

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 3, 2017

**TO:** S. A. Stokes, Technical Director  
**FROM:** P. Fox and D. Gutowski, Hanford Resident Inspectors  
**SUBJECT:** Hanford Activity Report for the Week Ending November 3, 2017

**Waste Treatment Plant (WTP).** ORP provided the contractor with a set of programmatic actions intended to ensure certainty of completion of WTP facilities for the Direct Feed Low Activity Waste (DFLAW) project. These actions stem from the DOE-EM Project Peer Review (PPR) (see Activity Report 10/27/2017) and a subsequent optimization workshop held by ORP, the WTP contractor, PPR team members, and corporate members. Key actions include approval of the LAW DSA by February 28, 2018, completing design of LAW, the Analytical Laboratory, and Balance of Facilities, and development of a strategy to complete an operational readiness review prior to the start of cold commissioning. In light of the aggressive schedule, additional ORP staff have been assigned to support safety basis development (see Activity Report 1/20/2017). The accelerated schedule for DSA completion and heavy involvement of ORP personnel in its development will challenge ORP's ability to provide an adequate and independent review of the product. ORP management is aware of these issues and is developing a review plan to mitigate the problem. The plan includes identification of independent reviewers, including individuals from other sites.

Based on PPR recommendations, BNI proposed a reduced scope for the application of IEEE Standard 323, *Standard for Qualifying Class 1E Equipment for Nuclear Generating Stations*. Under the proposal, the standard would no longer apply for the design of SSCs that protect only against chemical hazards. Consequently, the standard would not be applied for procurement of LAW facility equipment. The standard would remain applicable for the design of SSCs that prevent radiological releases from the Pretreatment and High Level Waste facilities. ORP is expected to approve the proposal.

ORP issued a Safety Evaluation Report approving the contractor's request to revise the hazard categorization (HC) of LAW from HC-2 to HC-3 (see Activity Report 7/22/2016).

**Tank Farms.** While performing construction acceptance testing on pit leak detectors in AP farm being upgraded to use wireless technology, contractor personnel noted physical degradation in the electrical contact connectors and connector housings. Several of the housings were no longer watertight and were filled with water. Leak detection during transfers is a defense in depth control to protect against flammable gas buildup in the event of a waste leak. An operability evaluation determined that all leak detectors other than those replaced in AP farm were inoperable pending further inspection. The evaluation determined that leak detectors are considered operable, but degraded once connectors are inspected for corrosion, replaced if needed, and are temporarily protected from further water intrusion. Leak detectors will be restored to full operable condition once permanent watertight housings are installed. Inspections are complete for pits in AP, AW, and AZ farms where leak detection is required to support planned transfer activities and these components have been upgraded from inoperable to operable, but degraded.