

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 14, 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 January 14, 2000

**Work Controls.** DOE and WSRC management continue to pursue procedural compliance, attention to detail, and other conduct of operations issues (site rep weekly 12/24/99). When establishing the award fee last month, DOE-SR observed that WSRC has completed most of their program to correct the negative trend seen early in 1999, but actual events indicate more progress is needed. DOE-SR considers that these events should be treated as precursors to potentially more serious incidents. WSRC observes that their industrial safety record is world class, and the best its been since 1994; however, they are not satisfied with recent events either. Site management is stressing the need for candor in reporting. In the short-term, the number of reported operational problems will likely increase but their significance should drop as improvements are pursued. (1.c)

**Potential Inadequacy in Safety Analyses (PISA).** WSRC issued a PISA this week on samples from tank farm evaporator 2H that contain higher uranium concentrations than assumed in criticality analyses. This evaporator is shutdown now to investigate reduced lift rates and gravity drain problems. It is primarily used to concentrate the DWPF recycle waste stream. The higher uranium concentration may be linked to silicates in that stream. On Friday, DOE-SR revised the tank farms authorization agreement to keep 2H evaporator shutdown and to prohibit feeding DWPF recycle to the other two evaporators (2F and 3H). The 2F evaporator will be inspected next week. (3.a)

**K-Area Material Storage (KAMS):** This week, DOE-SR hosted a meeting with representatives from other sites and DOE-EM to discuss plutonium receipt requirements. SRS has drafted a requirements document to assist other sites in preparing packages to meet the DOE storage standard (STD-3013-99), the 9975 shipping container requirements, and the KAMS authorization basis. Currently, the requirements cover only Rocky Flats weapons-grade metal, and they need to be reevaluated for oxides with various isotopics, can configurations, and fill gases. WSRC expects to complete that reevaluation in March and then update this requirements document, the KAMS authorization basis, and the 9975 Safety Analysis Report for Packaging. (3.a)

**Recommendation 94-1.** In a recent shift, the highly enriched uranium (HEU) blend-down project now appears to be funded in FY-01, but FY-02 funding is still uncertain. Most of the funding is coming from a decision to not pursue an FY01 line item for a high level waste salt processing project, since DOE considers that effort to be still developmental. SRS continues to be challenged to meet the other commitments within a level budget. Relatedly, WSRC submitted last month a pre-conceptual design for plutonium stabilization, packaging, and storage using existing facilities (Buildings 235-F and 105-K/KAMS). The rough order-of-magnitude costs for this project (\$200M to \$400M) are comparable to building a new, more capable facility, such as the Actinide Packaging and Storage Facility (APSF). APSF construction was deferred in February 1999. WSRC estimates the project, if pursued, would be completed sometime in FY-06 to FY-08. Given a level budget and these cost estimates, it appears likely that DOE will instead pursue using FB-Line to convert plutonium to metal and to package it in bagless transfer cans (site rep weekly, 12/17/99). WSRC will report on the viability of that option later this month. (3.a)