

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 25, 2010

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending June 25, 2010

Board staff members S. Seprish and S. Stokes, and outside expert L. Miller were on-site observing a team of experts reviewing the control strategy for hydrogen in piping and ancillary vessels.

Tank Farms: Late last week the contractor identified a potential inadequacy in the safety analysis (PISA) after a new rupture disk protecting a waste transfer line ruptured during testing. The safety-significant waste transfer system had not been analyzed for the impact of water hammer during operation of fast-acting valves in the 242-A evaporator. An administrative control to limit the rate of pressurization manually was the solution approved by the contractor's Safety Basis Change Review Board. Office of River Protection (ORP) nuclear safety engineers suggested that this administrative control may be deemed acceptable for a defined period of time, such as for the next evaporator campaign, but noted an engineered control, such as replacing two fast-acting valves in the evaporator with slow-acting valves, is the preferred long-term solution. The contractor is expected to submit the proposed solution to ORP in the near future.

River Corridor Closure Project: A review team completed the contractor readiness assessment (RA) for radiological stabilization of the ventilation system for the hot cells in Building 324. The contractor is planning to spray thick fixative on the interior of the safety-class ventilation ducts and on the walls of the cells. At the exit briefing the RA team provided their preliminary observations, including that, in general, they have confidence that the process and equipment will work as intended. However, the team noted three areas in which the project still needs to demonstrate readiness: indentifying key equipment operating parameters and limits to ensure acceptable equipment performance; defining pre-use functional checks for the stabilization equipment; and performing an emergency response drill that simulates system upset conditions. Demonstrating readiness for these deficiencies is a pre-start requirement and will be assessed by the RA team as a continuation of this review.

The site rep observed a critique for an event in which workers were unnecessarily exposed to potential hazards while grouting waste containers at the Environmental Restoration Disposal Facility. Workers were exposed to potentially hazardous vapors on consecutive days, but the need for additional respiratory protection was not evaluated even after concerns were raised. Lessons learned by the plateau remediation contractor on how to respond to off-normal conditions were not applied (see Activity Report 4/23/10).

Waste Treatment Plant (WTP): The staff and site reps met with the new federal project director (FPD) for WTP. The FPD is reorganizing the federal oversight to better align with the transition from a design/construction to a construction/commissioning project. The FPD envisions that the changes will clearly differentiate the roles of the ORP and the organization within ORP that is responsible for federal oversight and management of WTP.

ORP will be creating a new organization that will manage the interface between the tank farms and WTP.