

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 19, 2012

**TO:** T. J. Dwyer, Technical Director  
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending October 19, 2012

Board staff member D. Gutowski was on-site providing site rep support.

Tank Farms: The contractor concluded that material found in the annulus of double-shell tank (DST) AY-102 (see Activity Report 8/17/12) is the result of a leak in the primary tank. The probable cause for the leak is corrosion that was accelerated by the high temperature waste coupled with mechanical impacts to the tank bottom. The contractor noted that the design margins for this tank, the first Hanford DST, may have been reduced by various difficulties when building this tank 40 years ago. Contractor engineers estimated the leak volume was several hundred gallons, most of which had evaporated. They and the Office of River Protection (ORP) are developing a path forward.

Waste Treatment Plant (WTP): A team of specialists completed an independent inspection of the cathodic protection systems (CPSs) used to protect buried piping at WTP. The team started their review in June and their recently completed report notes some significant deficiencies, which include: some of the pipelines have been exposed to corrosive environments for five years without protection and the integrity of these pipes must be confirmed before operations; pipelines at WTP do not have a suitable monitoring system to gather data to determine if the CPS is providing adequate protection; and WTP pipeline systems are extremely complex and extensive work will be required to fully understand them and confirm the systems will be safe to operate. ORP is preparing a letter to the contractor to request a plan to address these problems.

Plateau Remediation Contract: The contractor's Nuclear Safety and Performance Evaluation Board (NSPEB) completed their first review of the Liquid Waste and Fuels Storage (LWFS) organization. They noted at the outbrief that, in general, the organization met expectations. However, they also noted significant issues with the conduct of operations and radiological controls. The NSPEB leader stated that although the senior managers of the organization have embraced a more formal approach to performing work, this has not been accepted by some middle managers and workers. The NSPEB was created after the Board identified significant issues with maintenance and operations at the Waste Encapsulation and Storage Facility (WESF), which is one of the LWFS facilities.

A safety-significant Area Radiation Monitor (ARM) used to comply with a TSR administrative control was returned to service prior to it being restored to an operable state. The contractor identified the following causes at the critique: the ARM should not have been restored to service while a work package for repairing the instrument was still open; the commercial grade dedication process was not clearly defined, documented, or followed; and an excessive period of time was needed to return the failed TSR compliance equipment to service. The contractor has identified a number of quality assurance (QA) issues during the past year. These issues include: the missing MCO cask plug (see Activity Report 9/28/12), maintenance of the Canister Storage Building stack monitor, and the maintenance of safety basis documents at 100 K Area. The number of QA personnel has decreased during the last few years at both RL and the contractor.