

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 6, 2008

TO: J. K. Fortenberry, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending June 6, 2008

Staff members D. Eyler, A. Gwal, S. Lewis, and E. Rozek were on-site to review vital safety systems, the electrical distribution system, and the maintenance program at the Tank Farms; the Interim Pretreatment System; and the electrical distribution system at the Plutonium Finishing Plant.

Waste Treatment Plant: The contractor briefed the site rep on their path forward on the calculated overstressed conditions of the Pretreatment evaporator vessels (see Hanford Activity Report 5/23/08). Three of the four evaporators are greater than 90 percent fabricated, but fabrication has not started on the fourth. The contractor believes that modification to vessels will not be required based on meetings held with the fabricator this week, and will brief the site rep on the details next week.

The Office of River Protection rejected the Authorization Basis Amendment Request (ABAR) submitted by the contractor related to tailoring DOE-STD-1066 for fire protection criteria for ventilation systems. ORP indentified four major issues: the fire hazard analysis (FHA) requires additional review by fire protection experts; the FHA must provide technical justification that the proposed alternate protection is equivalent to the features required in the standard; the ABAR did not contain an explanation of the methodology used to arrive at an equivalency conclusion; and the development of a sound technical basis for compliance should not lead to overly conservative controls such that the resolution of this issue can be closed within six months.

Interim Pretreatment System: An external independent review started this week. The review panel has five members, including Bruce Matthews. A similar review was done for the Demonstration Bulk Vitrification System, but it started much later in the design process. The review will focus on the mission requirements definition, technology selection, flowsheet, technology maturation plan, and the safety strategy. The review will be completed in September 2008.

Tank Farms: The contractor declared a Potential Inadequacy in the Safety Analysis (PISA) when it was determined that the sump pumps in waste transfer associated structures, such as pump and valve pits, did not meet ignition control requirements. There is a Technical Safety Requirement for applying ignition controls in waste-intruding equipment, but the contractor concluded that the safety analysis only considered waste storage structures, such as tanks, not waste transfer structures.

The contractor continues to experience problems with retrievals from single-shell tank C-109. For the third time in the last few weeks, a relief valve on the raw water skid lifted, but this time it did not appear to be related to conduct of operations problems. Later that day the mobile retrieval system known as FoldTrack failed during its second day of operations when one of the treads came off the drive unit. There are no practical ways to repair the FoldTrack, and the contractor is evaluating the hazards of continued use of the device.