

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 8, 2013

TO: S. A. Stokes, Acting Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending February 8, 2013

Board staff member D. Kupferer was on-site to observe a meeting concerning criticality safety at the Waste Treatment Plant. He also performed walkdowns of the Plutonium Finishing Plant, where he discussed criticality safety practices, and the Waste Encapsulation and Storage Facility.

Plutonium Finishing Plant. The site rep and contractor discussed preliminary root causes for the spread of contamination that occurred while removing material (seal-out) from a glovebox (see Activity Report 1/11/13). The proposed root causes are: the failure of support workers to implement proper radiological controls when high levels of loose contamination spread to a non-airborne radioactivity area, less than adequate planning and pre-job briefing regarding the details of response to continuous air monitor alarms, and a worker failed to correctly execute some aspects of the skill-based training for performing the seal-out. Corrective actions have been implemented for a number of these issues, and cleanup of the room where the seal-out was performed has progressed to the point that workers can now enter the room wearing powered air purifying respirators rather than self-contained breathing apparatus.

The contractor had outside experts review preventive maintenance practices for the canyon crane in the Plutonium Reclamation Facility (see Activity Report 11/23/2013). Preliminary suggestions from the reviewers include performing preventive maintenance based on crane usage rather than elapsed time and not routinely performing full load testing because the loads on the crane are typically much less than the rated load. The contractor was unable to provide the reviewers any documentation that the clutch, gearbox, and brakes had been inspected.

Tank Farms. The contractor held another Plant Review Committee (PRC) meeting to revise a proposed Justification for Continued Operations (JCO) that allows deeper sludge layers in select double-shell tanks (see Activity Report 2/1/2013). Following feedback from ORP personnel, the contractor added more specificity on actions and timing of the recovery plan should unexpected gas retention behavior be observed following sludge addition. The PRC approved the revised JCO and transmitted it to the Office of River Protection (ORP).

The Site Rep observed the successful removal of the failed supernate pump from double-shell tank AN-106 (see Activity Report 1/4/2013). A significant hazard of this job was the potential for high extremity doses during the hands-on work wrapping the pump and laying it down in its staging location. Radiological controls personnel were remotely monitoring supplemental dosimetry and communicated well with the workers performing the pump removal, reminding them of the requirement to don leaded gloves when the dose rate required them. The new pump was installed later in the week.

The DOE Office of Health Safety and Security performed the first in a complex-wide series of reviews of how requirements for safety systems are implemented. This review addressed the safety-significant waste transfer system at the Tank Farms. Preliminary issues discussed with the site reps included: feedback and improvement, system notebook quality, and procedure use during a tabletop simulation of valve lineups.