

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 27, 2017

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski, Hanford Resident Inspectors
SUBJECT: Hanford Activity Report for the Week Ending October 27, 2017

The Board's staff held a telephone call with ORP, Tank Farms contractor, and Waste Treatment Plant contractor personnel to discuss heavy plutonium particles in the tank farms and the results of the recent de-inventory test at the Full Scale Test Facility (see Activity Report 9/22/2017).

Waste Encapsulation and Storage Facility (WESF). RL approved the Evaluation of the Safety of the Situation (ESS) for secondary accidents induced by natural events (see Activity Report 8/11/2017). The ESS concludes that the existing TSRs may not adequately provide mitigation or prevention of radiological release if the WESF Ion Exchange Module is in use during a design basis earthquake and therefore includes an operational restriction limiting use of that system unless authorized by an approved recovery plan.

Canister Storage Building (CSB). RL approved the ESS for secondary accidents induced by natural events (see Activity Report 8/11/2017). The ESS concludes that existing controls derived for the analyzed design basis accidents adequately prevent radiological release from all natural phenomena hazard (NPH) secondary events and that no additional operational restrictions are required. RL's approval notes they expect the CSB Final Safety Analysis Report to be replaced with a DOE-STD-3009-2014 compliant DSA that will appropriately evaluate NPH with secondary events in Fiscal Year 2018.

The contractor Plant Review Committee (PRC) met to review an apparent non-conservative error in a calculation that is used to establish the assumed material at risk resulting from corrosion of uranium contained in multi-container overpacks. The PRC determined that the condition is a PISA and a USQ determination will be performed within two weeks. The PRC did not require implementation of any new operational restrictions based on the PISA since existing controls prevent corrosion and, therefore, prevent accumulation of the assumed MAR.

Radiochemical Processing Laboratory. There was a small, self-extinguishing fire that damaged a microwave used for sample dissolution. The microwave unit was in a Radiological Buffer Area, but had no radioactive material in it and has never been used to process radioactive material. The contractor has not determined the failure mechanism yet and plans to ship the unit back to the manufacturer for further evaluation. No other microwaves of this type are in use.

Tank Farms. The contractor completed the next phase of sluicing operations in C-105 and performed a second caustic addition to the tank. Caustic recirculation is in progress.

Waste Treatment Plant. DOE-EM started a Project Peer Review of the Direct Feed Low Activity Waste project.

Office of River Protection. Brian Vance has been assigned as the manager for ORP effective November 6.