

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 13, 1999

**MEMORANDUM FOR:** G. W. Cunningham, Technical Director  
J. Kent Fortenberry, Deputy Technical Director  
**FROM:** C. H. Keilers / R. T. Davis  
**SUBJECT:** SRS Report for Week Ending August 13, 1999

**Recommendation 97-1** - Oak Ridge and SRS personnel met this week to begin to plan for studies on U-233 disposition. This is intended to support the DOE-MD effort to issue a Notice of Intent by September 2000 and a Record of Decision by May 2002. It appears that the only existing, proven method for addressing the higher hazard material (CEUSP) is to dissolve it in an SRS canyon, dilute it with depleted uranium and high level waste, and then convert the diluted form into glass in DWPF. The most likely candidate is F-Canyon, but the timing may be inconsistent with current DOE-EM planning. One alternative discussed is the proposed L-Area spent fuel melt-and-dilute facility; however, that effort is developmental and that facility may not be ready for a decade. Other developmental options were mentioned. In the near-term, it appears that preliminary studies are needed by January 2000 to support the FY 2002 budget cycle, but people and resources have yet to be assigned at SRS. Some DOE-EM and MD coordination may be beneficial. (III.A.1)

**Inadvertent Reservoir Unloading** - Early Wednesday morning, lapses of attention by 2 operators led to emptying a tritium reservoir into a glovebox in 233-H (Replacement Tritium Facility). Safety systems functioned as designed. No detectable tritium was released to the room or the environment. Operator bioassays indicated less than detectable. DOE is pursuing lessons learned to minimize the chance of recurrence in this and other facilities (e.g., the Tritium Extraction Facility). (II.B.1)

**FB-Line Plutonium Nitrate Solution Leak** - During a recent transfer of plutonium nitrate solution to support mainline operations, leakage from both flanges of an isolation valve was observed. The leaks occurred within a cabinet and most of the material was collected in the cabinet sump. However, a small amount (~2 ml) breached the cabinet into the process room. Operators in the area (wearing respirators) identified the leak, requested the transfer be terminated, and exited the area. This was the first transfer since the subject valve was replaced in October 1998. A grommet that seals the valve extension handle where it penetrates the cabinet wall was missing and allowed the small amount of material to exit the cabinet. Subsequent examination of the valve flange connections identified that the teflon gaskets appeared to be brittle. As a corrective action, WSRC is evaluating the need for more stringent quality assurance controls for maintenance activities associated with plutonium confinement systems. (III.A.1)

**SRS Facility Disposition Program** - On Wednesday, staff members Troan, Von Holle, and Ogg held a televideo conference with SRS on disposition of legacy facilities. SRS has pre-screened about 160 such facilities and conducted detailed assessments of 29 facilities. Detailed assessments continue. Based on these assessments, SRS has removed hazards, stabilized facilities, and implemented long-term surveillance and maintenance. Deactivation planning is not expected to begin for 2-4 years for several inactive facilities (e.g., old HB-Line, 235-F), and it will be complicated since portions of these facilities are still in use. SRS is pursuing surveillance of most deactivated facilities, rather than dismantlement, since SRS has an enduring DOE mission. (III.B.1)