

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 10, 2006

**TO:** K. Fortenberry, Technical Director  
**FROM:** R. Quirk and W. Linzau, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending March 10, 2006

K Basins Closure (KBC) Project: A Richland Field Office (RL) assessment of the KBC sludge treatment project (see site rep weekly 3/3/06) was completed this week. Preliminary conclusions were that the safety analysis was not mature enough to justify early procurement of equipment, the accident analysis appeared to be very conservative, and the Fluor Hanford (FH) request and RL approval letter for early procurement was not consistent with the nuclear safety rule.

There was a significant violation of the lockout/tagout procedure when an electrician changed the position of a locked and tagged breaker by forcing the locking device.

Tank Farms: CH2MHill Hanford Group (CHG) noted on January 31, 2006, that the level in an isolated catch tank indicated that there was a potential leak. The tank, ER-311, was believed to contain approximately 1,800 gallons of lightly contaminated rainwater and snow melt and small amounts of waste. A formal assessment of the information was initiated and, after reviewing data and evaluating potential causes, it was determined last week that the tank had probably been leaking approximately 0.7 gallons per day since early October 2005. Last weekend CHG management decided to use the emergency work provisions of their work control procedure to expedite the waste pumping to a tanker truck and eventual transfer to a double-shell tank. The Office of River Protection approved a one-time exemption from several waste transfer Technical Safety Requirement controls using a Safety Evaluation Report. Field work was stopped when observations using a camera showed that the tank level appeared lower than the installed level instrumentation indicated and the pumping of just water was probably not feasible. A significant number of questions are raised by this event, including: why was field work not stopped when unexpected radiological conditions arose, what criteria were used to determine that emergency work was required, and why are there not pre-approved procedures and equipment staged for pumping leaking catch tanks.

Waste Treatment and Immobilization Plant (WTP): The site rep observed testing of a new control strategy for pulse jet mixers (PJMs) at Bettelle's 300 area facility. The tests are being conducted to acquire data on the proposed use of new locations to read pressure used to control PJM operations. The results from these tests will be used to develop strategies to prevent multiple overblows of the PJMs. The facility demonstrated an overblow of a single PJM in the test tank, which caused shaking of the tank and a large disturbance on the surface of the water.

The site rep attended the exit briefing of the Army Corps of Civil Engineers ongoing independent review of the WTP structural design. One of the preliminary observations dealt with the draft design guide being developed for expansion anchor bolts. The guide appears to have safety factors inconsistent with DOE Standard 1020. The guide has not been used for design yet and the project committed to ensure that it is consistent with the standard.