

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 15, 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 15, 2013

R. Quirk was offsite this week.

**Tank Farms.** The contractor approved a safety basis amendment to support operation of the MARS-V system in single-shell tank C-105. The proposed new controls include two safety instrumented systems. One is an automated temperature monitoring system supporting a new specific administrative control (SAC) for freeze protection. The automated system will partially replace manual temperature measurements similar to those used in the freeze protection SAC for tank C-107 MARS operations (see Activity Report 11/17/2012). The other new system monitors flow in the MARS-V waste accumulator tank to prevent high temperatures in the safety significant confinement systems.

The site rep observed another attempt to remove the failed slurry pump from single-shell tank C-107. Worker entry into and exit from the highly contaminated containment box proceeded smoothly. The pump had been placed into the retracted position the previous day using a crane to support the damaged winch. Workers were unable to remove the pump from the tank as it became stuck again. Mechanical agitation did not have any effect. With the pump in the retracted position, the condition of the bottom of the slurry pump was visible. There is no indication of substantial damage to the screen surrounding the bottom of the pump. This indicates that there was no significant impact to the tank liner during the uncontrolled extension of the pump (see Activity Report 11/8/2013).

The contractor completed a transfer from double-shell tank (DST) AN-101 to DST AP-104. During earlier attempts to start the transfer, temperature readings in the AN-01A pit were too low to conduct the activity while staying compliant with the freeze protection SAC for waste transfer.

**Plutonium Finishing Plant (PFP).** The contractor identified a preliminary criticality non-conformance for glovebox HA-10. In September 2013, the contractor raised the fissile mass limit in this glovebox above its original value based on measurements of material removed from the glovebox and remaining holdup. Additional data from October 2013 indicates that the box was historically non-compliant with the original limit and therefore this constitutes a potential criticality safety deviation. The current fissile mass limit has not been exceeded.

The site rep discussed potential safety implications relating to the contractor's plan to foam gloveboxes in PFP (see Activity Report 8/23/2013) with Richland Operations Office nuclear safety personnel. The foam is combustible and the nuclear safety personnel are concerned that the contractor's current plans have not fully addressed potential hazards.

**Waste Treatment Plant (WTP).** The site representative walked down the Full-Scale Test Platform with Office of River Protection and contractor engineering staff. Vessel RLD-8T was originally slated for installation in the WTP before quality problems with its welds were identified. The vessel is now partially installed at the test platform and will be used to test pulse-jet mixer performance.