

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 6, 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 6, 2023

Tank Farms: Resident inspectors observed the pneumatic pressure testing of two transfer line encasements in AP Farm. The tests are part of a broader effort to verify the integrity of transfer line encasements after water and corrosion were identified in AW farm encasements (see 6/3/2022 report). The slurry transfer line passed the test. However, the supernatant line encasement test could not be completed, with the most likely cause of the unsuccessful test being a problem with a seal on the encasement end in another pit. The team was knowledgeable about the work activity and worked well together. They were quick to identify that the supernate line was not going to hold pressure and performed initial troubleshooting allowed by the procedure. However, additional troubleshooting will be necessary before retesting. The resident inspectors identified a few observations regarding work execution and potential procedure improvements that will be communicated to management.

242-A Evaporator: Following routine maintenance, operators were unable to restart the K-1 exhauster system in automatic mode and elected to start the system manually without realizing this would bypass controls that activate heaters for the system. Two days later, fire protection and raw water systems were damaged by freezing. Fire system maintenance personnel have repaired several broken sections of the fire suppression system, but subsequent pressure tests show that leaks remain in less accessible parts of the facility. A work package that allows work in high contamination and airborne radioactivity areas is being developed to allow a more comprehensive inspection. Investigative and corrective maintenance work packages are also being developed for damaged valves in the raw water system. The resident inspectors discussed concerns regarding the initial response to the event with WRPS management, who have initiated an event investigation.

324 Building: 324 Building management convened a critique meeting to collect information related to clothing contamination found when an individual used a personnel contamination monitor after performing work in one of the facility's contamination areas. Follow-up surveys determined that the beta contamination (most likely strontium-90) was on a company issued modesty clothing shirt, which was worn underneath a personal sweatshirt. A full set of anti-contamination personal protective (anti-c) clothing was also worn during the work. Based on the facts collected during the meeting, the contamination was caused either by cross contamination during the anti-c clothing doffing process or had been present on the shirt prior to performing the 324 Building work. The individual had previously worn the shirt while performing work within the Waste Encapsulation and Storage Facility (WESF) canyon and it had not been laundered between the work activities. Based on the discovery of contamination on the shirt, the individual's work area and work vehicle were surveyed. No contamination was found in either area. Critique attendees noted there is no company policy for the use and management of modesty clothing. Additionally, they noted there was a substantial delay in the overall response, which appeared to be caused by confusion regarding whether the contamination resulted from naturally occurring sources. Lastly, the critique revealed a need for a more robust coordination between facilities to ensure issues are fully addressed when there is ambiguity in responsibility for the cause of an issue. Facility management intends to address the issues.