DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 24, 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 May 24, 2013

Tank Farms. At the request of the manager of the Office of River Protection (ORP), an independent review team from the DOE performed an assessment of the effectiveness and adequacy of ORP federal oversight of Tank Farms contractor operations. The team presented several recommended improvements to ORP senior management, but identified no non-compliances with DOE Orders.

The contractor continued planning activities for the single-shell tank (SST) C-105 dome cut using a rotary coring saw (see Activity Report 5/10/2013). Once the hole is cut into the tank dome, the contractor expects a high gamma field streaming from the hole and the potential for a release of hazardous vapors. They plan to minimize the time when there is an exposed large penetration in the tank by pre-staging a shield plate to cover it once the cut is complete. Contractor management asked the work planning team for additional details on how to address potential contingencies such as a stuck drill or a failure of the portable exhauster.

The contractor performed video inspections of SSTs B-203 and B-204 this week. This completes the highest priority inspections of SSTs with level decreases (see Activity Report 4/26/2013).

The contractor resumed sludge waste retrieval from SST C-107 to DST AN-106. The results of a material balance calculation during the retrieval were outside of the allowable tolerance, but this was not detected by workers or supervisors. Sludge addition into AN-106 is limited per the Justification for Continued Operation on deep sludge (see Activity Report 3/1/2013).

Plutonium Finishing Plant. The contractor was able to remove the load on the bridge crane in the Plutonium Reclamation Facility canyon after replacing the fast-blowing fuses with slower responding ones (see Activity Report 5/3/2013). This week, workers re-entered the canyon to troubleshoot and attempted to repair the crane brake. Engineering is analyzing the information collected during the troubleshooting effort.

222-S Laboratory. The contractor completed recovery actions for a spill of radioactive liquid from a vacuum trap. Last week, workers attempting to flush this trap noted liquid dripping from a pipe rather than out the drain. They stopped the job and successfully exited the area which was had been contaminated above the void limits in the Radiological Work Permit. The worker's protective clothing was contaminated, but no personal contamination was detected.

100K West Basin. The contractor is evaluating if they created a Potential Inadequacy in the Safety Analysis because new data on the viscosity of the containerized sludge indicates that hydrogen may be retained in the sludge rather than slowly dissipating. The existing safety basis has a control to prevent accumulation of hydrogen. The Richland Operations Office recently approved a safety basis change which eliminated this control, but the contractor has yet to implement the change. The new information on potential hydrogen release mechanisms means it is not clear if removing this control is still appropriate.