

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 17, 2023

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca, P. Fox, N. Huntington, and P. Meyer, Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending March 17, 2023

PUREX: While removing water from a catch basin posted as a contamination area using a sump pump, two workers were sprayed with water when the pump discharge hose dislodged from the tote being loaded with the potentially contaminated liquid. A survey of both individuals and their wetted clothes did not identify any detectable contamination. The tape, which the work team used to secure the hose to the tote, failed while when the pump was operated. A resident inspector attended the critique and noted the workers and supervisor were forthright and effectively identified potential causes for the event.

Waste Treatment Plant (WTP): A senior review board (SRB) meeting was held to evaluate the results of a safety evaluation, which was performed for the latest revision of the High-Level Waste (HLW) facility preliminary documented safety analysis (PDSA). This revision includes re-evaluation of four HLW facility hazard analyses using newer methodology, resolution of deferred comments, and implementation of changes resulting from an engineering evaluation of the C5V ventilation system, which identified recommendations to improve the system's safety and performance. The PDSA was reviewed by both the field office and the DOE office of Enterprise Assessment (EA). The SRB voted to recommend conditional approval of the PDSA. The condition allows only construction or procurement of structures, systems, or components that are unlikely to be affected by expected safety basis changes. These changes may result from a safety design strategy revision, currently under development to implement the latest revisions of DOE-STD-1189 and DOE-STD-3009, which will most likely impact HLW hazard controls.

The DOE Office of Enterprise Assessments completed an assessment of safety culture survey methods and interpretation at the WTP. Their assessment determined that BNI has established an effective program for monitoring the condition of safety culture. They also noted that BNI and WTCC management actively use insights from safety culture surveys and encourage continuous improvement.

324 Building: The wire rope that provides the lifting force for the five-ton crane shield door for the D hot cell separated during operation of the door. The door swings upward on hinges with the door opening into the airlock cell. The door, which was being controlled remotely, was at or very near the fully open position when the wire rope failed and swung to its closed position. All personnel are excluded from the airlock by procedure during door operation, so there were no injuries. However, the extent of damage to systems or structures still needs to be determined. Based on the shock caused by the event and the visible disturbance of dust and debris noted on the airlock camera, facility personnel expect significant redistribution of contamination within the air lock and other hot cells. Shield door operations are suspended pending the development of a recovery plan and evaluation of the condition of other shield door operating mechanisms.

Waste Encapsulation and Storage Facility: CPCCo received the first cask that will be used to store cesium and strontium capsules when placed in dry storage.