

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 4, 2000

**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 February 4, 2000

**Recommendation 94-1 Alternative Approach Study.** SRS continues to be challenged to meet the multiple-year commitments within a flat, out-year budget. On Wednesday, WSRC submitted an alternative study that emphasizes higher risk materials and maximizing effective use of the canyons, all within the Nuclear Materials Stabilization Division budget (i.e., within about \$360 M per year). DOE-SR is evaluating the study. WSRC does not consider this their recommendation. Last year, WSRC developed a planning budget case with requests for necessary resources to execute the 94-1 Implementation Plan (site rep weekly, 4/23/99). WSRC remains convinced that the planning case is the optimum approach for risk reduction and meeting DOE corporate needs. Some of the key elements of the alternative put forward by WSRC are as follows, in order of priority:

- Down-blending the highly enriched uranium (HEU) solutions has funding for FY 01 (from the alt-salt program), but not FY-02. This has highest priority if more funding becomes available.
- Americium-Curium (AmCm) vitrification would proceed on a stretched schedule based on level funding. This will introduce about a 15 month delay in completion.
- Residues will be characterized and disposed of as TRU waste, if acceptable, or via dissolution.
- Plutonium solutions and oxides will be converted to metal using F-Canyon and FB-Line, instead of pursuing large capital projects (e.g., APSF, 235-F/KAMS). The FB-Line dissolver will be restarted in late 2001. This mission may extend the F-Canyon operational life by several years.
- H-Canyon solutions will be converted to low-fired oxides in HB-Line.
- H-Canyon processing of Mk 16/22 spent fuel will restart in mid-2000 but need to stop because of limited HEU solution storage capacity and delays in HEU disposition. Other fuel types with lower HEU content may be dissolved during this stoppage to maximize canyon utilization.
- Rocky Flats material will be stored and processed. Hanford material is not addressed.
- Low-fired oxides may be stored in welded containers. High-fire stabilization and packaging per STD-3013 is a lower priority, just above deactivation planning.

WSRC is now assessing the SRS residue inventory, preparing projections for specific campaigns, and developing resource-loaded schedules based on the priorities listed in the alternative study. (3.a)

**H-Canyon Operations.** WSRC plans to startup H-Canyon 2<sup>nd</sup> cycle operations in May 2000 to support Recommendation 94-1 commitments. Authorization basis documents are in final review. The DOE readiness assessment is scheduled for April. Last year's delays in 2<sup>nd</sup> cycle startup caused WSRC to stop dissolving Mk 16/22 spent fuel in September 1999. During FY 2000, WSRC plans to dissolve 276 assemblies, which will complete about 41% of the Mark 16/22 campaign. However, limited HEU solution storage capacity and HEU disposition delays (i.e., the TVA option) will likely cause this activity to be suspended before the campaign is complete, as discussed above. (3.a)

**AmCm Melter Development.** On January 21, the demonstration melter breached, dropping 3-5 drops of molten glass into the receipt bucket. The failure is being investigated. SRTC intended to run the melter to failure, and about 130 runs have been conducted during the last 15 months. The project plans to procure 5 spare melters for the expected 12 month campaign. (3.a)