

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 4, 2017

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox and D. Gutowski, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending August 4, 2017

Staff member D. Cleaves was on site providing resident inspector support.

**Tank Farms.** During removal of a legacy thermocouple from tank AX-102, the thermocouple buckled while being lowered into the grout box assembly. The pieces remained in their sleeving and were lowered into the box. There was no evidence of a contamination spread beyond the box, however there was a small amount of liquid in the box indicating some breach of the sleeving. The contractor is evaluating rigging practices for future thermocouple removal.

**Plutonium Finishing Plant.** After the contamination spread that occurred on June 8 (see Activity Report 6/9/2017) the contractor issued bioassay kits to approximately 300 workers. Most of the kits were returned and are being analyzed. Early results have identified some individuals with positive results that could indicate an exposure from the event, but could also indicate exposure from previously performed work activities. In the initial set of results, the accumulated dose for those individuals who had a positive result will be less than one mrem over a 50 year period.

**PUREX Plant.** RL submitted a draft corrective action plan that was developed by the contractor to ensure safe storage of waste in PUREX Storage Tunnels 1 and 2 to the Washington State Department of Ecology (Ecology). The draft plan affirms their intent to grout Tunnel 1 in order to improve tunnel stability, provide additional radiological protection, and increase storage durability without precluding future remedial actions or closure decisions. Ecology has approved this plan. For Tunnel 2, a panel of experts will conduct an initial analysis of options and identify data needs. The output of the panel will be used to feed a detailed alternative analysis for Tunnel 2. A response action for Tunnel 2 will be selected in consultation with the panel following the completion of the detailed alternative analysis.

**Waste Treatment Plant.** The contractor has determined that the design of the carbon dioxide vessel adjacent to the Low Activity Waste (LAW) Facility has adequate margin in the event of a beyond design basis earthquake (BDBE). An original calculation showed minimal margin in the design basis earthquake. Since catastrophic failure of this vessel during the BDBE could seriously damage the main LAW building, ORP and the contractor evaluated the calculation to consider additional factors for the adequacy of the vessel. The contractor proposed a new TSR level control to protect assumptions in this calculation.

**DOE Headquarters Oversight.** A team from EM 3.112, Operational Safety, performed an assessment of DOE oversight, contractor maintenance, and contractor TSR implementation for ORP and the Tank Farms contractor. At their outbrief, the team stated that the assessed programs were performing adequately. However, they identified two findings related to the contractor's maintenance program and provided multiple observations for consideration to improve the contractor's TSR implementation and ORP's oversight program implementation.