

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 19, 2004

**TO:** K. Fortenberry, Technical Director  
**FROM:** D. Grover and M. Sautman, Hanford Site Representatives  
**SUBJ:** Activity Report for the Week Ending November 19, 2004

K Basin Closure Project: DOE has approved and the project has signed a contract with British Nuclear Fuels, Limited (BNFL) to process the K Basin sludge to a form suitable for disposal at WIPP consistent with the draft waste acceptance criteria for remote-handled transuranic waste. BNFL currently is the designer for the hose-in-hose transfer line and K-West basin sludge consolidation equipment. The treatment method will be to grout the sludge. There is also the possibility for high temperature and pressure oxidation of uranium metal to minimize gas generation in the grouted waste. This completes the revised Recommendation 94-1/2000-1 Implementation Plan interim commitment to select a process for treatment of the bulk sludge.

The project is nearing an estimated one cubic meter of sludge retrieved from the North Load Out Pit. When this level is exceeded sufficiently to assure the project that they can grout a full cubic meter, the Large Diameter Container will be shipped to T Plant for storage until grouting capability is demonstrated. Consolidation of the weasel pit is also progressing. The efficiency of this operation has been hindered due to the amount of debris in the basin and the poor visibility. The debris has been clogging the end effector and safety significant strainer baskets at a rate significantly higher than expected. The project is developing rakes to try to remove debris from the vacuuming area and an end effector with a simple backwash capability to increase efficiency. Planning is underway to unload the strainers in K-East Basin and return them to service, rather than ship to K-West for processing.

Waste Treatment Plant: Three staff teams performed reviews of fire protection, configuration management, and the High Level Waste (HLW) Facility Summary Structural Report.

Tank Farms: After being on a hiatus since July, vacuum retrieval of C-203 restarted this week. Eleven batches were transferred. Retrievals will be put on hold until late December.

The staff has concerns with an approved safety basis amendment that allows the use of two general service waste transfer system valves to physically disconnect waste transfer system piping. The acceptability of this approach was based on the very low leakage rates that are assumed to occur past two closed valves. These valves never have to be leak tested to verify their performance, but just be designed for "waste transfer system conditions." The staff is pursuing potential concerns with the unmitigated consequence analysis, unverified assumptions, lack of performance testing, and crediting general service equipment in a safety analysis.

cc: Board members