

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 20, 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 20, 1999

Recommendation 94-1 - This week, DOE-SR directed WSRC to stop work related to stabilizing Rocky Flats and Hanford sand, slag, and crucible (SS&C) residues in F-Canyon. DOE headquarters presumably will soon direct that this material be disposed in the Waste Isolation Pilot Plant (WIPP). DOE also directed WSRC to accelerate processing other materials through F-Canyon (i.e., EBR II spent nuclear fuel and Mark 42 targets). This was not unexpected (see site rep report, 5/21/99).

Shipping the SS&C to WIPP has the advantage of avoiding chemical processing, but this late decision will likely result in one F-Canyon dissolver being idle for nearly a year and the other being idle for half a year. WSRC will use this interlude for other canyon operations (e.g., a 2nd cycle plutonium run); however, this period could have been used for processing other materials sooner and more efficiently. Furthermore, during the last year, significant SRS engineering effort was expended to support and optimize SS&C processing, and thereby support early Rocky Flats closure. The number of SRS people who can conduct this type of work is limited, and their recent efforts on SS&C processing constitutes a lost resource in a restrictive budgetary environment. In fact, the time required for engineering development may become a limiting factor for processing other materials.

On Friday, WSRC submitted to DOE-SR the justification for continued use (JCU) of the 9975 shipping container for SS&C shipment and a proposed revision to the 9975 Safety Analysis Report for Packaging (SARP) for shipping plutonium metal and oxides (85% purity and better). The JCU is intended to resolve the technical issues, such as gas generation, that have held up SS&C shipments from Rocky Flats to SRS for the last 4 months. (III.A.1)

High Level Waste (HLW) Salt Disposition - WSRC believes sufficient information will be available by the end of September to recommend a salt disposition strategy, although considerable research is scheduled during the next month. There still appear to be no clear discriminators between the two technology options: CST ion exchange and small tank ITP. The direct grout option appears increasingly unlikely to be pursued. (III.A.2)

HLW Tank Space Management - The systems engineering review team has completed their evaluation of tank space management strategies and has recommended a path forward through 2009 (site rep report 5/28/99). The recommended strategy includes reusing tanks 49 and 50, adding acid evaporation of DWPF recycle solutions, adding a new tank for the Effluent Treatment Facility (which allows recovery of tank 50), and reducing the emergency tank space requirement to 1.3 Million gallons (currently 2.6 Million gallons). This strategy may eliminate the need to reuse old style tanks, depending on when a salt processing technology becomes operational. (III.A.2)

DWPF Melt Cell Leaks - Reversing the flow path for two of the leaking coolant lines reduced the leak rate to just drips. WSRC plans to operate the melter while evaluations continue. (III.A.2)