DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 23, 2014

TO: S. A. Stokes, Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending May 23, 2014

Waste Treatment Plant (WTP). ORP issued the final report for their High Level Waste (HLW) Design and Operability Review (see Activity Report 12/20/2014). The contractor is finalizing an action plan to address the issues identified in the report. The site reps accompanied ORP personnel on a walkdown of the HLW facility to observe areas identified by the design review that may require changes to the design or the as-built facility. The contractor noted that the magnitude of possible changes to the confinement ventilation system will not be known until data from recently started filter testing becomes available.

Plutonium Finishing Plant. The contractor responded properly to two cases where the spread of contamination exceeded radiological work permit (RWP) void limits. One instance involved finding more than 5 million dpm/100 cm^2 alpha contamination after removing inlet HEPA filters on a glovebox that is known to have a highly mobile form of plutonium (see Activity Reports 1/4 and 7/5/2013). Workers were wearing two sets of personal protective equipment (PPE) clothing and respirators. Because of dose concerns, management had approved removing the filters without the use of a confinement. Although this is one of the gloveboxes where the contractor had previously determined point source ventilation was necessary (see Activity Report 7/12/2013), they did not use it during the removal because they had concluded that it was impractical given the configuration of the equipment. No contamination was found on any workers' PPE nor were excessive levels of contamination found during cleanup efforts.

Waste Encapsulation and Storage Facility (WESF). Last week, the contractor had a project kickoff for replacing the old, previously wetted, and highly contaminated HEPA filters that are part of the K3 ventilation system with a new filtered ventilation system. The important-to-safety K3 ventilation system provides active confinement of the seven hot cells and associated canyon. DOE committed to the Board to complete the project by the end of FY2016. This week, the contractor began the alternatives analysis, including how to stabilize the contamination in the hot cells, ductwork, and filter enclosure. Although there has not been a Record of Decision for the final disposition of WESF, the project is evaluating if they can immobilize the contamination with grout similar to that used to stabilize U Plant (see Activity Report 3/25/2011).

Tank Farms. The contractor finalized the draft safety basis amendment authorizing deep sludge layers in tanks (see Activity Report 5/2/2014). The amendment states that the postulated deep sludge gas release events are not plausible, and that buoyant displacement gas release events (BDGRE) can only occur in salt tanks. Sludge tanks will no longer be evaluated against BDGRE criteria. The technical basis supporting this amendment provides additional details defining the distinction between salt and sludge tanks. The technical basis was developed largely through the deep sludge research efforts initiated last year (see Activity Report 3/29/2013). The amendment does not include any provisions for continued monitoring of gas retention behavior in the tanks.

100K Area. The contractor implemented the update to the safety basis for the K West Basin. This update removes fuel handling equipment from the list of safety-related components.