

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 22, 2013

TO: S. A. Stokes, Technical Director
FROM: D. Gutowski and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending November 22, 2013

Waste Treatment Plant. The senior Safety Design Integration Team determined that passive confinement boundaries would be credited in the control strategy for radioactive liquid spill events in the High Level Waste Facility. The working team had been unable to reach consensus on this topic and deferred resolution to the senior team.

Plutonium Finishing Plant (PFP). The site rep observed a hazards analysis (HA) meeting for foaming gloveboxes, ductwork, and pipes in PFP and noted active and productive participation by the team members. After the site rep questioned if the assumption that only one glovebox would be worked at one time was an assumed control, the contractor added a new event that addresses multiple glovebox events.

The contractor completed appropriate corrective actions after they identified conditions that were non-compliant with their fire protection controls. One condition involved paint overspray on sprinkler heads; the other conditions involved combustible material too close to a structural column.

Tank Farms. ORP personnel completed an effectiveness review of the contractor's corrective actions from a 2010 program assessment of the radiological controls program (see Activity Report 6/11/2010). The review found that the corrective actions were successful with the exception that the actions related to emergency preparedness were only partially successful.

The site rep observed the contractor's successful deployment of the cone penetrometer into double-shell tank AN-106 (see Activity Report 7/12/2013). Preliminary data indicates that, as expected, the sludge waste has high shear strength that increases with depth.

The contractor deployed a robot to inspect the leak detection pit piping beneath tank AY-102. The robot was able to inspect the majority of the 6-inch drain line. The contractor observed corrosion debris, moisture, and tubercles within the line.

The contractor added three tanker trucks of caustic to single-shell tank C-112 and started recirculation. This is intended to dissolve and break up the hard crust believed to be part of the remaining heel in the tank.

242-A Evaporator. The site rep met with representatives from the Office of River Protection and contractor to discuss his questions regarding the new safety instrumented systems in the evaporator (see Activity Report 10/25/2013). Based on draft feedback from DOE Headquarters, the contractor agreed to classify the firmware on the new safety-significant instruments as safety software. Due to the number of assumptions without justifications in setpoint calculations, the contractor is planning to revise their setpoint calculation procedure so that it is consistent with their procedure for other calculations. The contractor also plans to update design documents and the safety basis to resolve a number of other deficiencies.