

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 10, 2005

TO: K. Fortenberry, Technical Director
FROM: D. Grover and W. Linzau, Hanford Site Representatives
SUBJ: Activity Report for the Week Ending June 10, 2005

K Basin Closure Project (KBC): The water level in K-West Basin was lowered to prepare for receipt of sludge from K-East Basin. A radiological air monitor in the basin alarmed while using a high pressure water wash wand to decontaminate the uncovered basin walls. KBC initially identified a concern with whether the work was done in compliance with process and procedural requirements. During the critique KBC identified the work was being done as skill-of-the-craft and the decision to conduct the work in this manner represented a weakness in decision making and informal use of work planning guidance tools, e.g., radiological work risk screening form. However, a site rep review identified the Fluor Hanford (FH) work management procedure was not likely followed to plan the work. This procedure specifically identifies the type of work that may be performed as skill-of-the-craft and radiological decontamination activities are not listed. This indicates that the project did not evaluate the work properly to ensure that the hazards were evaluated and controls identified and implemented as required by the FH Integrated Safety Management System (ISMS). It is also questionable whether the hazards of lowering the water level were adequately evaluated. Similar lowering of water level in the K-East basin had been performed with decontamination performed as an integral activity. In the previous work, it appeared the ISMS process was followed and the work conducted safely, but this occurrence indicates a weakness in applying feedback and improvement mechanisms at KBC.

Demonstration Bulk Vitrification System: The project is evaluating changes to the design because of potential inadequacies in the confinement systems including the melt container seals. The proposed changes focused mainly on adding a ventilation system that would vent toxic fumes and prevent a ground level release during a loss of normal exhaust ventilation. The changes discussed were not clearly directed to address the Board's Recommendation 2004-02.

Site-Wide Seismic Design: The site reps discussed the plans for addressing potential changes to the site seismic design spectra with Office of River Protection (ORP) and Richland Operations Office (RL) personnel. New geologic data resulted in changes to the design spectra for the Waste Treatment Plant and indicates that a reevaluation of the spectra used in other areas at Hanford is required. ORP is planning to use a new seismic analysis performed by Pacific Northwest National Laboratory (PNNL) as the basis for comparison for their facilities. The PNNL work is scheduled for completion at the end of this year. RL is following the guidance outlined in their Contractor Requirements Document (CRD). The CRD gives three instances when reevaluation of natural phenomena hazards would be considered; (1) a new facility, (2) a new mission in an existing facility, or (3) a major modification that substantially changes the safety basis for an existing facility. The RL CRD also excludes facilities when the new mission is deactivation and decommissioning. RL currently believes they have no facilities that would require reevaluation.