

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 15, 2005

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi/M. T. Sautman, SRS Site Representatives  
**SUBJECT:** SRS Report for Week Ending July 15, 2005

**High-Level Waste (HLW) Management:** The contractor issued the *Interim Processing Plan* (IPP) for managing the high-level waste (HLW) system at SRS. The IPP is a planning document used to highlight the programmatic shortfalls and available opportunities to mitigate identified risks. The assumptions used in developing the IPP are reasonable and accurately reflect current uncertainties. Several key conclusions and assumptions from the IPP are summarized below:

- Due to a lack of storage space, the Salt Waste Processing Facility (SWPF) is not predicted to operate at full capacity through 2019. Additionally, the lack of near-term tank space will keep processing rates at SWPF below 50% capacity during the first couple of years.
- As planned, Tank 48 will not be recovered prior to SWPF startup in 2009. Tank 48 waste disposition requires modifications to two saltstone vault cells, currently unfunded.
- One of the old-style Type I HLW tanks will be utilized for sludge washing campaigns.
- The Modular Caustic-Side Solvent Extraction Unit (MCU) and Actinide Removal Process (ARP) will not operate until February 2008, which is significantly later than the 2005 date assumed in the Recommendation 2001-1 Implementation Plan. Operation of MCU, ARP, and SWPF will significantly increase Defense Waste Processing Facility (DWPF) recycle flowrates.
- The only viable concentrate receipt tank for the 3-H Evaporator no longer has the capacity to process sludge batch decants and will be forced to shut down soon to remove accumulated salt. Continued operation of the 2-F Evaporator is critical while 3-H is down for salt removal and for future H-Canyon stabilization missions through 2011. However, the 2-F concentrate receipt tank is forecast to become saltbound in 2006 and will require salt to be removed from tank 25 and its conversion to concentrate receipt service.
- The SWPF feed rate could be significantly increased by building a ~200-400 Kgal, hazardous waste tank (with minimal shielding) to store the low activity decontamination salt solution feed and free up tank 50 for storing HLW.

Currently, the lack of tank space and the shutdown of all three evaporators have significantly reduced the available space for DWPF recycle receipts. Recent projections indicate DWPF operations would be halted if the 2-H Evaporator is not returned to service within the next two weeks. DWPF was already shut down temporarily this week after a melter off-gas film cooler air valve unexpectedly failed closed and triggered a safety class interlock.

**H Area Review:** The initial Corporate Integrated Safety Management Improvement Assessment of H-Completion found problems with conduct of operations, but otherwise found the nuclear criticality safety program to be compliant with standards. Automated Hazards Analyses were found to be too lengthy to be effective and that emergent work planning needed improvement. Event causes and associated corrective actions were sometimes incomplete or incorrect.

**Plutonium Processing:** The Site Reps observed receipt, unpackaging, and dissolution operations at F/H Laboratory. While preparing the residues for dissolution, foreign debris (i.e., wire, screw, and ball bearings) was observed within the residue. Work was stopped and a path forward is being developed that will likely result in the removal of the foreign material.