

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 13, 2001

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** R. T. Davis  
**SUBJECT:** SRS Report for Week Ending July 13, 2001

**Board Visit:** Board members Eggenberger, DiNunno, and Mansfield, along with staff members Fortenberry, Tontodonato, Burns, Merritt and Ogg, were on-site this week reviewing high level waste activities (Recommendation 2001-1), material stabilization and disposition (Recommendation 94-1), and other site activities. Staff members toured the 2H evaporator, PSF/NSR, and H-Canyon outside facilities (HEU Blenddown).

**Recommendation 94-1:** This week, WSRC completed refreshing the highly enriched uranium (HEU) solutions stored in single shell tanks in the H-Canyon outside facility area (site rep weekly 2/23/01). The refreshing operation involved transferring solution into the canyon, processing it through an evaporator to concentrate the HEU and remove residual solvent (i.e., Tributyl Phosphate), and then transferring the solution to a double-shell tank outside the canyon (the EUS tank). Completion of this activity meets the Recommendation 94-1 implementation plan milestone 2 months ahead of schedule. Storage of the refreshed HEU solution in the EUS tank reduces risks associated with criticality and accident scenarios.

**HLW Tank 49:** Preliminary sample results indicate that the phenylborates have adequately decomposed with less than 20 kg of equivalent benzene material remaining in the tank. Additional samples are currently being analyzed to verify these results and confirm the remaining waste material can be transferred to Tank 50 for eventual disposition at the saltstone facility. WSRC currently plans to make this transfer in late July and return this tank to HLW service in August.

**DWPF:** Last week, electrical arcing was observed by operators while working on the melter pour spout. The arcing indicates that there is likely an electrode short to ground (either inside the melter through the refractory or outside the melter directly to ground). This system has a floating ground so that a single fault will not prevent normal operation of the melter; however, further degradation or an additional fault that could not be repaired would require melter replacement. WSRC has developed a path forward to investigate this issue. In the interim, WSRC has evaluated the potential for personnel hazard and equipment damage and concluded that the melter can be safely operated under this fault condition.

**HLW Tank 5:** WSRC continues to evaluate options for the transfer of approximately 250,000 gallons of waste from this tank to reduce level below all known leak sites. The primary option being considered is transfer to Tank 46, a F-Tank Farm Type III tank. WSRC has sampled both the Tank 5 and 46 waste materials to determine whether the combined waste can be processed in the 2F evaporator system. The primary concern is the potential for accumulation of solids similar to that seen in the 2H evaporator system.