

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 20, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: B. Caleca, P. Fox, N. Huntington, and P. Meyer, Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending October 20, 2023

Tank Farms: Resident inspectors met with tank farms operating contractor (TOC) personnel to discuss the results of tank AP-106 samples performed to determine if contents of the tank will meet current interface control document values for direct feed low activity waste (DFLAW). Results of the samples indicated higher cesium content than anticipated. TOC engineers stated that the Tank Side Cesium Removal (TSCR) process is removing cesium as expected by the contractor's technical basis, and the source of the excess cesium is believed to be from small quantities of residual waste that remained on the AP-106 tank walls from activities prior to it being repurposed as a feed tank for DFLAW. TOC management is working to determine the best option to further reduce the cesium concentration to support DFLAW processing.

The WRPS emergency management organization conducted a drill to evaluate response to a simulated tornado at the TSCR ion exchange column storage pad. The resident inspector notes that response activities in the contamination reduction zone were not effectively managed and personnel assigned to work in this zone did not have appropriate personal protective equipment for the radiological contamination levels simulated. Additionally, some necessary radiological equipment was not available at the scene. The deficiencies resulted in an inefficient and inadequate radiological response and are like those identified at other recent WRPS emergency response drills. Although these deficiencies are routinely noted by the drill team, there does not appear to be an improving performance trend.

Solids Waste Operations Complex: The contractor determined an Unreviewed Safety Question exists regarding the potential for a fuel pool fire to impact multiple facility zones within waste storage buildings (see 10/13/2023 report). A timely order has been issued which provides operational restrictions for the Central Waste Complex and the Waste Receiving and Processing Facility buildings having multiple facility zones and an inventory greater than 5,000 DE-Ci.

242-A Evaporator: The Safety Basis Approval Authority approved an amendment to the 242-A Evaporator safety basis. Among other changes, this amendment documents planned operational safety improvements that will eventually address the hazard control deficiencies identified in the Board's July 19, 2022, letter, if fully implemented.

Waste Treatment Plant: A shield door operating mechanism was damaged while performing maintenance. The event investigation determined that an approved deviation had been implemented to bypass a position interlock for a crane associated with the door to perform the maintenance. The deviation was necessary because the crane could not be placed in its normal position because of an unrelated deficient condition. This action also bypassed other interlocks as well. Consequently, the closure mechanism continued to operate after the door was fully closed. Plant personnel were not aware that the deviation bypassed the additional controls.