

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 27, 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 January 27, 2023

**Board's Staff Activity:** R. Csillag and B. Sharpless were onsite. In addition to completing various training and qualification tasks, R. Csillag discussed recent Plant Cooling Water pump failures and related corrective actions with the Waste Treatment Plant contractor and B. Sharpless observed activities at 105-KW.

**105-KW Basin:** Board's staff personnel observed performance of a full up operational drill that exercised facility response to a simulated leak of unfiltered basin water from the recently installed basin dewatering system. The field team effectively established control of the scene and provided aid to the event discoverer, who was simulated to be contaminated. Radiological control response was also evaluated to be effective. However, communications between the field work supervisor and the building warden were infrequent, inefficient, and did not always comply with established protocols. The observers also noted that direction provided from the shift office was not always clear and resulted in some confusion. The observed weaknesses were mitigated by the strong field performance and did not substantially affect the outcome of the relatively simple scenario presented in this case but could be a larger factor in more complicated events.

**222-S Laboratory:** Two individuals were contaminated while sampling tank 102, which collects laboratory waste. Pump tubing separated from its connection point on the sampling dip tube and sprayed two workers with liquid that had been used to prime the pump. One individual was sprayed on their left cheek and shoulder and the other was sprayed on their left arm area. Both were subsequently decontaminated and cleared through a personnel contamination monitor. Facility management held an ALARA review to understand the causes of the event. Attendees noted that the connection that failed was poorly designed. Additionally, overall sampling system performance was deficient resulting in difficulty in starting and operating the system, contributing to the potential for operational errors or equipment failures. Facility management will use the information to identify corrective actions to prevent recurrence of similar events.

**Building 324:** A resident inspector observed a Hazard Review Board (HRB) meeting for soil stabilization drilling and permeation grouting in room 18. The HRB was thorough and asked probing questions of the workers and planners, and participation was strong from all personnel involved. The HRB voted to approve the package with comments, including follow-on interactions to correct noted paperwork deficiencies prior to starting work.

**Liquid Effluent Retention Facility (LERF):** The DOE Operational Readiness Review (ORR) team completed their review and presented their findings to the tank operations contractor. While the team determined that WRPS is ready to operate LERF as a hazard category 3 facility, this determination is contingent on the resolution of two pre-start findings addressing conduct of operations and the lack of identified systems, structures, and components to implement the facility's specific administrative control, and one post start finding related to emergency preparedness drill performance.