DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 2, 2008

TO: J. K. Fortenberry, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending May 2, 2008

Tank Farms: The contractor completed the Readiness Assessment (RA) for restarting waste retrievals from single-shell tank C-109. The RA team concluded that the retrieval operations could be safely performed after resolution of the pre-start items. The team identified six findings and eight observations at the exit brief and all the findings required resolution prior to startup. Two of the findings were repeat issues: inadequate knowledge level of Technical Safety Requirements (see Hanford Activity Reports 3/7/08 and 5/19/06) and the procedural vulnerabilities associated with allowing steps to be performed in any logical order. The RA team's review and oversight by the Office of River Protection (ORP) were adequate.

Waste Treatment Plant (WTP): The site reps conducted a walkdown of the Pretreatment Engineering Platform (PEP). All the prefabricated skids have been put in place and the PEP is undergoing final assembly. The project is planning to conduct startup testing with water in August and begin formal testing with tank waste simulant in October 2008.

The site rep noted the presence of two ORP personnel at the contractor's integrated design safety meetings (see Hanford Activity Report 4/25/08). Both the Federal Subproject Director and the ventilation Safety System Oversight (SSO) engineer attended the meeting on thermal protection of concrete in the High Level Waste facility melter pour tunnel.

River Corridor Closure Project: The site rep met with contractor management to discuss implementation of a revision to the Hanford Sitewide Transportation Safety Document (TSD). The revision addresses inconsistencies and problems with shipping high-dose items from field remediation sites to the Environmental Restoration Disposal Facility (ERDF) (see Hanford Activity Report 1/25/08). The revised TSD imposes more rigorous packaging requirements as dose-equivalent curie content increases.

The contractor issued the investigation report for the unexpected chemical reaction event during treatment of mercury contaminated soil at ERDF (see Hanford Activity Report 2/22/08). The report identifies the physical causes but does not note the failure to identify these hazards prior to startup. These hazards are normally discovered during a process hazard analysis.

Confinement Ventilation: The Project Hanford Management Contractor performed a value engineering study of confinement ventilation systems for several hazard category 2 nuclear facilities. The goal was to develop recommendations for a graded approach for maintaining safe and compliant systems taking into account the life-cycle stage, reduced source terms in some of the facilities, and mission. The contractor team concluded that the ventilation subsystems that comprise a vital safety system, such as the systems at Plutonium Finishing Plant (PFP), will need to remain in operation until final demolition of the facility to slab-on-grade is imminent. The Richland Operations Office SSO engineer for the ventilation systems was an active participant in the study and indicated that DOE's oversight of these systems will not be relaxed until the systems are no longer required.