

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 12, 2010

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending November 12, 2010

Board staff member S. Lewis and outside expert D. Boyd were on-site observing the conduct of operations at Tank Farms.

Plateau Remediation Contractor: The contractor's Executive Safety Review Board (ESRB) approved the creation of a project to manage improvements in their feedback and improvement, work control, and work performance processes. The contractor had performed several root cause analyses and initiated corrective actions for a number of problems, including work management issues noted during the ISMS Phase II verification, corrective action management issues noted by the Richland Operations Office (RL), and worker safety issues at the Plutonium Finishing Plant (see Activity Reports 2/12, 3/5, and 8/6/10). However, the ESRB and RL observed that performance had not significantly improved, even though many corrective actions had been implemented. Tentatively, the performance improvement project will focus on four areas: self-assessment and performance monitoring, corrective action management, work management/work control, and organizational performance. Many of the details of the plan for the project are still being evaluated, modified, and approved by the ESRB.

Waste Treatment Plant (WTP): The Office of River Protection (ORP) completed an assessment of the flowdown of contract requirements for research and technology (R&T). The project is planning to eliminate the separate R&T Program and assign the remaining R&T testing that will be conducted prior to commissioning to other organizations, such as engineering, operations, and the commissioning groups. The contract does not require ORP review of test plans and reports for testing performed outside the R&T Program. The assessment team concluded that ORP and the contractor need to evaluate their approach for managing future testing.

River Corridor Closure Project: The site rep observed a workshop on the results of non-intrusive characterization of the vertical pipe units (VPUs) in the 618-10 burial grounds. The project used probes to measure the radiation (gamma and neutron) from the buried VPUs and have now finished their analysis of the data (see Activity Report 1/22/10). The effort was successful in locating hot spots from gamma signatures, but the neutron detector produced no measurable activity at any location. Variables, such as the density of the material inside the VPU, the density of the soil between the probes and VPU, or the assumed fuel type, significantly change the possible material characterization. For example, if the density of the filler material inside the VPU is assumed to be similar to concrete, then the calculated source strength would be 2.4 times greater than a source surrounded by a filler with a density of soil. These uncertainties make it difficult to select a remediation approach and plan the final disposition path for the waste.

The contractor's plan to deploy hoses with fixative-spraying nozzles down the contaminated ducts in Building 324 failed prior to applying any fixative (see Activity Report 6/25/10). Various problems with the six sprayer assemblies and attached cameras have been encountered. With the exception of the shortest run of ductwork (11 feet), none of the hoses was able to be extended halfway down the intended duct. The contractor has determined that modifications to the process and/or equipment are required to stabilize contamination of this ventilation system.