

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 26, 2001

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** C. H. Keilers / R. T. Davis  
**SUBJECT:** SRS Report for Week Ending January 26, 2001

Staff members Burns, Coones, and Duncan were on site this week reviewing tritium facilities. Yeniscavich was also on site observing the Defense Programs quality assurance review.

**Tritium Facilities:** Some tritium facilities (233-H) rely on a safety class fire suppression system to reduce the frequency of design basis accidents. Since mid-1999, progress correcting deficiencies has been slow (site rep weekly 10/29/99). Close management attention is needed to ensure timely closure.

**Recommendation 94-1:** This week, FB-Line completed repackaging 29 Barter C items into welded, bagless transfer containers (BTC). Barter C is high-heat, alpha-phase plutonium metal that was in a can-bag-can-can configuration, making it the highest risk of SRS metals, oxides, and residues. BTCs do not have the pedigree of an outer 3013 container (a safety class barrier), but WSRC has improved BTC quality control since the September 1999 FB-Line contamination event. Unfortunately, it is likely to be several years before the BTCs are packaged in outer 3013 containers. In the interim, BTCs in either a shipping container or an FB-Line vault are probably the safest available storage for SRS plutonium. The site reps believe that repackaging the Barter C into BTCs constitutes a real interim risk reduction.

**DWPF Sludge Feed Preparations:** WSRC expects to finish vitrification of the current sludge batch by October 2001. Sludge batch 2 preparations are on-going with a transfer of sludge from F-Area (tank 8) to the Extended Sludge Processing (ESP) facility (tank 40) this week. ESP sludge washing prepares this feed for DWPF and is currently expected to be completed in mid-November 2001; however, tank space limitations may restrict ESP decants and delay feed preparations. Particularly, evaporator operations need to meet current expectations to maintain schedule. The 2F evaporator is operational, while the 3H evaporator is operationally restricted. SRS management is following these preparations closely, including the evaporator status, to help prevent or limit a DWPF feed break.

**F Canyon:** Two conclusions can be reached from this week's SRS followup on last week's contamination event. First, the immediate actions taken were prompt and effective in minimizing the spread of contamination. Second, the event was preventable if precursors had been recognized. It now appears that high water level in hot canyon section 9 and a postulated cracked curb between section 8 and 9 exposed an elastomer joint to acidic solution that wicked into the corridor. The high level was due to a series of system leaks, equipment problems, poor log-keeping, and other work control issues. Particularly, the cell sump has excessive debris. Operations were permitted for extended periods since early December with an active sump alarm and with level as high as 13 inches above the experience base (31 inches). Efforts to jet the sump were hampered by nearly full receipt tanks and by the fact section 9 contains the high activity waste evaporators, used to recover nitric acid and create tank space.

**Public Interaction:** This week, a site rep briefed the Citizens Advisory Board (CAB) on SRS nuclear material stabilization activities. The site rep emphasized that, according to WSRC analyses, about 80 percent of the risk reduction from Recommendation 94-1 activities was obtained in the last 6 years, but it will take 6 to 8 more years to get the last 20 percent. This is unsatisfactory. WSRC has identified opportunities to accelerate, and the DOE contract extension includes incentives for acceleration.