

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 5, 2011

**TO:** T. J. Dwyer, Technical Director  
**FROM:** W. Linzau and R. Quirk, Hanford Site Representatives  
**SUBJECT:** Hanford Activity Report for the Week Ending August 5, 2011

Board Staff members A. Poloski, S. Stokes, and R. Oberreuter were on-site to discuss the implementation plan for Recommendation 2010-2 and observe the HPAV Independent Review Team. They also performed a walkdown of the various facilities at the WTP construction site.

Waste Treatment Plant (WTP): The Office of River Protection (ORP) lifted the fabrication hold point that precluded welding the heads on five vessels that will contain non-Newtonian waste. Late last year, the project's senior management agreed to put a hold on fabrication until additional testing could confirm the results from the analysis of the vessel mixing and the accumulation of solids. The testing showed significant differences from the predicted behavior of the vessel mixing system. Even though the testing did not demonstrate the predicted results, the contractor requested approval from ORP to weld the heads on the vessels because continued delay in fabrication may have irreversible impacts on the schedule. ORP's Engineering Division had reviewed the contractor's request to install the heads and noted "there is considerable risk that the vessels as currently designed may not be able to perform their intended process and safety functions." ORP's approval letter notes that their issues are expected to be resolved by large-scale integrated testing and will now require that the issues be resolved before the installation of the vessel in the Pretreatment facility.

After ORP management approved the continued fabrication of the five vessels, a member of the ORP staff declared a "stop work" to suspend the vessel head welding operations. ORP management's initial response is not supportive of the "stop work" because no imminent safety hazard is directly associated with welding the heads on the vessels for the Pretreatment facility.

Tank Farms: The site rep and facility representative (FR) observed the contractor measuring the level of solids in a double-shell tank. In general the work was performed consistent with the procedure, and suggestions for improvement were shared with the FR and con ops mentor. The quality of the work instructions and execution of the work were significantly better than the last time the site rep observed this activity in this tank farm.

During a walkdown of the AW Tank Farm with the FR and a con ops mentor, the site rep noted that five of the six labels for valves used to perform sampling of flammable gas levels still included outdated administrative instructions, even though DOE had committed to fix this in their response (10/18/10) to a Board letter (8/5/10).

Cold Vacuum Drying Facility (CVDF): The contractor's engineering oversight organization identified that only two of the 10 required quarterly health reports for vital safety systems were completed for the past quarter. Additionally, they noted that some of the system engineers and alternates had been reassigned to other facilities and no replacements were assigned. The contractor plans to restart spent nuclear fuel operations in CVDF in the next few months after they complete a Readiness Assessment.