

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 14, 2008

**TO:** K. Fortenberry, Technical Director  
**FROM:** R. Quirk and W. Linzau, Hanford Site Representatives  
**SUBJECT:** Activity Report for the Week Ending March 14, 2008

Staff members D. Eyler, C. March, S. Stokes, and R. Zavadoski were on-site reviewing the design of the Waste Treatment Plant and the planning for the Interim Pretreatment Facility.

Emergency Preparedness (EP): DOE Headquarters (NA-41) conducted a no-notice EP exercise where there was a simulated leak of tank waste from a buried transfer line located between the C and AN Tank Farms. The contractor that manages the EP program for DOE determined that sounding the take-cover sirens without notifying the workers in advance presented a risk of uncontrolled response actions from co-located workers. Therefore the sirens were not used and the related public address announcements were not made. Some workers continued to enter the area to perform work activities because they were not notified to remain away from the area or believed they were exempt from participating in the exercise. An industrial hygiene technician supporting construction work in the C Tank Farm mistakenly evacuated into the spill area, resulting in an exposure for 45 minutes 20 feet from the simulated spill. The simulated cross-site waste transfer, which was the source for the simulated spill, was not stopped, although another waste transfer that was also simulated to be in operation was stopped. The NA-41 drill objectives, which were not included in the drill package briefed to site drill controllers and observers, included evaluation of efforts to “implement onsite protective actions promptly and effectively.” But without audible sirens and announcements it is difficult to determine if the cause of noted deficiencies were due to excessive simulation or problems in the EP program.

Waste Treatment Plant (WTP): The Board’s staff and site reps conducted an on-site review of the safety-related ventilation and the fire protection systems at the Low Activity Waste (LAW), High Level Waste (HLW), and Pretreatment (PT) facilities. The review included evaluations of functional classification of components and acceptance test criteria for the ventilation system. There was significant discussion of the authorization basis amendment request to tailor requirements from DOE-Standard-1066 (see Hanford Activity Reports 2/8/08 and 8/24/07). The review included walkdowns of the LAW, HLW, PT, Analytical Laboratory, and portions of the Balance of Facilities.

Pacific Northwest National Laboratory presented the status of their research supporting the project. The testing of actual waste samples is being conducted to gather data on the characterization, leaching properties, and the waste behavior during ultrafiltration. Work is also being conducted to develop and test the simulants to be used in the Pretreatment Engineering Platform (PEP). Seven of 16 skids that make up the PEP have arrived in Richland.

Interim Pretreatment System: The Office of River Protection directed the Tank Farms contractor to proceed with the scope of work to prepare for critical decision (CD)-1. A project goal is to achieve a technology readiness level six for the three alternatives (ion exchange, caustic side solvent extraction, and fractional crystallization.)