DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 20, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: J. S. Contardi/M.T. Sautman, SRS Site Representatives
SUBJECT: SRS Report for Week Ending January 20, 2006

DNFSB Activity: Staff member A. Gwal was on site this week to followup on electrical concerns in the high-level waste tank farms.

Defense Waste Processing Facility: On Sunday, a gasket failed and 50% nitric acid started spraying on the floor and nearby equipment. Although the facility thought they had stabilized the leak, the leak would resume spraying hours later. Over the next two days, it leaked three times resulting in multiple entries by the Hazardous Material team to neutralize the ~30 gallons of acid, some of which overflowed a container placed underneath the flange. Preliminary analysis indicates that the gasket material is not currently approved for use in 50% nitric acid systems. The spill resulted in a Technical Safety Requirement (TSR) violation since personnel were unable to perform a required surveillance. The TSR surveillance required a 12 hour verification of adequate purge flow to various process vessels.

Tank Farms: In response to staff concerns about facility worker hazards posed by hydrogen buildup in failed cooling coils, the contractor formed a team to institutionalize this hazard into the work planning process (Site Rep 8/26/05 report). The team issued a report listing the equipment where hydrogen could accumulate and recommended controls.

Spent Nuclear Fuel (SNF): The Site Rep met with the facility manager to discuss concerns with the radiological planning for decontaminating a SNF cask that had limited information about actual contamination levels. The Site Rep was concerned that the Radiation Work Permit suspension limits were much larger than the expected conditions although it was not clear whether the control set was adequate if the higher contamination levels were actually required. The criteria for triggering certain actions were also not well defined. The facility manager had similar concerns with the planning and ensured the issues were addressed before work began.

F/H Laboratory: This week, facility personnel at the F/H Laboratory declared a potential inadequacy in the safety analysis (PISA). The PISA resulted from an unanalyzed deflagration event in a glovebox due to volatile organic compounds. The current Safety Analysis Report does not credit the off-gas ventilation system as a control for preventing the accumulation of flammable gases. To ensure the facility is in a safe configuration, personnel verified that no gloveboxes contain volatile organic compounds. A corrective action from the recent fire in the Savannah River National Laboratory led to the identification of the PISA.

Underground Tank 804 Cleaning: Tank 804 is a below grade tank which historically processed waste for F-Canyon. Deactivation activities are expected to begin in mid-spring and will require the removal of approximately 1.5kg of plutonium. This week the Site Rep met with contractor representatives to discuss the draft Consolidated Hazard Analysis (CHA) and Justification for Continued Operations. Although many of the source term assumptions incorporated in the CHA were conservative, several accident scenarios were incomplete or unanalyzed.