

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 22, 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 March 22, 2024

Waste Treatment Plant: The contractor has initiated a workshop for the purpose of revising the High-Level Waste (HLW) Facility hydrogen control strategy. A resident inspector observed the workshop kick-off where the objectives, key decisions, and information needs were outlined. Given proposed changes to the HLW Waste Acceptance Criteria and the use of a new atmospheric dispersion model (see 12/1/2023 and 2/2/2024 reports), calculated dose consequences from hydrogen detonations in vessels have been reduced by approximately an order of magnitude, potentially enabling simplified controls. The workshop aims to firm up assumptions and inputs to the accident analyses and identify a control set applicable to seismic, ashfall, and loss-of-power events that reduce reliance on active controls such as vessel agitators.

242-A Evaporator: Resident inspectors observed an emergency preparedness drill simulating a seismic event affecting the evaporator. The scenario required activation of the safety significant switch to dump the C-A-1 vessel, an action that is required to prevent flammable gas explosions. A management self-assessment (MSA) team, which is evaluating readiness to restart the facility, also observed. The MSA team subsequently completed their assessment and concluded that the readiness of equipment, procedures, and personnel will support the start of a Contractor Readiness Assessment after completion and implementation of an in-process safety basis revision, an ongoing operational readiness checklist, and resolution of MSA identified issues.

231-Z: A resident inspector observed a critique held to document Hanford Fire Department (HFD) response to a medical emergency inside of a radiological area. Participants appeared to agree that the CPCCo radiological control organization and HFD personnel responded successfully per their training and procedures; however, different expectations, compounded by miscommunication between the organizations, caused confusion. Both companies committed to improve communication and clarify expectations for emergency response.

Tank Farms: In February 2023, after several examples of poor work performance resulting in, among other things, a fire in the 242-A Evaporator Facility (see 2/3/2023 report) and freeze damage to 242-A Evaporator Facility safety systems (see 1/6/2023 report), the DOE field office sent a letter to WRPS expressing concerns about planning, performance, and integration of work. While the letter recognized ongoing actions by WRPS to improve conduct of operations, DOE stated an expectation for WRPS to take integrated action to improve safe work performance and strengthen the operational culture. This week, the WRPS Corrective Action Review Board (CARB) met to evaluate the results of a root cause analysis (RCA), which was performed to address these issues. The RCA team determined that management methods used to monitor operational performance using the Contractor's Assurance System were not effective in driving improved performance. Additionally, the team determined that WRPS has not demonstrated an ability to consistently hold the organization/personnel accountable. After substantial discussion among the CARB members, and with attending DOE representatives, the CARB approved the report and proposed corrective actions pending completion of actions identified in the meeting.