

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 29, 2007

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi/M.T. Sautman, SRS Site Representatives  
**SUBJECT:** SRS Report for Week Ending June 29, 2007

M. Sautman was off-site this week.

**Modular Caustic-Side Solvent Extraction Unit (MCU):** The results from the mass transfer test have been received from the Savannah River National Laboratory (Site Rep. weekly 6/08/07). The major objectives were met and significantly exceeded. The target decontamination factor (DF) was 12 and the test results varied between 210 and 687. The measured DF was relatively stable except at high flow rates in which it increased significantly. The organic carryover measured at the process hold tanks was less than 10 ppm. The target carryover was 50 ppm. The concentration factor was also within the established limits. The test results represent a significant validation of the process.

**Aluminum Dissolution:** The aluminum in sludge batch 5 is significantly greater than that contained in previous sludge batches. The increased aluminum will reduce the throughput of the Defense Waste Processing Facility. To mitigate the effects, the contractor has proposed a caustic dissolution process to remove the aluminum from the sludge batch. This week, the Site Rep met with Department of Energy and contractor representatives to discuss the proposal. The meeting focused primarily on potential downstream impacts to the 3-H Evaporator System, the Salt Waste Processing Facility, and storage of the aluminum rich supernate.

**Transuranic (TRU) Waste Operations:** This week, the contractor commenced a limited scope Readiness Assessment for the implementation of a recent revision to the Justification for Continued Operations. The revision increases the allowable source term for storage of unvented drums outside of culverts and changes the criteria for purging of TRU drums. The Site Rep observed the examination of the first anomalous TRU drum (Site Rep. weekly's 4/20/07 and 6/15/07). The drum's contents were segregated, inspected, and weighed. No items of interest were found in the drum which would readily explain the unusual behavior previously exhibited.

**H-Canyon Operations:** An ORPS reportable event recently occurred in H-Canyon due to the loss of a nuclear criticality control. The operation in question involved the transfer of sump solutions in which a nuclear criticality control required maintaining a minimum acid molarity in the receipt tank. The measured molarity was slightly below the specified limit. All sump flushes have been suspended while the contractor performs an extent of condition review.

**Conduct of Operations:** The Site Rep attended a critique related to a recent maintenance evolution in the H-Area New Manufacturing facility. The critique was held due to the fact that a portion of activity was conducted on the wrong processing line. As a result of several recent conduct of operations issues occurring across the site, the contractor has developed a briefing/training for distribution site-wide (Site Rep. weekly 6/15/07).

**Plutonium Storage:** The Site Rep walked down portions of the K-Area Complex where the contractor is installing new fire detection equipment.