DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 7, 2000

TO: G. W. Cunningham, Technical Director

FROM: R. Arcaro, Hanford Site Representative
M. Sautman, Hanford Site Representative

SUBJ: Activity Report for the Week Ending January 7, 2000

A. Plutonium Finishing Plant (PFP): The technical staff conducted a video conference with PFP personnel to discuss issues associated with the condition and testing of high efficiency particulate air (HEPA) filters at PFP and the Plutonium Reclamation Facility (PRF). The injection and sampling ports used at PRF to test the filters' efficiency do not comply with ASME N510-1989, *Testing of Nuclear Air Treatment Systems.* In addition, the configuration of the filter banks and ports raises questions about the uniformity of the aerosol concentration. PFP assumes uniformity, but has not confirmed it by conducting an air-aerosol mixing test as discussed in the standard. Another issue is whether HEPA filters that pass efficiency tests, but are subject to chemical corrosion, still have enough strength to perform as designed in an accident.

Mr. Sautman met with WA Department of Ecology personnel to discuss each agency's priorities at PFP, Recommendation 94-1, and permitting issues. Representatives of both agencies agreed to start exchanging PFP correspondence and meet periodically in the future. (3-A)

B. Leak of Radioactive Waste in Tank Farms: During a transfer of waste out of tank S-103, an operator noticed liquid dripping from an electrical junction box adjacent the pump pit. A leak of radioactive waste was confirmed when a radiological survey determined that the wetted area read approximately 10 Rad/hour. The transfer was immediately stopped and the tank farm evacuated. Although personnel surveys found no skin contamination, 4 operators were discovered to have contaminated clothing. Subsequent internal monitoring discovered that 2 of these operators had a slight uptake of radioactive material. The cause was apparently a leak from the transfer pipe that found its way up a conduit used for heat trace lines. This cause may indicate a potential inadequacy in the authorization basis as the Final Safety Analysis Report assumes pit covers and excavation controls mitigate the probability and/or consequence of atmospheric leaks. (3-A)

C. Spent Nuclear Fuel Project (SNFP): Mr. Arcaro toured the K-West Basins to examine the Integrated Water Treatment System. The project plans to do a system leak test in lieu of hydrostatically testing the entire system. Only 3 welds have not been hydrostatically tested. Most of the system was hydrostatically tested in large sections prior to installation. Additionally, the main distribution header and other parts of the system were isolated in place and hydrostatically tested during installation in the basins. Mr. Arcaro will have a follow-up meeting with project personnel on Monday to review pressure test records to verify the extent of the system that has and has not been tested. (1-C)

cc: Board members