

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 26, 2024

**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 January 26, 2024

**DNFSB Staff Activity:** R. Csillag was onsite for training and to discuss the results of a Board's staff review of the Direct Feed, Low-Activity Waste maintenance program with DOE and WTCC representatives. B. Sharpless was onsite for training and to perform routine observations.

**105-KW Basin:** A CPCCo management team, supplemented by a WRPS subject matter expert, performed a management assessment of the facility team's readiness to dewater and grout the KW Basin. The team noted that facility personnel were engaged, and it was clear that the facility team is comfortable with the equipment, procedures, and work instructions they will use for this work. However, the assessment team noted that radiological controls specific to this activity, as well as basin water sampling requirements, have not been institutionalized in supporting procedures. Additionally, they identified training documentation gaps and several procedure issues that the facility team will need to address prior to commencing basin dewatering.

**REDOX Plant:** A resident inspector participated in a pre-job brief and facility entry by a team that was making final preparations to perform fissile liquid draining from pipes in the REDOX sample gallery. Nondestructive assay results have verified that there is no criticality concern for this work. The resident inspector noted that the work crew performed work professionally and that controls to prevent collection of potentially fissile liquids have remained in place (see 7/07/2023 report). During the initial draining, less than 10% of the expected liquid volume, as estimated using ultrasonic testing, was pumped into a waste drum. The work crew exited and held a post job briefing to discuss the anomaly and a path forward. The team placed the drum in a safe and stable condition and will perform additional ultrasonic testing to verify the liquid volume in the pipe section before proposing any changes to the work package.

**242-A Evaporator:** A resident inspector and a member of the Board's staff met with facility management and other WRPS production operations managers to discuss staff observations related to the loss of heating event, which occurred earlier this month (see 1/19/2024 report). Managers stated that action is in progress to troubleshoot and clear ventilation-related alarms and acknowledged that there are gaps in the facility's alarm response procedures that need resolution. Upgrades that will give control room operators additional information on ventilation system function are proposed but would take substantial time to implement. Because of the multiple factors that contributed to the loss of heat, WRPS has initiated a causal analysis.

**222-S Laboratory:** HLMI held a fact-finding meeting to discuss the fire suppression piping freeze issue (see 1/19/2024 report). The heat pump for the maintenance annex has a history of issues and is a single point failure. Although operators monitor temperatures in the annex during rounds, the temperature above the drop ceiling, where the fire suppression piping is located, is not monitored. Efforts made by facility personnel to increase the temperatures were insufficient. Proposed actions include an evaluation of the adequacy of the temperature monitoring locations, installation of insulation, and a redundant heat supply for this area.