

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 14, 2008

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending November 14, 2008

Plutonium Finishing Plant (PFP): The contractor determined that an unreviewed safety question exists because HEPA filters older than 10 years can no longer be credited for confinement during postulated large fires. The safety basis analysis for large fires considers the potential for HEPA filter plugging and failure due to soot loading. Based on DOE's Nuclear Air Cleaning Handbook, the filters were credited to withstand 10 inches water gage differential pressure (DP) but experts hired by the contractor could not recommend assuming the filters are able to withstand this DP when they are older than 10 years. Six filter rooms at PFP contain filters that are older than 10 years with some as old as 22 years. The facility entered the Limiting Condition for Operation (LCO) that requires: termination of activities in the affected areas, initiation of a recovery plan, and restoration of HEPA filters within 18 months. Activities were suspended in the affected areas, but the LCO does not affect the ongoing deinventory. The contractor is developing a Justification for Continued Operation that is expected to be submitted to DOE next week. Other Hanford facilities may have similar conditions, including T-Plant and Waste Receiving and Processing (WRAP) Facility, and the contractor is currently evaluating their other HEPA-filtered facilities to determine the extent of condition.

Solid Waste Storage and Disposal: The contractor discovered that some overpacked drums had vent filters that were skewed or not properly sealed. The filters are about seven inches long and provide a path for the venting of 55-gallon drums that are overpacked into 85-gallon drums. Wooden wedges are placed between the inner and outer drums to prevent movement, but in these drums the wedges appear to have failed to prevent movement of the inner drum during transport. The movement of the inner drum caused the filter to become skewed, but surveys did not find any spread of contamination. It is not clear why the wedges failed to prevent movement of the inner drum, but the contractor is investigating and trying to determine the extent of condition. A management directive was issued that prohibits overpacking similar drums until a recovery plan is in place.

Waste Treatment Plant (WTP): The project reached a milestone this week when it issued all piping and instrumentation drawings (P&IDs) to at least revision 0. Other disciplines can now use these drawings as design input documents.

The contractor briefed the management of the Office of River Protection (ORP) on the significant number of design problems with both the High Level Waste (HLW) and Low Activity Waste (LAW) melters. The problems were identified during normal design and quality reviews and during the Broad Based Review. The design problems include modifications to address revised in-structure response spectra, deficiencies with the thermal analysis, quality control issues, and consistency of documentation.

The project declared a recurring occurrence report for failures to adequately implement hazardous energy controls at the WTP construction site. The report lists eight different events in the past eight months.