

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 11, 2015

TO: S. A. Stokes, Technical Director
FROM: P. Fox and D. Gutowski Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending December 11, 2015

Staff member D. Cleaves was on site providing site representative support.

Waste Treatment Plant (WTP). The contractor submitted information to ORP for closure of the criticality in vessels technical issue. They concluded that no major design changes are necessary. Instead, they state that a combination of material limits, process controls, or waste feed composition changes will allow safe processing of the waste. ORP is evaluating the study.

Plutonium Finishing Plant (PFP). Two vials containing pan J waste samples that were sent to PNNL for analysis failed. The nature of the failure and the discoloration of the plastic bag that contained the samples indicate that the vials most likely ruptured because of an overpressure condition. The continuing reaction that caused the pressure was unexpected. These two samples, unlike other samples, were wet when collected and the contractor believes that presence of water or liquid glycerin in the sample is the significant condition that caused the continuing reaction. Consequently, the contractor does not believe that a continuing reaction is credible in the dried pan J waste that is stored in loose lidded drums inside of the PFP facility. The contractor opened a sampling of the drums to confirm that no reactions are occurring.

Low levels of contamination were found in an unexpected, covered location on a vortex cooler assembly that was stored in an area of the facility that is not radiologically controlled. A subsequent check of other vortex coolers, including those that had been sent to an on-site maintenance facility, also found contamination in some of those assemblies. All vortex cooler assemblies were collected and placed in a radiologically controlled area. Surveys of the affected storage and work areas did not identify any additional contamination spread.

Tank Farms. The contractor held its second Joint Review Group (JRG) meeting under the new standing order for high risk work packages (see Activity Report 12/4/2015). They sent the proposed work package for removal of a contaminated ventilation fan back to planning because the level of detail in some work steps was not sufficient. The JRG also wanted to explore whether additional radiological surveys could be used to determine the contamination levels within the equipment prior to breaching the system.

100K West Area. The contractor has started preparing the engineered containers that contain K-basin sludge for sludge retrieval (see Activity Report 11/6/2015).

618-10 Burial Grounds. The contractor is preparing to replace the auger bit used for remediation of vertical pipe units (VPUs) as some supporting components have become heavily worn. They plan to reinforce these parts on the replacement auger. So far, all of the VPUs that have been augered and in-situ characterized have been low-level waste rather than TRU. The contractor also has received a clamshell digging tool to retrieve low-level waste VPUs. The site rep and staff member observed a portion of the acceptance testing for this equipment.