

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 9, 2010

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending April 9, 2010

Waste Retrieval Project: The project conducted a series of drills to exercise a new procedure for off-normal conditions and train personnel on its use. In general, the procedure provided enough direction to drive the expected actions, but a weakness was noted during one of the drills. The expectation was that the project would request the Hanford Fire Department to provide an incident commander, but this did not happen and the procedure did not drive this action. The site rep also noted that notification to adjacent facilities of the off-normal condition was not being evaluated and the drill coordinator is considering how to exercise this part of the new procedure.

Plutonium Finishing Plant: The project started the clean-up effort of the room in which a worker had inadvertently inhaled nitric acid fumes (see Activity Report 3/26/10). Workers donned the appropriate respiratory protection and re-entered the room to investigate the condition and noted nitric acid staining on elevated surfaces and the floor. This supports the preliminary conclusion that the nitric acid may have dripped onto the injured worker's respirator cartridge.

224-U Facility D&D: Two workers without respiratory protection walked through an area that should have been posted as an airborne radioactivity area (ARA). Workers were applying fixative in a pipe when a connected component released uranium oxide, which caused the elevated airborne contamination. The temporary ventilation was drawing air into a hallway rather than into the room where the work was being conducted. Access to this hallway was not secured and two workers walked through the area. The measured contamination level at the hallway was 1.9 DAC. Bioassays are being performed on the two workers.

Tank Farms: The contractor issued their analysis for potentially freezing exposed waste transfer piping (see Activity Report 12/11/09) and concluded that the two layers of thermal blankets specified for providing freeze protection were inadequate for the actual temperatures. The calculation notes that three layers of thermal blankets were required for the actual low temperatures in December, and five blankets are needed for the for design basis low temperature. The site rep questioned contractor management regarding their plans to evaluate the condition of the affected pipes.

Sludge Treatment Project (STP): The Richland Operations Office (RL) told the contractor they should not invoke ANSI/ISA 84.00.01, *Functional Safety: Safety Instrumented Systems for the Process Industry Sector*, in the design of safety-significant instruments in the STP. This was after the site rep questioned why it was not included in the design (see Activity Report 1/22/10). This week, the site rep and the Board's staff again questioned why RL told the contractor they did not need to comply with DOE guidance. RL agreed to reevaluate this decision.

Washington Closure Hanford: The contractor performed an initial job hazard analysis for sampling soil in the 618-10 burial ground. The project wants to collect samples of soil adjacent and below the vertical pipe units. The planning of radiological controls is more robust than previous work activities (see Activity Report 1/22/10). The project is also planning to perform a follow-up analysis as the work processes are better defined.