

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 22, 2010

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending October 22, 2010

Board staff members F. Bamdad, B. Caleca, E. Elliot, and J. Troan were on-site to discuss the design and safety analysis for the K East Reactor core demolition.

Waste Retrieval Project (WRP): The Richland Operations Office conducted an evaluation of the contractor's implementation of corrective actions for deficiencies noted during the February ISMS verification (see Activity Report 2/26/10). This team's preliminary findings were that the corrective actions were implemented but they noted weaknesses that will require process improvements. They had one overarching concern due to the weak execution and integration of corrective actions. This concern combined several distinct failures, such as poor flowdown of requirements from upper-tier documents into the implementing procedures and packages. The team found errors and inconsistencies in configuration control of implementing documents, and other problems in work control that are similar to concerns made by the Board in its September 23, 2010, letter. The team also noted three opportunities for improvement (OFI) that dealt with personnel qualification and training. Additionally, they noted an OFI for incomplete technical bases for the use of respiratory protection and evacuation distances.

The site rep observed a spill drill at the 12B burial ground that was conducted in preparation for start-up. The drill team noted weaknesses in the radiological controls and communications, and that the project was slow to call 911 (roughly 20 minutes into the drill). Some of these weaknesses could have been caused by their unreliable radio communication system that is heavily relied on during emergency response. The site rep also noted the project failed to isolate the spill area because they did not establish boundaries at all access points to the event scene.

Plutonium Finishing Plant (PFP): The Executive Safety Review Board (ESRB) met to review the root cause analysis for the recurring events related to work management and performance (see Activity Reports 8/6/10). Two of the three root causes were similar to ones identified earlier: ineffective flowdown of management expectations; and work team overconfidence, combined with a failure to understand management expectations, resulted in non-conservative decision making. The key root cause was the implementation of the corrective action management (CAM) program was ineffective. The ESRB members clearly understood that the CAM problems were company-wide, approved the report, and plan to address similar problems at other projects such as D&D and Waste and Fuels Management.

Contractor management concluded that a contractor readiness assessment is the appropriate level of readiness review for using Aspigel[®] to remove residual plutonium from equipment in PFP.

D&D Project: The contractor began demolishing the highly contaminated K East Reactor Building discharge chute and remaining basin wall and floor stubs that are connected to it. These were required to be left when the basin was demolished because the structural analysis of the building had incorrectly assumed they were needed for stability, but the analysis has been revised. The contractor is implementing various controls to preclude the need to increase worker dose exposure limits as they had to do during basin removal (see Activity Report 7/10/2009).