DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 8, 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 8, 2024

Reduction Oxidation (REDOX) Facility: DOE has decided to pause ongoing decontamination and demolition preparation (D&D) activities in the REDOX facility to shift related resources to higher priority work. Consequently, CPCCo is demobilizing the project and returning the facility to a surveillance and maintenance (S&M) status. A resident inspector (RI), along with DOE oversight personnel, participated in a walkdown held to confirm that the facility is ready for the status change. The walkdown covered most facility internal areas except the canyon and the top three floors of the silo, which are restricted because of mercury contamination. The RI determined that the project team did an excellent job in closing out ongoing work and preparing those areas for the transition. Overall, facility conditions are better than when the facility was previously transitioned from an S&M status to a D&D status. However, problematic legacy conditions that DOE did not fund for accomplishment during this D&D period will remain until D&D activities resume. DOE has not determined a specific date, but D&D resumption could be a decade or longer in the future. Specific items of concern are: (1) water ingress, which is known to spread radiological and chemical contaminants; (2) leaking pipes containing corrosive, hazardous liquids, which are likely to continue to degrade; (3) legacy plastic leak confinements without drains or catches; and (4) legacy waste material, which will remain in the building.

Low-Activity Waste (LAW) Facility: An independent DOE team completed their review to determine whether the Direct Feed Low-Activity Waste (DFLAW) facility and its equipment, personnel, and procedures are ready to support the plant startup cold-commissioning phase (see 11/1/2024 report). They also assessed DOE line management readiness to oversee contractor and facility cold commissioning operations. The team identified ten pre-start and four post-start findings and noted other deficiencies and opportunities for improvement. The pre-start findings were in emergency preparedness, fire protection, industrial health, occupational safety, and training. The team recommended that the Startup Approval Authority authorize starting cold commissioning upon: (1) verification of closure of the list of pre-start open items; (2) verification of contractor and DOE Cold Commissioning Management Assessment pre-start finding closure; and (3) approval of contractor and DOE post-start corrective action plans.

Tank Side Cesium Removal (TSCR) System: WRPS completed work to replace the expended ion exchange columns (IXCs) used to remove cesium and suspended radioactive particulate from low-activity tank waste during TSCR campaign 1A, batch 3 with new IXCs. The operations team subsequently started the system and is pre-processing batch 4. At the start of this batch, double-shell tank AP-106, where the pre-processed waste is being stored until the LAW Facility is ready to receive and process it, contained approximately 643,000 gallons of compliant feed. Batch 4 is expected to add approximately 190,000 gallons of pre-processed waste to AP-106.

DNFSB Staff Activity: A DNFSB staff review team met with DOE and WRPS subject matter experts to discuss design practices used by WRPS to ensure high-reliability safety systems.