

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 4, 2008

TO: J. K. Fortenberry, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending April 4, 2008

K Basin Closure: The contractor is continuing to refine the conceptual designs of the in-basin and out-of-basin direct grouting options for treating the sludge. If an out-of-basin grouting method is used in the 100 K Area, a new facility will be needed because the Cold Vacuum Drying Facility (CVDF) will not meet safety requirements. The primary deficiencies of the CVDF are inadequate shielding provided by walls, ventilation systems will require significant upgrades, and pumping the sludge to the CVDF is problematic.

The K East Basin was downgraded to a less than Hazard Category 3 facility.

Waste Treatment Plant (WTP): The contractor developed test acceptance criteria and is finishing the test procedures for the Fire Service Water system. The current schedule has system flushing verification starting April 15, component testing starting May 2, and system testing starting June 16, 2008. Only a portion of the system has been turned over to the startup organization and will go into normal service after close-out of testing in July 2008. The project is also planning an internal assessment of the turnover process that will start later this month.

A design safety meeting was held this week to review the seismic load path for the High Level Waste melter. The load path includes the melter shell and lid that are credited for safety-significant bulk confinement. The design of the seismic load-resisting elements is challenging because the melter is supported on wheels, restraints have to allow thermal expansion, and the large mass of the melter, which is approximately 100 metric tons when full.

The contractor's engineering organization analyzed the cause codes in problem identification documents (Condition Reports) from last year in an attempt to find error precursors. The analysis revealed that of the 239 causes, there were three significant contributors: 43 causes were related to interpretation of requirements, 28 were related to assumptions, and 25 were associated with the lack of or unclear standards. They concluded there is a need to continue to reinforce a questioning nuclear safety culture through a senior management emphasis on quality, monthly quality meetings with staff, and focused engineering training.

Richland Operations Office (RL): The site reps met with RL facility representative team leads to discuss RL's continuing concerns with conduct of operations at the Plutonium Finishing Plant (PFP). The contractor has brought in an additional senior manager who will focus on improving conduct of operations, and it is RL's desire that the contractor's improvement effort start with PFP because of lingering weaknesses noted in conduct of operations at the facility.

Tank Farms: A good questioning attitude was demonstrated by a health physics technician (HPT), which resulted in suspending medium- and high-risk radiological work in the 200 East Area. The HPT noted that three of the four decontamination stations in the area were out of service and raised the issue to management. Management concurred with the worker that the lack of emergency decontamination capability diminished emergency preparedness. Work resumed the next morning after returning another decontamination facility to service.