

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 11, 2009

**TO:** T. J. Dwyer, Technical Director  
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending December 11, 2009

Board staff members T. Hunt, S. Lewis, J. MacSleyne and C. Roscetti, and outside expert D. Boyd were on-site reviewing conduct of operations of the Tank Operations Contractor.

Tank Farms: Last week the site rep questioned the adequacy of the freeze protection for waste transfer pipes that had been excavated; the question on the adequacy of freeze protection is similar to questions raised by the site rep four years ago (see Activity Report 12/16/05). The piping is not heat-traced because the ground cover normally maintains temperatures above freezing. The contractor had assumed that placing concrete-curing blankets on the piping would prevent freezing but had no analysis to support this position. This week the contractor issued a technical evaluation, which concluded that the unheated blankets would provide adequate freeze protection, but both the site rep and ORP Engineering questioned some non-conservative assumptions in the evaluation. The contractor agreed to revise the evaluation.

Temperatures have been unusually cold for the past two weeks, which resulted in problems such as frozen raw water lines in the C Tank Farm and intermittent problems with field instruments.

Plutonium Finishing Plant: Workers mistakenly disconnected and removed a portable diesel air compressor that was a backup air supply to the plant instrument and process air system. Supervisors informally directed workers to tow a different compressor to a storage yard, but workers confused the locations and removed the wrong unit. During the critique, a number of potential causes were discussed, including poor communications, lack of adequate supervision, and new worker unfamiliarity with the facility. The site rep noted that the compressor had insufficient labeling to indicate it was permanent plant equipment and should not be disconnected or removed. After discovery of the error, the compressor was quickly restored and verified operational. The site rep anticipates that lessons learned from this event will be applied to future D&D work, particularly when the facility starts installing temporary systems that may have safety functions that are needed continuously.

River Corridor Closure Project: The project began decontaminating the below-grade tunnels at N Reactor, including the highly contaminated Fission Product Trap (FPT). The FPT was used to remove corrosion and wear products from primary coolant. In order to gain access to the equipment for D&D, the project installed HEPA filtration units but still has had difficulty keeping airborne levels low during fixative spraying activities. The project revised the fixative application process and has seen significant reduction in airborne concentrations. The next major tasks for this activity are to tap and drain the piping and grout the sump below the FPT.

The contractor found contamination in a probe casing that had been inserted adjacent to the vertical pipe units (VPUs) in the 618-10 burial grounds. The steel pipe-like casings were driven into the soil around the VPUs to allow probes to be inserted for characterization of the waste in the VPUs. The casings were sealed at the end to prevent contaminated soil from entering; therefore, it is unclear how the casing interior was contaminated. Poor radiological practices resulted in not knowing which of two casings was contaminated. Additionally, the workers were not using a radiological work permit even though they were disturbing a soil contamination area.