

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 8, 2017

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending September 8, 2017

Waste Treatment Plant (WTP). The contractor submitted a revised PDSA for the WTP High Level Waste (HLW) facility to ORP (see Activity Report 2/3/2017). The PDSA is intended to support resumption of procurement and construction. The document is based on a new hazards analysis and is intended to resolve legacy issues and conditions of approval from earlier revisions. One key change is that the radiological consequences from the unmitigated seismic analysis have dropped below 5 rem to the public. Based on this result, the contractor has reduced the functional classification of the C5V ventilation system and supporting systems from safety class (SC) to safety significant (SS). They are retaining a SC seismic switch and its associated SC power source. Many of the SS controls, notably the high activity waste vessels and piping, air purge in vessels, the facility structure, and the C5V confinement ventilation system will remain WTP seismic category (SC) I rather than being reduced to SC-III.

The resident inspectors visited the Full Scale Test Facility with ORP's Senior Technical Advisors to discuss recent test activity with the single high solids vessel and the upcoming heel cleanout test.

242-A Evaporator. The contractor completed campaign EC-07 without further incident (see Activity Report 9/1/2017).

105-KW Basin. RL approved the 105-KW Facility DSA and the 105-KW Facility TSRs. These documents update the safety analysis contained in the original 105-KW Basin Safety Analysis Report and consolidate it with the safety analysis contained in the Engineered Container Transportation and Storage System PDSA to provide a single safety basis that supports 105-KW sludge retrieval and transportation preparations. The safety analysis determined that none of the analyzed accidents result in unmitigated dose to the public or collocated workers that exceeds evaluation guidelines. However, the document does identify safety significant controls to protect facility workers. Primary hazard controls identified focus on preventing sludge spray leaks, hydrogen deflagrations, and over pressure of the Sludge Transportation and Storage Container and associated transportation cask. The contractor Plant Review Committee subsequently met and approved an implementation plan for the DSA. The plan focuses on implementation to support ongoing equipment testing. Additional implementation activities and reviews will be identified and performed before the facility enters into transfer or shipment preparation sub-modes.

Tank Farms. The contractor performed a limited emergency preparedness drill. The scenario was a waste leak between AN farm and C farm with a worker tripping into the pooling waste resulting in contamination and chemical burns.

Office of River Protection. Two tank farms facility representatives have completed their qualification. One is assigned to retrieval, the other production operations.