

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 30, 2006

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi/M.T. Sautman, SRS Site Representatives  
**SUBJECT:** SRS Report for Week Ending June 30, 2006

**Rec. 2001-01:** The commitment to demonstrate the viability of Deliquification, Dissolution, and Adjustment by June 2006 was missed. Three key assumptions in the draft Liquid Waste Disposition Processing Plan are now invalid which puts future tank closures, evaporator operations, and feed availability at risk.

**Savannah River National Laboratory:** While preparing an experiment to provide operational data for the Defense Waste Processing Facility, a vessel ejected its contents. The experiment was conducted within the shielded cells using approximately 1250 grams of sludge from radioactive liquid waste storage Tank 51. The root cause of the event was the inadvertent heating of the vessel which caused it to pressurize. The heating element was energized during a trouble shooting activity to start up the vessel agitator. Operators were attempting to identify which circuits provided power to the agitator. The heating element, which should not have been plugged in, had already been connected to the wrong electrical circuit. More than 900 grams of the sludge were ejected when the vessel released pressure through a glass port which initially had a stopper in it. The event represents a significant breakdown in configuration management, procedure compliance, and conduct of operations.

**Contamination Spread:** A liquid tanker truck was used to drain rain water from a sump of a recently decommissioned facility in D-Area. The liquid was sampled and determined to be acceptable for release to the sanitary wastewater treatment system. Following the discharge of the liquid, the tanker was relocated to another area on site where routine surveys unexpectedly identified contamination on the truck as well as an operator who drained the tanker. Followup surveys at the sanitary wastewater treatment system identified contamination levels of 750,000 dpm beta/gamma. To prevent any further spread of contamination, the contractor shutdown the wastewater treatment system. The contamination is thought to have originated from legacy contamination within the tanker which was not been adequately mixed with the rain water when the tanker was sampled. The tanker had previously been used for transporting low-level liquid waste.

**Tritium:** The ability of the Hydroburst Tester Upgrades Readiness Assessment (see 5/3/06 weekly report) team to review the facility's drill program was compromised when the team lead briefed the facility on the team's conclusions and project personnel accessed the team's draft database writeup prior to the drill report being issued. This bias was evident when the facility asked to redo the drill although no corrective actions for addressing the first one's deficiencies had been identified or implemented. This issue was discussed with contractor management who quickly resolved the issue appropriately. When earlier maintenance left the equipment in an unanticipated condition, it took three immediate procedure changes to address the situation because the first change included inappropriate steps and the second one left a valve open. Later, part of the system was inadvertently left pressurized to 7000 psi.