

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 8, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: B. Caleca, P. Fox, N. Huntington, and P. Meyer, Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending December 8, 2023

Hanford Site: Approximately 1.3 inches of rain were recorded in a 24-hour period as measured by the Hanford meteorological station, impacting operations across multiple facilities.

During a walkdown at the 231-Z facility, a resident inspector noted standing water migrating from multiple locations above workers' heads including the contamination area step off pad. No individuals received skin or personal clothing contamination based on exit surveys, however the resident inspector noted this was similar to a water ingress event at the REDOX facility that suspended work (see 10/14/2019 report). The responsible manager agreed that restricting access to the facility during adverse weather was justified given the risk of contamination spread.

The Tank Side Cesium Removal (TSCR) Process shut down due to activation of the AP-07F pit leak detection alarm. The likely cause of the alarm was significant rainwater ingress to pump pits in the AP tank farms. The contractor entered maintenance mode to verify the alarm source. Additionally, rainwater ingress to the TSCR enclosure has accumulated in the enclosure's sump pit, requiring a manned entry to clean up the water, identify the source, and correct the issue.

Solid Waste Operations Complex: The contractor performed a technical evaluation to determine if the Potential Inadequacy in the Safety Analysis process should be entered following technical concerns raised by the DOE Chief of Nuclear Safety (CNS) and her technical team regarding the potential for waste drum toppling during a fuel pool fire (see 11/17/2023 report). The resident inspectors were briefed on the results of the evaluation, which determined that there was insufficient new information to conclude the current safety basis was potentially inadequate. The information in question relates to a test performed in the 1990's that showed a stacked waste drum array on wooden pallets did not topple during a fuel pool fire. The fire protection guide, derived in part from the test, concluded that toppling cannot be ruled out based on the test result because anticipated lid ejection did not occur. The resident inspectors share the CNS team's concern that a single test result may not preclude toppling given the potential for test outcome variability. The contractor is currently evaluating the continued use of wood pallets in the new Documented Safety Analysis given the potential for additional controls.

242-A Evaporator: During observation of the P-B-2 pump replacement, a resident inspector noted that the operations checklist to verify function of overhead crane controls had not been completed prior to crane operation. They shared their observations on the work activity with operations personnel; the crane operation procedure was suspended pending a new revision.

Waste Treatment Plant (WTP): The Low-Activity Waste Facility completed production of its first container of test glass. The test glass does not contain any radioactive waste and was produced by Melter #1 using frit introduced from funnels on top of the melter. Future testing will introduce a test media, made up of sodium hydroxide and frit, to the melter using the normal melter feed systems.