

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 22, 2005

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** J. S. Contardi/M.T. Sautman, SRS Site Representatives  
**SUBJECT:** SRS Report for Week Ending April 22, 2005

Mark Sautman reported for duty last Thursday as a DNFSB site representative.

**Transuranic Waste Processing:** The contractor has begun transuranic (TRU) waste drum characterization activities through implementation of revision three of the Justification for Continued Operations (JCO). Per the JCO, only drums that meet specific requirements (e.g., drum integrity, source term, adequate vents, and flammable gas analysis) are allowed on TRU Waste Pad 4 for characterization. As a result of the completion of Rocky Flats Environmental Technology Site TRU program, TRU drum shipments from SRS are expected to increase to six per week.

Processing of unvented drums through Vent and Purge continues. Thus far, 106 drums of the original 295 drums have been processed. However, the contractor has identified approximately 90 additional drums currently stored on the pads that lack the necessary data to ensure they are properly vented. Processing of the remaining unvented/under vented drums is expected to require several months.

**H-Pump Tank 6:** H-Pump Tank-6 contains significant quantities of contamination, which in the past has resulted in several significant radiological events. During a recent pump replacement, contamination was spread outside of the work area. Prior to re-installing jumpers, WSRC personnel decided to clean the jumper nozzle. A fixative, "blue fog", was applied in the pump tank cell. A wire brush was attached to an electric torque wrench to clean the nozzle. The spinning brush on the torque wrench aerosolized contamination which was subsequently found outside of the 15 ft high containment hut. An extensive survey found contamination levels up to 20,000 dpm (beta/gamma) in an adjacent radiological buffer area. No personnel contaminations were identified. The contractor held a critique and determined the root cause was a failure to adequately plan for the work to be performed.

**Saltstone:** To date, waste simulant testing at 30 mg/l TPB has not shown any detectable benzene generation up to 95° C. As a result, the contractor is considering establishing a limit for new waste of 30 mg/l TPB and 95° C in the vaults. In addition, since a preliminary consequence analysis indicates that much of the energy from an explosion is absorbed in the top fraction of an inch, a mitigative control under consideration would be to require a certain thickness of clean grout on top to reduce the source term during a scenario where explosions propagate between cells. However, past vaults (i.e., C and I), which contain up to 500 mg/l TPB, may be limited to only 55° C. Preliminary simulant testing at 1000 and 3000 mg/l TPB is finding measurable quantities of benzene being generated above 75° C. The contractor is evaluating the production impacts of various controls for future campaigns like tank 48 which may be operating at these higher levels.