

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 5, 2006

**TO:** K. Fortenberry, Technical Director  
**FROM:** R. Quirk and W. Linzau, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending May 5, 2006

Board members A. J. Eggenberger, Joseph Bader, and John Mansfield, and staff members K. Fortenberry, D. Ogg, and J. Troan visited Hanford to review operations and safety issues.

Board Visit to Hanford: DOE Richland Office (RL), Office of River Protection (ORP), and contractor personnel briefed the Board members on various project activities, safety initiatives, and future challenges. Topics discussed included: Tank farm retrieval progress, supplemental treatment, and double-shell tank integrity; Waste Treatment Plant schedules, seismic design work, and hydrogen mitigation strategy; K Basins Closure Project conduct of operations, sludge retrieval and processing status, and decommissioning plans.

Waste Treatment and Immobilization Plant (WTP): The site rep observed application of cementitious fire protective coating on structural steel in the Low Activity Waste (LAW) facility. The cementitious coating is being used in limited areas, and in future applications it will replace intumescent coatings that were damaged by heavy rains in December 2005 (see Hanford Activity Report from 1/6/06). The location of the observed application did not previously have intumescent fire protection applied. In some locations the cementitious coating will be adjacent to the intumescent coating, and in other locations the cementitious coating will be applied to the structural steel after the damaged intumescent coating has been removed. To date, neither application appeared to have technical justification that demonstrates by testing or formal engineering analysis that these configurations will perform adequately during a fire.

The ORP-sponsored equipment qualification peer review team (EQ-PRT) was in Richland this week to continue its evaluation of the structural design of mechanical and electrical components. During the three-day review, the team was only able to start the detailed evaluations but expressed some initial concerns during its exit briefing to the contractor.

Tank Farms: The cross-site transfer of waste from double-shell tank SY-101 to AP-107 commenced this week. Approximately one third of the planned 750,000-gallon transfer was completed by Friday when an electrical fault resulted in a loss of power to leak detectors in the AN tank farm and the transfer was stopped. Troubleshooting of the electrical fault is continuing. There were several examples of less than fully adequate conduct of operations during the transfer, including failure to perform material balance calculations at the required frequency.