

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 23, 2012

**TO:** T. J. Dwyer, Technical Director  
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending March 23, 2012

The Board conducted a public meeting and hearing in Kennewick to hear testimony from DOE and their contractors for the Waste Treatment Plant. Two sessions were held; the first was related to unresolved technical safety issues and the second session focused on concerns about the project's safety culture as noted in Recommendation 2011-1.

Waste Treatment Plant (WTP): The contractor completed a root cause analysis (RCA) for the misalignment between the PDSA and the approved plant design. The RCA team identified two root causes and five contributing causes. The first root cause is that project procedures do not force a thorough analysis of the impacts of misalignments when they are first discovered and the procedures do not direct adjustments to affected work to account for these misalignments. The second root cause is that WTP procedures do not adequately direct screening of design documents in a way that ensures consistency with the safety basis. A significant portion of the report addresses if 10 CFR 830 requires maintaining an alignment between the PDSA and the design, procurement, and construction activities. The report answers this question by citing sections of DOE G 421.1-2 and DOE-STD-1189-2008, neither of which are imposed by the contract for the WTP.

Spent Nuclear Fuel (SNF): The site rep attended a critique for an event that occurred during the construction acceptance testing of equipment being installed to process sludge. Workers were conducting an in-service leak check of a connection between a hose and the discharge piping of the ion exchanger when the joint leaked and the spray wetted four workers. The workers were wearing protective clothing, including respiratory protection, and no contamination was detected (which is not unexpected due to low potential for contamination on the "clean side" of the ion exchanger). The job hazard analysis did not identify a spray leak as a hazard nor did it appear that this fact was going to be specifically discussed during the critique until the site rep questioned it.

The contractor completed their readiness assessment (RA) for the resumption of SNF operations in the 100 KW Basin and the Cold Vacuum Drying Facility (CVDF). In the outbrief, the contractor identified one pre-start finding related to a failure of workers to follow procedures when cleaning equipment with a pressure washer. The site rep provided both the Richland Operations Office (RL) and the contractor comments on the adequacy of the RA.

The site rep met with senior RL and EM managers regarding the need for DOE to also perform RAs in addition to the contractor RAs. DOE Order 425.1D requires DOE to perform a RA if a facility, activity, or operation at a Hazard Category 2 nuclear facility has been shut down for more than 12 months. The managers explained why they do not believe DOE must perform a RA for these operations, but EM plans to pursue a change to DOE Order 425.1D so that it conforms to their position.