

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 5, 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 April 5, 2013

**Tank Farms.** Two 25 wt% sodium hydroxide solution leaks occurred during the caustic addition to double-shell tank AN-102. The tank requires this addition to bring it back into chemistry specifications. Neither leak resulted in any injuries. The first leak occurred last week after a worker installed a component for the outlet of the caustic skid. This component was made out of aluminum which is not compatible with caustic solutions. Field workers responded to the leak and the system was repaired by replacing the component with a section of compatible hose.

This week, a worker noted dripwise leakage from a connection near the caustic-supply truck. The workers stopped the caustic transfer per procedure. After stopping the transfer, they attempted to remove the leaking component which resulted in a spray of caustic that hit two workers. Both of the workers were wearing personal protective equipment. Less than one cup of liquid was released during the spray. The contractor decided that this event did not require entry into the abnormal operating procedure (AOP) for chemical events because it was a small spill of a known chemical with a currently available Material Safety Data Sheet. Office of River Protection personnel challenged this decision not to enter the AOP. The contractor resumed caustic addition later in the week and the addition to AN-102 should be completed next week.

The contractor is investigating the equipment used for temperature monitoring of components in the tank farms. They discovered a discrepancy between electronic monitoring and round sheets last week. This week they determined that temperature monitoring for a November, 2012 transfer was not performed using Measurement and Test Equipment required by the safety basis.

**Central Waste Complex (CWC).** The site rep conducted a walkdown of various CWC facilities. The design basis seismic event for the CWC will result in high radiological consequences to the co-located worker. During the walkdown, the site rep and contractor discussed corrective actions for a pinhole leak that was discovered earlier this year in a three-inch drypipe fire protection header in one of the CWC warehouse-like buildings. Workers installed a temporary patch on the line and the waste inventory was moved to another building. Subsequent investigations showed that a 20 foot segment of the pipe was improperly sloped and the contractor is preparing to replace this segment. They also plan to perform additional testing of the pipe to better understand why it failed and verify that fire protection pipes in similar facilities are properly sloped.

**Plutonium Finishing Plant.** The contractor is implementing corrective actions for the airborne contamination event that occurred while removing waste from a glovebox (see Activity Report 1/11/2013). One of the key corrective actions is to develop a technical basis for using point source ventilation during waste removal. The contractor tested different configurations for this control to establish the design of the funnels and the required HEPA-filtered vacuum flowrates to ensure there is an adequate capture zone during future seal-outs. Once the testing is completed, operators will be trained on the new controls for cutting the horse-tailed plastic sleeves used during waste removals.