DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 20, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: B. Caleca and P. Fox, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending December 20, 2019

DNFSB Staff Activity: M. Bradisse was on site performing routine site surveillance and Resident Inspector support activities.

Tank Side Cesium Removal (TSCR) System: The DOE-ORP senior review board (SRB) met to discuss the preliminary documented safety analysis (PDSA) for the TSCR System, and the related safety evaluation report. This was the second submission of the PDSA, after ORP rejected the initial submittal for lacking sufficient detail and incomplete reference material (see 10/4/2019 report). The latest TSCR PDSA includes several safety-significant engineered controls and specific administrative controls, primarily to protect the facility worker from hydrogen deflagration events. The SRB recommended approval of the PDSA and the Safety Basis Approval Authority is expected to make their final determination regarding the PDSA in January after completion of a Technical Independent Project Review. The TSCR system will eventually become a Tank Farm system and the content of the PDSA will transition into the DSA prior to start of TSCR operations.

Plutonium Finishing Plant: The contractor demolished the last section of the 234-5Z structure. After cleaning up the remaining 234-5Z debris pile, the contractor will transition to recovery and disposal of the remaining rubble from the 236-Z structure, which was covered and left in place following the December 2017 contamination spread event (see 12/22/2017 and 1/5/2018 reports). DOE oversight personnel have questioned whether the contractor's work during demolition of the 234-5Z A and C Remote Mechanical (RMA and RMC) line structures met the intent of the demolition plan, which was revised following the December 2017 event and stated that removal of the RMA and RMC lines would be bay-by-bay. Work controls established to protect air dispersion model assumptions require the contractor to demolish and load the structure at a uniform rate over a fourteen day time period. However, the contractor demolished the A and C line portions of the facility in relatively large sections on four days. Debris from each section was cleaned up prior to demolishing the following section, with all rubble from RMC line removed before they started on RMA line. Once final cleanup is complete, the total duration of work using this method is expected to be fifteen to eighteen days. The contractor contends that shearing and size reduction work on the ground is included in the definition of "demolish and load." Consequently, they believe that their work activity, as performed, does not challenge the controls. However, DOE has noted that the contractor's approach does not appear to match commitments that were made within the revised demolition plan to minimize accumulation of ground debris by using a more incremental, bay by bay demolition approach. DOE is reiterating expectations and working with the contractor to clarify definitions that control work methods prior to recovering the 236-Z rubble pile.

Building 324: The Building 324 Resumption team continued to refine its causal analysis of the contamination events at the facility over the last year (see 11/22/19 report). The corporate team that performed a separate effort to independently review radiological control practices (see

12/6/19 report) provided an outbrief of their draft findings to contractor management. They intend to complete their report in January.