

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 29, 2000

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers / R. T. Davis
SUBJECT: SRS Report for Week Ending December 29, 2000

H-Canyon: On Tuesday, H-Canyon discovered radioactivity sucked back into piping in the hot gang valve corridor after a transfer to the High Activity Waste Evaporator (9.1E). The cause may be a misaligned gang valve affecting the air blow, a problem seen before (site rep weekly 7/23/99).

HLW Operations: WSRC began heating up Tank 49 this week. The tank reached 30°C, and benzene reached 37 ppm before the heatup was suspended mid-week due to a CLFL analyzer flow alarm. Preparations for the Tank 22 to 6 transfer are nearly complete. Waste (recycle) transfers from DWPF are on hold pending this transfer. The 2F Evaporator was started up this week.

Recommendation 94-1: On December 15th, WSRC provided DOE with recommendations for reducing the risks associated with storing plutonium metal and oxides (i.e., the Phase III report, site rep weekly 9/22/00). WSRC considered two main options. The first involves installing a plutonium stabilization and packaging system (PuSPS) in 235-F. This became a budget line item this fiscal year. WSRC plans to conduct a design review, starting next week, and complete the conceptual design in January. The baseline schedule is to start up the system in mid-2006 and complete stabilization in 2008. DOE and WSRC are working to accelerate the schedule.

The second option involves not only pursuing the 235-F PuSPS project but also upgrading FB-Line to perform STD-3013 stabilization and packaging. This includes installing a SRTC-Hanford design outer can welder; modifying two existing mainline furnaces to fire oxides at 1000°C; and installing new racks in 2 vaults for tall oxide cans. The estimated cost range is \$5M to \$15M (pre-conceptual). Given funding, staffing, and management attention to avoid operational conflicts, WSRC believes that the outer can welder could be installed in late 2002, the furnaces could be modified by mid-2003, and the bulk of the plutonium could be stabilized by 2006.

WSRC recommends the second option, as well as accelerating the 235-F PuSPS project. This would establish full STD-3013 capability for oxides and metals about 3 to 4 years sooner than the 235-F project alone. WSRC estimates indicate that the total relative risk between now and 2008 would be reduced by about one-third, compared to the first option. The second option also provides a backup for the 235-F system, reduces long-term container surveillance requirements, facilitates earlier storage of SRS material in K-Area (KAMS), and provides disposition capability for future needs. WSRC believes success is likely, based on similar past modifications. Meanwhile, WSRC would continue container surveillance to identify potential packaging problems and selectively repackage or disposition materials using existing capabilities. DOE is studying the recommendations.

WSRC Award Fee: On November 28th, DOE-SR informed WSRC that it had earned \$15.8M of the available \$18.1M contract award fee for the 2nd half of FY00 (i.e., 87%). This is higher than the last period's award (i.e., \$11.4M, 79% of available award fee, site rep weekly 6/9/00). Areas of concern identified included disciplined operations (i.e., H-Canyon, tank farms) and project management (e.g., AmCm, LEF). Accomplishments cited included HLW tank space management, WSRC cost management (surpassing the FY 00 \$60M cost savings challenge), and completion of DOE commitments made in the Recommendation 94-1/2000-1 Implementation Plan (Rev. 3, 6/00).