

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 16, 2010

**TO:** T. J. Dwyer, Technical Director  
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending July 16, 2010

R. Quirk was off-site this week.

River Corridor Closure Project: The site rep attended a presentation on the 30-percent design review of the plans to remove the hot cells from Building 324. The cells will be removed as monoliths with some weighing as much as 900 tons and with potential dose rates of greater than 100 R/hour on contact. For short periods during the removal activity, the project anticipates requiring radiation areas be posted up to 350 feet from the building and a buffer area posted to the shoreline of the Columbia River. The 60-percent design review is scheduled for mid-September followed by a 100-percent design review in early December.

Environment Restoration Disposal Facility (ERDF): The project held a fact-finding for an event involving the discovery of a hole in the bottom of a contaminated debris transport container. During off-load of the container at ERDF, a worker noted water leaking from the bottom of the container and realized that a few drops had contacted their arm. No contamination was discovered and it is believed the hole was caused by loading of heavy concrete debris. It is not unusual for ERDF to receive 400 to 500 of these containers a day, but activities are currently shut down until an investigation into abnormal fumes from unloaded debris is completed.

Tank Farms: The Office of River Protection (ORP) conducted a Senior Review Board to evaluate proposed changes to the Safety Basis. One of the changes involves the ignition controls for flammable gas contained in pumps and connected piping. Previously, the lack of an ignition source was credited as a control for the pump that provides feed to the evaporator, but the discovery of considerable scouring inside a pump casing during testing led to the determination that heat generation could be a source of ignition. The contractor is requesting an exemption from this ignition control because a pipe failure would not cause fragmentation that could injure workers. The potential radiation dose and toxicological exposure are not considered significant facility worker hazards because the consequences do not exceed 100 rem or PAC-3 thresholds. The review board members approved the proposed changes.

Waste Treatment Plant (WTP): ORP conducted an assessment of how the contractor prepares calculations, process flow diagrams (PFDs), and electric diagrams. The team presented their preliminary findings and observations at an exit briefing, and they currently believe that none of the findings will require the contractor to conduct major rework or changes to their processes. One of the team's observations was that PFDs did not consistently include depictions of instruments credited in the PDSA. The project committed to evaluate if the PFDs are design aids or warrant updating to be consistent with the current version of the PDSA.

Plutonium Finishing Plant (PFP): Late last week, an event occurred in which four workers experienced an electrical shock while working in two different gloveboxes in the same room. The project investigated, but no electrical source could be identified. During the critique, the consensus was the shock could have been caused by static electricity, but as a precautionary measure, all the tools and power cords that were used on this job were removed from service.