

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 23, 2006

**TO:** K. Fortenberry, Technical Director  
**FROM:** R. Quirk and W. Linzau, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending June 23, 2006

Plutonium Finishing Plant (PFP): The site rep attended a critique of an event in which a worker was exposed to air that could have had airborne contamination while conducting work to replace an exhaust fan shaft. Air samples taken at the work location showed no signs of airborne contamination nor was there evidence of internal contamination of the worker involved. The work procedure required the area to be posted as an Airborne Radioactivity Area (ARA) when opening the potentially contaminated ventilation system but the ARA was not posted and no respiratory protection was worn when the ventilation system was opened. The work was stopped when the worker unexpectedly felt air flow on his face from the opening. The critiques revealed poor conduct of operations and failures in the work control process. The following failures were noted: 1) the pre-job briefing did not adequately discuss the job hazards, 2) the procedure was not followed, 3) the workers didn't understand that the procedure needed to be completed step-by-step, 4) the person in charge was not present during a critical step in the procedure, 5) neither the health physics technician nor the nuclear chemical operator questioned the need to have respiratory protection when opening a potentially contaminated system, and 6) the critique leader would not have revealed many of the important issues without significant help from his management during the critique. The site rep discussed his observations with PFP management immediately after the critique. A PFP fac rep informed the site rep that a management concern occurrence report (significancy category 3) has been issued.

Office of River Protection (ORP): An assessment of ORP's Integrated Safety Management System (ISMS) was conducted this week to satisfy Recommendation 2004-1, Commitment 27. Five findings and four observations were noted. The assessment team's general conclusion was that ORP's ISMS was well defined and embraced DOE's ISM principles.

Waste Treatment and Immobilization Plant (WTP): The site rep walked-down the drilling activities on entry hole number 1 at the WTP (see Hanford Activity Report 6/9/06). The current depth below grade is about 200 feet. The geology should transition from the Hanford Formation to the Ringold Formation past 200 feet.

Shear wave velocity data was collected from only one of the two existing boreholes during measurement done on June 6 and 7, 2006 (DB-14). Evaluation of the data by Pacific Northwest National Laboratory indicates that this data failed to provide information on the velocity changes in the interbeds due to insufficient depth resolution, interference of the signal through the steel casing, and water in the hole. It is ORP's desire to have Ken Stokoe from the University of Texas at Austin retest the existing holes to see if useable data can be retrieved before starting deep borehole drilling but his availability has not yet been confirmed. ORP management confirmed that Dr. Stokoe will be gathering the data from the deep boreholes.