

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 14, 2017

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox and D. Gutowski, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending July 14, 2017

Staff members K. Deutsch and M. Bradisse were on site for a review of Tank Farms Automation upgrades. M. Bradisse also provided Resident Inspector support and K. Deutsch met with ORP and the Waste Treatment Plant contractor regarding implementation of DOE-STD-1195, *Design of Safety Significant Instrumented Systems Used at DOE Nonreactor Nuclear Facilities*.

**Site Infrastructure.** Representatives from the Tank Farms contractor, the Mission Support contractor, and ORP met to discuss power transients that occurred during the recent range fire. These transients, the result of switching events at a local utility's substation, tripped a safety interlock at the 242-A Evaporator causing a vessel dump (see Activity Report 7/7/2017). The transients also had impacts on the AW and AN primary exhausters, the 702AZ chiller, and the AZ-101 annulus exhauster. The Tank Farms contractor noted the evaporator's Uninterruptable Power Supply (UPS) should have mitigated the effects of the transients but failed to do so; they will determine whether the UPS must be repaired or replaced. The Mission Support contractor is planning to upgrade power meters to obtain more information from future transients. All parties will also meet with the local utility to discuss strategies for maintaining high-quality power.

**242-A Evaporator.** The contractor completed evaporator campaign EC-6. The campaign processed approximately 500,000 gallons of feed from AW-102 and transferred about 275,000 gallons of concentrated waste to AP-104. Following the power spikes and safety interlock trips of last week, there were no significant issues with the campaign.

**Waste Treatment Plant.** The contractor issued a qualification report for radial safe change HEPA filters. Following testing, they concluded that the proposed filter met all requirements.

**Plutonium Finishing Plant.** Workers removed glovebox HC-7C from 234-5Z. HC-7C is the last glovebox that is required by the demolition plan to be removed during the pre-demolition phase. However, the contractor has also decided to remove glovebox HC-227T prior to demolition. Once HC-227T is removed, six gloveboxes will remain in the facility until they are removed during demolition of the 234-5Z structure.

The contractor will use an engineered explosion to topple the main facility ventilation stack on Saturday (see Activity Report 06/30/2017).

**PUREX Plant.** The contractor selected the same grout mix that they used for stabilization of the Waste Encapsulation and Storage Plant hot cells for stabilization of PUREX Storage Tunnel 1 (see Activity Report 4/4/2017). The selected grout is higher density than what was previously under consideration by the contractor. However, this higher density recipe has better flow characteristics than low density grout and will provide a better capability to fill voids around equipment stored in the tunnel. The contractor also stated that the higher density formula will not limit future retrieval options.