DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 11, 2011

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending March 11, 2011

Board staff members J. Abrefah, S. Lewis, P. Meyer, A. Poloski, and S. Stokes were on-site to observe the Small-Scale Mixing Demonstration Workshop and discussions on the data quality objectives for sampling of the feed to the Waste Treatment Plant (WTP).

Plutonium Finishing Plant (PFP): Last week, the contractor concluded that they had not always complied with controls specified as compensatory actions in a Justification for Continued Operation (JCO). The controls, known as periphery confinement, required restricted operations when exterior doors, except for doors with airlocks, were opened. The controls were routinely used when large waste boxes were removed, but not consistently when personnel entered or exited the facilities. The controls were implemented because RL had questioned the use of a leak path factor (LPF) of 0.1 for passive confinement in the accident analysis. Specifically, RL noted that modification of internal structural barriers during D&D could challenge prior assumptions for passive confinement. This question resulted in a confirmed Unreviewed Safety Question, JCO, and this RL-approved compensatory action. This compensatory action was implemented in a Standing Order, but the contractor noted that the actions to implement the new controls were not effectively communicated and the review of existing work packages was inadequate. The contractor responded quickly to the problem by posting signs on both sides of the exterior doors.

The contractor approved a JCO for the higher quantities of material found during confirmatory non-destructive assay in a pipe in Building 291-Z (see Activity Report 12/31/10). The controls listed in the JCO focus on preventing the pipe from being disturbed. The pipe is disconnected from associated equipment and sealed on both ends. Because the pipe is sealed, there is concern that hydrogen could have built up over time, but the project believes that preventing the pipe from being disturbed will eliminate the introduction of an ignition source. The project clearly understands that before D&D activities associated with this pipe can proceed, additional controls will have to be implemented to address this hazard.

Tank Farms: During a safe-to-work check, electricians working in the 242-A Evaporator identified 120-volt power in an electrical panel they believed had been de-energized by a lock out/tag out. The workers used electrical elementary diagrams (EDs) to determine what needed to be tagged out to troubleshoot a failed vessel vent, but the EDs did not show this circuit. The contractor responded correctly to the event and is investigating why prior corrective actions implemented for recurring hazardous energy controls were ineffective. The contractor has a large effort underway to ensure key drawings are as-built (drawing reconstitution), but this drawing was not included in the reconstitution effort.

Waste Receiving and Processing Facility (WRAP): The contractor completed a Readiness Assessment for the start of operations with the High Energy Real Time Radiography (HE-RTR) system. The team found three prestart findings, including the operating procedure for the HE-RTR could not be performed as written and a lack of a process that ensures functional testing of safety features are done at the proper periodicity.