

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 7, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending February 7, 2020

Plutonium Finishing Plant (PFP): Project personnel demonstrated the procedure for retrieval, packaging, and staging of Plutonium Reclamation Facility (PRF) debris that has been covered by soil and fixative as part of recovery from two contamination events in 2017 (see 12/22/2017 and 1/19/2018 reports). Feedback from this hot demonstration will be used to refine the retrieval process prior to disturbing PRF debris.

Currently, three containers are being held in the high contamination area due to water leakage. Leaking containers are allowed to drain in order to prevent contamination spreads during transport to the Environmental Restoration Disposal Facility. The resident inspector met with project personnel to discuss issues with leaking roll-on/roll off containers and lessons learned from the use of water reducers at the 242 B/BL facility where free liquids released from totes stabilized with similar water reducing agents as those used at PFP.

Tank Farms: Tank-Side Cesium Removal (TSCR) Project personnel held a special Process Hazards Analysis and Control Selection meeting to discuss alternative controls for hydrogen detonations in the headspace of TSCR Ion Exchange Columns (IXCs). The latest modeling performed by the project suggests that a recently-proposed weather restriction specific administrative control may significantly impair the ability to perform routine operations. Alternative controls would protect workers from hazards associated with a detonation and eliminate controls for hydrogen generation in IXCs. The resident inspector notes that the meeting had the appropriate subject matter experts in attendance, and that discussions adequately considered alternatives and potential hazards introduced by changes to the current control set.

Central Plateau Risk Management (CPRM): This week, contractor management restricted access to CPRM facilities following two potential exposures to hazardous energy at the 224B facility. These facilities include non-operating facilities in the 200E and 200W areas, and will require shift office approval and more rigorous energized hazard checks prior to entry. Current activities at 224B are in support of taking the facility into a cold and dark condition prior to intrusive work removing hazardous materials and demolition of the facility structure.

Building 324: The final results from an outside testing laboratory's analysis of hydraulic fluid samples from the potentially contaminated HPU (see 1/17/2020, 1/24/2020, and 1/31/2020 reports) indicate a small but detectable level of contamination. Subject matter experts from the Richland Operations field office estimated that a worst-case scenario (i.e., ingestion of large quantities of hydraulic fluid) would not pose an appreciable radiological hazard at the levels of contamination detected.

The Building 324 Resumption team continues to work towards completion of its root cause analysis and corrective action plan for restart of radiological work at the facility. Project personnel expect resumption of work in early March.