

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 12, 2003

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover and M. Sautman, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending September 12, 2003

Spent Nuclear Fuel Project (SNFP): Fluor Government Group responded to the DOE-RL letter stating that previous response were inadequate. In this letter, Fluor references their performance incentive dates and states that the Tri Party Agreement and Recommendation 94-1 Implementation Plan milestones for sludge are not consistent with contract commitment dates. Discussions with DOE-RL management have identified that DOE intends to clarify to Fluor that the performance incentive dates do not supercede the other DOE commitments and that these commitments are identified in the contract.

Fluor has also committed to combine all sludge activities into a single organization reporting directly to the Fluor Hanford President. In addition, a expert panel will be appointed to evaluate alternative disposition strategies for the sludge. (III-A)

Tank Farms: A high-level waste transfer was shut down after a health physics technician measured 2 R/hr on contact and 700 mrem/hr @ 30 cm on a section of transfer piping which had been recently exposed during construction excavation. The transfer was allowed to resume after the pipe was covered with dirt to reduce radiation levels and the entire system was walked down. An investigation of this event is ongoing. (I-C)

Waste Treatment Plant: Bechtel plans to remove the column purge air inlet line, ventilation outlet lines, and level controls associated with the current cesium ion exchange (IX) column H<sub>2</sub> mitigation system which relies on an air gap in the column. In the new design, the IX columns would be flooded and the fresh IX resin addition line will be used as the purge path for H<sub>2</sub> generated in the IX columns. Hydrogen would build up at a high point in the system until the H<sub>2</sub> pushes the liquid down enough to cause a conductivity probe to detect air. Once a bubble is detected, it would be isolated and then displaced by a NaOH solution to a breakpot where the H<sub>2</sub> would escape through the vessel vent system and the liquid drain to another system. This design change is being driven by comments from an ORP design review and is supposed to be simpler and more robust. Preliminary Site Rep questions include whether all the H<sub>2</sub> would escape from the column or could some become trapped, how well the H<sub>2</sub> would migrate through the resin addition lines, how much H<sub>2</sub> would be allowed to accumulate, and the reliability of the conductivity probes to detect when the H<sub>2</sub> bubbles reach this limit. Bechtel has just begun a preliminary hazards analysis of this design change. (1-C)

Hanford Advisory Board (HAB): The site rep briefed the HAB River and Plateau Committee on recent Site Representative oversight activities for Fluor Hanford projects with emphasis on the Spent Nuclear Fuel Project.  
cc: Board Members