DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 26, 2004

TO: K. Fortenberry, Technical Director
FROM: D. Grover and M. Sautman
SUBJ: Activity Report for the Week Ending March 26, 2004

Waste Treatment Plant (WTP): Full circumferential ultrasonic testing of the 34 nozzles on the top of the Submerged Bed Condensate Receiver Vessel found that nine of them needed to be repaired due to lack of fusion. While excavating these nozzles, the pipe wall was penetrated in two spots which necessitated additional rework. The vessel vendor has determined that it is necessary to install gussets between the pulse jet mixers (PJM) and the vessel wall because the original design did not account for the buoyancy forces of the PJMs. (III)

Tank Farms: It may be necessary to mix 2 tanks because portions of the supernatant may not meet corrosion specifications. Tank AY-102 has a pool of condensate sitting on the top and preliminary examinations of samples from AN-106 (the receiver tank for the C-farm 200 series tank waste) indicate that the supernatant may be stratified. In addition, the Technical Safety Requirement for sampling double shell tank headspaces when the ventilation system is down may need to be modified because continued condensate additions to AY-102 is predicted to shorten the time to reach 25% of the lower flammability limit under zero ventilation to less than 8 days.

A health physics technician was brought to a local hospital after he developed a bloody nose a couple hours after smelling an odor in AN farm. As a result, only workers wearing respirators and performing essential work are allowed entry into any of the tank farms at this time.

The Site Rep spent a day observing performance demonstrations and drills in preparation for the upcoming C-200 series tank vacuum retrieval readiness assessment. The Site Rep did not disagree with management's decision that more training is still needed. (II)

Sludge Retrieval and Disposition Project: A goal for abandoning interim storage of sludge at T Plant was to minimize handling of the material by processing it at the Basins. The proposed approach calls for consolidation in large containers in both basins followed by pumping the sludge at K-East to K-West Basin using hose-in-hose transfer lines similar to that used at tank farms. Processing will then be done at K-West with the potential for some stabilization being performed at the Cold Vacuum Drying Facility. This approach appears to increase the amount of handling needed to reach the final state not reduce it, although there is the potential for putting the sludge into a stable form sooner. However, a major project risk is the lack of a remote handled transuranic waste acceptance criteria which could delay this second goal. (II)

Spent Nuclear Fuel Project (SNFP): Preliminary findings of the independent assessment of the hoisting event include the corrective maintenance performed was done without required review by operations and radiation control organizations. Also, maintenance documentation is not adequate to make effective repairs, to monitor system performance, or to assess operability. (II)