

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 4, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending January 4, 2019

Tank Farms: DOE ORP formally notified the Board that they are modifying the completion schedule for two action items that support resolution of DNFSB Board Recommendation 2012-2, *Hanford Tank Farms Flammable Gas Safety Strategy*. The action items were to result in the approval (action 2-3) and implementation (action 2-4) of a safety basis amendment that revises double-shell tank (DST) flammable gas controls to include the use of safety-significant (SS) instrumentation to provide continuous, real-time, indication of air flow, which is necessary for flammable gas removal, through the DSTs. Per revision one of the DOE implementation plan, DOE expected to complete these actions before the end of calendar year 2018. However, the contractor has encountered delays in establishing full operability of the SS flow system that was installed under implementation plan action 2-2. ORP's letter indicates that the delay is primarily driven by the scope and complexity of the first of a kind system which includes both the flow instruments and the wireless system that transmits the flow instrument signals to the tank farm central control room. These factors, in turn, resulted in unanticipated software development, system setup, and system testing problems. Based on the revised plan, ORP now intends to approve the required safety basis amendment in September of 2019, and implement the amendment before the end of calendar year 2019. Aside from these two action items, there are two additional open action items. Action 1-4 will design and procure SS portable exhaustor units and action 4-3 implements the concept for their use. Under the concept, the portable exhaustors would be stored and held for use in the event of a failure of the installed exhaustor units. Based on DOE's current tank farm flammable gas strategy, these units are not required until DST mixer pumps are installed to support the delivery of waste to the Waste Treatment and Immobilization Plant. The completion dates for these actions remains undetermined.

PUREX Plant: The contractor Hazard Review Board met to consider changes to the PUREX Storage Tunnel Two stabilization work instructions. The current grout insertion locations are full and the changes are necessary to support the movement of grout insertion equipment to different locations to support continued stabilization of the tunnel. The work is considered high hazard because it involves multiple equipment lifts over the fragile tunnel structure. The HRB recommended approval of the revisions after resolution of questions and comments that resulted from their review.

Plutonium Finishing Plant: Since most of the source term has been removed from the facility, the contractor has determined that the risk of worker exposure to neutron radiation is significantly reduced. Consequently, they have modified dosimetry requirements to eliminate the use of neutron dosimetry for workers performing radiological work at the demolition site.

Workers removed roofing material from the roof of the 234-5Z facility that had become loose during a recent wind event. Although this work is out of sequence with the resumption plan, it is allowed because of a contingency that permits this type of work to eliminate conditions that could represent a significant hazard to workers at the demolition site.