

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 31, 2006

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi/M. T. Sautman, SRS Site Representatives  
**SUBJECT:** SRS Report for Week Ending March 31, 2006

**Saltstone:** The restart of the Saltstone facility has been delayed for several months due to startup issues with fly ash, equipment design, piping pressure spikes and relief controls, and level detection. The contractor Readiness Assessment (RA) commenced this week. The Site Reps observed drills, dry runs, interviews, and a maintenance evolution. The conduct of the RA (e.g., scope of demonstrations, degree of simulation, thoroughness, planning, coverage by the team, etc.) has been satisfactory and mistakes from past RA's were avoided. Field work is nearing completion.

**F Tank Farm:** The Site Rep attended a critique of the recent removal of a drill string from Tank 28. It is suspected that concentrated supernate was held up in the drill string rather than the anticipated and relatively less radioactive saltcake. Although the actual radiation levels (1.5 rem/hr working area) were significantly higher than expected (0.4 rem/hr working, 0.05 rem/hr general area), the Radiological Work Permit (RWP) suspension guidelines had been set so high (2 rem/hr) that early warning signs did not shut the job down. Meanwhile, the plastic sleeving being pulled over the drill string as it was removed was sticking tightly to it, which would have made it very difficult to reinsert the drill string back into the tank. Because detailed contingency plans had not been developed and briefed, workers felt they had little choice but to finish removing the drill string, lay it down in a container, and cover it with many lead blankets by hand - all the while as several area radiation alarms were unexpectedly going off. During this work, the electronic pocket dosimeters of two workers alarmed due to exceeding both the dose rate (2 rem/hr - same as RWP suspension guideline) and cumulative dose setpoints (0.1 rem). These alarms occurred while the workers manually handled the sleeving (extremity dose rates up to 30 rem/hr). As has been seen at other events (Site Rep weekly 8/19/05), work did not immediately stop when the RWP suspension guideline was exceeded. Setting the dose rate alarm setpoint lower could have alerted the worker to the high dose rate before the suspension guideline was exceeded. The Site Rep discussed observations with contractor management, who shared similar concerns.

**Salt Waste Processing Facility (SWPF):** The Site Reps observed the kickoff of a month-long facility HAZOP and the hazards analysis of several major systems.

**Tritium Extraction Facility (TEF):** As part of operator proficiency training, the Site Rep observed operation of the overhead 30-ton crane. No deficiencies were noted.

**Defense Waste Processing Facility:** The staff previously questioned the experimental basis for the deflagration-to-detonation transition (DDT) factor used by the contractor for determining the peak pressure that could result from a trapped hydrogen explosion. Rather than try to back calculate these factors from experiments, the contractor will determine how large of a DDT factor the piping could withstand based on its capacity (Site Rep weekly 2/17/06).