

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 1, 2017

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending December 1, 2017

Canister Storage Building (CSB). The contractor Plant Review Committee (PRC) decided that a non-conservative error in a calculation that is used to estimate the amount of uranium oxide that would exist in a Multi-Canister Overpack at the end of its design life constitutes a positive unreviewed safety question. Contractor personnel discovered the error, which theoretically under-predicts the amount of uranium oxide, while reviewing the calculation during their ongoing effort to develop a new DSA to replace the existing CSB Final Safety Analysis Report (see Activity Report 10/27/2017). The PRC's review of the related PISA determined that the error may result in an under-representation of the consequences of some DSA design basis accidents and could also affect the margin of safety defined in the DSA. Based on the contractor's preliminary evaluation, the error is expected to be small and the need for additional controls is unlikely. Since existing controls are expected to be adequate, the PRC did not impose any operational restrictions on the facility.

Plutonium Finishing Plant. The contractor has opened the Plutonium Reclamation Facility canyon and has started the removal of the remaining highly contaminated equipment. Based on the airborne contamination concentration levels observed during early removals and their ability to perform real-time monitoring of airborne contamination concentrations, the contractor has modified their work package to allow more rapid removal of the equipment from the canyon. The contractor expects this change to shorten the duration of work and reduce the overall risk related to its accomplishment.

Tank Farms. The contractor was unable to restart either train of the 702AZ ventilation system, which provides purge air flow for the AY and AZ farms, following a planned electrical outage. The system was shut down for maintenance on 11/16/2017, and an attempt to restart it on 11/22/2017 was not successful. Troubleshooting and repair efforts were able to restore the system in a configuration using one train's heater and the other train's fan on 11/29/2017. The contractor plans to perform additional repairs next week. TSR required flammable gas monitoring did not detect any elevated readings in the four tanks connected to the system during the outage. Tank AZ-102 is calculated to have the fastest time to reach the lower flammability limit based on steady state gas generation, and previous extended outages of this ventilation system have resulted in measurable flammable gas readings in AY and AZ farm tanks. Flammable gas monitoring will continue in AY and AZ farms per the standing recovery plan because of an ongoing inability to maintain the required vacuum in AY-102 (see Activity Report 10/13/2017).

100K West Basin. The contractor is working to finalize their readiness preparations following completion of the installation and testing of the Engineered Container Retrieval and Transportation System equipment in the basin and related annex (see Activity Report 11/10/2017). They now intend to start their contractor performed Operational Readiness Review on January 2, 2018.