these conditions are expected at this point in the commissioning process. The staff team agrees with the premise that equipment issues are expected throughout the commissioning process and agrees that WTCC is working effectively to resolve the deficiencies. However, the introduction of hazardous materials into the process system will increase existing or introduce new work hazards for plant operation and maintenance. This circumstance will raise the number and complexity of hazard controls needed to protect workers and increase the difficulty of performing required repairs and modifications. The observed weaknesses in procedures and work instructions, coupled with the need to operate the plant using non-permanent and degraded equipment along with increased hazards will require WTCC to carefully manage the added operational risk. A separate DOE team remains onsite conducting a parallel but independent assessment to evaluate both DOE and WTCC readiness to support hazardous operations. The DNFSB staff team will engage with WTCC and DOE to obtain their intended approach to address the above operational risk after the DOE team completes their assessment.