

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 20, 2001

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director

FROM: C. H. Keilers / R. T. Davis

SUBJECT: SRS Report for Week Ending April 20, 2001

Staff members Burns, Nichols, and Ogg were on site this week reviewing tritium facilities and criticality safety programs, both site-wide and HB-Line Phase II specific.

Recommendation 94-1: DOE appears poised to direct WSRC to suspend the 235-F plutonium stabilization and packaging (P&S) project and to pursue instead FB-Line upgrades to accomplish this mission. The decision is driven by the proposed FY 02 budget which reduces next year's funding for the P&S project from \$46M to less than \$4M, which makes the project not viable.

If this path is chosen, the next step is a Congressional notification and reprogramming of FY 01 funds. This path would be consistent with previous Board guidance to DOE (e.g., letters dated July 14, 2000 and March 23, 2001). It could accelerate plutonium stabilization and packaging by years by making maximum use of existing capabilities – provided that DOE aggressively expedites the reprogramming and out-year alignment of adequate funding (site rep weeklies 9/8/00, 12/29/00).

While this course could resolve an immediate budget problem and expedite stabilization, it leaves open a longer-term problem that the P&S Project was also intended to resolve. Essentially, DOE needs to establish the infrastructure at SRS to perform surveillance and address problematic containers of plutonium after F-Canyon and FB-Line are shutdown. The site reps believe that the P&S Project did a reasonable job of bounding the cost and scope to do that mission in a 50 year old, contaminated facility, 235-F (site rep weekly 1/5/01). Perhaps now other options should be pursued. The recent DOE decisions to suspend the Plutonium Immobilization Plant design and to study continued operation of F-Canyon for supporting the plutonium disposition mission may also extend the operational lifetime of F-Canyon/FB-Line. DOE appears to have an opportunity to find and exploit a common solution that addresses both the infrastructure and disposition needs.

Recommendation 2001-1: Internal video inspections of Tank 6 last week identified a legacy splash guard and downcomer that are welded to the inner tank wall. The weld locations appear to match the location of 4 of the 6 leak sites. These internal tank welds may have increased the residual stress and contributed to crack initiation and propagation. Similar downcomer arrangements are also in Tanks 3, 4 and 5. WSRC currently plans to reuse Tank 5 to store DWPF recycle and a portion of the ESP decants. The next transfer of approximately 100,000 gallons from tank 40 (ESP decant) to 5 is scheduled for early May and will bring tank level to approximately 97 inches. The most significant welds associated with the splash guard occur at the upper horizontal weld (234 inches).

This week, WSRC responded to DOE-SR comments on the proposed inspection and action plan for monitoring leakage in Tank 6. The WSRC plan includes weekly inspection of the annulus floor until the waste forms a salt crust and a quarterly crawler inspection of the leak sites until dry. The WSRC response this week clarified that action would be taken to remove waste below contributing leak sites if clearly observable flow was identified on the annulus floor; however, the inspection plan and actions remain unchanged. DOE-SR is reviewing the proposed plan.

The most recent leak site inspections using the crawler performed last week indicate that 2 of the lower leak sites remain wet and are releasing waste to the annulus. However, annulus floor inspections do not appear to indicate additional material reaching the pan. Liquid waste in the pan remains but appears to continue to evaporate and form a salt crust.