

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 25, 2003

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover and M. Sautman, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending April 25, 2003

Waste Treatment Plant (WTP): The Site Rep reviewed a calculation that determined the hydrogen generation rates, times to reach the lower flammability limit (LFL), and times between mixing for all the waste streams and vessels in the Pretreatment and High-Level Waste Facility. The Site Rep identified that all of these values were incorrect on a table summarizing the results for the vessels requiring Important to Safety mixing. For example, the actual times to reach LFL for some tanks were actually 49 to 77% lower than what was shown on the table. It appears that the wrong version of the table was inserted into the report, but Bechtel National Inc. (BNI) is still investigating. These errors were in a fully approved calculation that was performed after BNI had implemented extensive corrective actions to improve the quality of engineering calculations. The Office of River Protection (ORP) also sent BNI a letter expressing concern that the number of significant or near miss construction site events appears to be trending upward. In the most recent event, a canvas tool bucket dropped 60 feet from a tower crane. A piece of angle iron fell out of the bucket and landed on the roof of a break shack that had 3 workers in it at the time.(I-C)

Spent Nuclear Fuel Project (SNFP): The Contractor Readiness Assessment for scrap fuel screening, handling, and sorting was conducted this week. This represents the final process which needs to be initiated to allow placing all N-Reactor fuel stored in the K-Basins into safe interim storage. Operators demonstrated proficiency in conducting activities and the operating procedure could be performed without revision. Deficiencies were noted in the level of knowledge regarding the safety controls related to sludge and fine scrap loading. The project will conduct testing on actual scrap to verify cleaning performance, sludge content, and scrap size conform to the assumptions of the safety basis prior to loading scrap into Multi-Canister Overpacks. (III-A)

Plutonium Finishing Plant (PFP): The staff provided PFP a list of concerns with the proposal to thermally stabilize Pu oxides containing high chlorides at 750/C, especially since PFP wants to measure the moisture at only 600/C and then apply a correction factor. PFP believes that stabilizing washed oxides at 950/C can still result in unacceptable amounts of chloride corrosion.

Tank Farms: The second phase of caustic additions to tank AN-107 was completed. In addition, 11 workers received whole body counts (9 negative, 2 just above decision level) after they received high levels of contamination (i.e., mrad/hr levels) on their anti-contamination and personal clothing. While handling old saltwell pump legs covered with multiple bags, some high-level waste either leaked from the bags or was on the outside of the bags. (III-A)

River Corridor Project: DOE awarded the River Corridor Contract to the Washington Closure Company. The company is composed of Washington Group International, Fluor Federal, and Earth Tech. The contract involves the cleanup of the 100 and 300 Areas of Hanford. (III-B)