

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 8, 2010

TO: T. J. Dwyer, Technical Director
FROM: W. Linzau and R. Quirk, Hanford Site Representatives
SUBJECT: Hanford Activity Report for the Week Ending October 8, 2010

On Thursday and Friday, the Board held a public meeting and hearing to discuss safety-related aspects of the design of the Waste Treatment Plant (WTP).

Tank Farms: The contractor ended the 242-A evaporator campaign early because samples of the slurry indicated excessive solids were being transferred to double-shell tank AW-106. The contractor process control engineers completed a preliminary analysis and concluded that 20 inches of solids could precipitate and settle on the 100 inches of solids already in AW-106. The draft analysis also indicated the slurry already transferred to AW-106 would not significantly impact the probability of flammable gas buildup. The contractor is investigating why there was so much precipitation, 25 percent volume versus the planned 5 percent, even though they established the target specific gravity based on a sample of the actual tank waste supernate.

The contractor held a critique to better understand an event where an analyst in the 222-S laboratory dropped a vial containing toluene and tritium during a daily check of the liquid scintillation counter. The worker and first responders failed to minimize their exposures by promptly leaving the area.

The contractor discovered the outer hose, gaskets, and fasteners on hose-in-hose transfer lines (HIHTLs) used for retrieval of waste from single-shell tank C-104 were not identified as safety-significant (SS) in the safety equipment database. The contractor has forbidden the use of HIHTLs for waste transfers until the issue is resolved.

Five workers had potentially contaminated water fall on them after it was ejected from the ventilation exhaust stack for the C-107 single-shell tank. No contamination was found. The exhaust stack height was recently increased from 17 feet to 40 feet, which appears to have caused excess condensate buildup. The stack has a drain line back to the tank with a normally shut valve, but the site rep questioned why a loop seal was not used rather than a closed valve.

Plateau Remediation Contractor (PRC): A critique was held this week for an event late last week in which a bulk waste container leaked liquid during transport from the 100 K Area to the Environmental Restoration Disposal Facility. The container (similar to a large covered and sealed dumpster) was filled with demolition debris from building demolition. The driver noted liquid leaking out of the container in his rearview mirror, pulled off the road, and called for assistance. The leak appeared to be excess water used for dust suppression and no contamination was found during surveys of the road, truck, and container. A similar damaged container was noted earlier this year when liquid dripped on a worker's arm (see Activity Report 7/16/10). The cause of the damage to the containers in both events appears to be a lack of care while loading heavy debris, but corrective actions from the prior event were not implemented or were ineffective.