

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 23, 2017

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox and D. Gutowski, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending June 23, 2017

Staff members P. Foster, A. Gwal, J. Parham, and L. Schleicher were on site to review of Waste Treatment Plant electrical systems. R. Rosen attended the Tank Integrity Expert Panel meeting.

**Tank Farms.** The contractor implemented the safety basis amendment modifying administrative ignition controls (see Activity Reports 3/25, 9/2/2016). This was an extended implementation due to discovery of non-compliant equipment installed in the farms and a broad extent of condition review. Immediately prior to full implementation, contractor personnel discovered an error. One of the LCOs had not been revised and its language is now inconsistent with two other LCOs that were modified. The contractor decided that these TSR inconsistencies did not constitute a PISA since the underlying hazard and accident analysis was unaffected. They proceeded with implementation and will revise the missed LCO in an upcoming safety basis amendment supporting C-105 retrieval. In the interim, relevant personnel have been trained on the discrepancy and the difference is pointed out in the daily shift instructions.

The contractor installed a high definition camera to obtain imagery of the AY-102 primary tank bottom (see Activity Report 2/24/2017). They presented their latest data to the Tank Integrity Expert Panel. So far, they have located two leak sites adjacent to weld seams in an area on the north side of the tank. They also presented information regarding tank AZ-101 including additional evidence that the crawler contamination and black material on the annulus floor was from a leak in an out-of-service sidefill transfer line, and not from the primary tank (see Activity Report 5/26/2017). The material continues to drip in AZ-101 based on the latest annulus images. An extent of condition review of the other tanks that include these types of sidefill lines (AY and AZ farm tanks) did not find any visual evidence of material from these lines in those annuli.

**Waste Treatment Plant.** ORP approved the contractor's proposed approach for implementing DOE Standard 1195-2011, *Design of Safety Significant Instrumented Systems used at DOE Nonreactor Nuclear Facilities*, pending resolution of five comments. The contractor intends to modify or remove some requirement statements contained in the standard to support their implementation. Additionally, their approach tailors some sections of ANSI/ISA-84.00.01-2004, *Functional Safety: Safety Instrumented Systems for the Process Industry Sector – Part 1: Framework, Definitions, System, Hardware and Software Requirements*, the industry consensus standard implemented by DOE Standard 1195, including the section on hardware fault tolerance.

ORP started a review of the contractor's readiness to resume High Level Waste Facility procurement and construction per an updated safety basis (see Activity Report 11/10/2016).

**PUREX Plant.** The contractor is moving forward with plans to fill PUREX tunnel one with low density grout (see Activity Report 6/2/2017). Project efforts are currently focused on site infrastructure improvements to support the work, finalizing design requirements, and starting conceptual design efforts related to performing the fill activity.