

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 5, 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 July 5, 2024

Waste Treatment Plant: WTCC personnel began feeding dilute tuning feed to melter #1. They also successfully demonstrated integrated operation by pouring glass from melter #1 while simultaneously feeding the melter.

Solid Waste Operations Complex (SWOC): A DOE Safety Basis Review Team (SBRT) completed a review of an evaluation of the safety of the situation (ESS) and justification for continued operation (JCO). The ESS/JCO was submitted by CPCCo after they determined the existence of an unreviewed safety question related to fuel fires that might impact multiple waste storage zones at SWOC facilities (see 10/20/2023 report). CPCCo's analysis re-evaluated two fire scenarios and determined that the accident consequence level for one scenario (large outside fire) increased by 23.5%. The consequences for the other scenario (large inside fire) decreased by a small amount. Based on the results from the large inside fire analysis, CPCCo proposed lifting compensatory measures for the Central Waste Complex and Waste Receiving and Processing Facility, which were established when the potential inadequacy of the safety analysis was discovered. To address the increased consequences of the large outside fire scenario, CPCCo proposed retaining a compensatory measure at T Plant that restricts quantities of combustible and flammable liquids in any vehicle outside the T Plant buildings but within the T Plant complex, and within 100 feet of waste arrays, to less than 125 gallons. Additionally, in cases where distances between T Plant storage zones does not preclude fire spread between zones, and sufficient separation distance cannot be established, CPCCo will retain a compensatory measure that combines affected zones into a single zone to ensure that material at risk will not exceed values assumed in the hazard analysis. The SBRT determined that the analysis was conservative and that the proposed controls would effectively protect workers and the public. The SBRT presented their evaluation to a DOE Senior Review Board (SRB). The SRB identified several questions for SBRT consideration prior to approval of the ESS/JCO.

Tank Farms: A WRPS team successfully removed an existing assembly from riser-008 on double-shell tank SY-101 and installed a new riser adapter assembly. This action prepared the riser to receive the Test Bed Initiative mast, which will be used to retrieve 2,000 gallons of supernatant waste from the tank. The mast will also remove cesium and solids from the waste during its transfer to totes. WRPS will ship the waste off-site for grouting and disposal.

242-A Evaporator: WRPS successfully started the evaporator process using water (cold run) under the observation of independent review team (IRT) members, conduct of operations coaches, and DOE observers. In its out-brief, the IRT noted that the four pre-start findings from the contractor RA and their own observations had been addressed based on their observations during the water run (see 5/21/2024 report). A resident inspector observed parts of the cold run and shared their observations of facility performance with WRPS senior management at their request. WRPS subsequently declared readiness to operate to DOE. To the facility will continue its cold run into next week to allow for further DOE observation during the RA.