

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 14, 2023

**TO:** Timothy J. Dwyer, Acting Technical Director  
**FROM:** B. Caleca, P. Fox, N. Huntington, and P. Meyer, Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending July 14, 2023

**Waste Treatment Plant:** WTCC personnel continued a controlled heat up of Low Activity Waste (LAW) Facility melter #1 (see 6/30/2023 report). At one point, they paused the heat up for several days while engineering staff worked with internal and external subject matter experts to ensure observed conditions associated with jack bolt adjustments matched expected conditions. The jack bolts provide support to the melter walls, and the adjustments are required to accommodate thermal expansion of the melter during the heat up. The team also effectively addressed other conditions that have occurred during the heat up, including the discovery of a small amount of water in the gas barrier plenum, failure of a single heating element in two startup heaters, communication errors affecting links between the startup power supplies and the associated human-machine interface panels, and anomalies associated with startup power supply #3. As of Friday morning, July 14, the melter temperature was approaching 1900°F. They will continue the heat up until the melter reaches an operating temperature of 2100°F. After holding the melter at that temperature long enough to allow refractory temperatures and melter expansion to stabilize, the team will complete final jack bolt adjustments and load frit into the melter plenum to establish the initial glass pool.

**222-S Laboratory:** The 222-S Laboratory has eleven oil filled hot cell windows located in two rooms, 11-A and 1-E. The windows leak oil and require repairs. The repair project has initiated removal of the first window, which will be sent to the manufacturer for refurbishment. A resident inspector observed removal of one of the inner glass slabs from the window assembly. Although the workers performed the work safely and deliberately, problems were encountered. The work required removal of lead wool from between the glass slabs and the window frame. Work start was delayed to add missing lead controls into the industrial hygiene work permit which is part of the work package. After the work package was revised, the field work supervisor provided an updated briefing, and workers began to remove the inner glass slab. While attempting to move the glass to a cart, an adjustment to the A-Frame hoist was required to allow enough clearance to successfully complete the movement.

**Tank Farms:** The Corrective Action Review Board (CARB) met to review the apparent cause analysis (ACA) performed after discovery of moisture in waste transfer line encasements and an un-analyzed configuration of the associated drain valves, which raised concerns that encasement hydrogen concentrations could increase (see 6/03 and 6/17/22 reports). The ACA determined that the direct cause was a non-conservative analysis of the transfer lines. The design authority for flammable gas provided background knowledge and context to the issue and corrective actions during the discussion. The CARB members recommended approval, with comments.

**Hanford Site:** DOE announced that it would extend the current Tank Operations Contract, held by Washington River Protection Solutions, for up to two additional years. The extension will support uninterrupted tank farm and direct feed LAW operations while DOE resolves contract award legal challenges, which have delayed transition to the follow-on Tank Disposition Contract.