

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 3, 2000

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers / R. T. Davis
SUBJECT: SRS Report for Week Ending November 3, 2000

L-Area Experimental Facility (LEF): Staff members Contardi, Graham, Zavadoski, and Zull were on site this week reviewing the LEF design. LEF is intended to demonstrate the spent nuclear fuel melt-and-dilute process. The project involves installing an induction furnace, filtered ventilation system, and support systems in the 105-L purification wing trailer space. A new control building is being built outside the purification wing to provide power, process control, and data acquisition. Key safety systems include the furnace crucible, liner, outer enclosure, and filtered ventilation; temperature, pressure, and moisture sensors and interlocks; storage and shipping casks; a new shield wall; the new control building; and the existing 105-L building.

The LEF design is essentially done. WSRC intends to complete construction by September 2001, conduct startup testing in early 2002, and be ready for a DOE ORR in June 2002. WSRC then plans to melt 6 to 8 assemblies, one at a time, with increasing source term during the next 1½ years. The future use of LEF beyond that appears open-ended. When establishing key design features and controls, WSRC considered LEF more a “short-term experiment” than a “long-term facility.” The staff is reviewing the design features and controls in light of the mission assumptions.

High Efficiency Particulate (HEPA) Air Filters: This week, WSRC revised the HEPA filter procurement specification to delete the requirement for pre-testing at the DOE (Oak Ridge) Filter Test Facility (Site Rep weekly 10/27/00). This is a departure from the DOE HEPA filter standard (DOE-STD-3020-97). WSRC formal justification for deleting the requirement is expected before the end of the year. Without the justification, it is difficult to assess whether this is or is not technically acceptable. Also, the fact that WSRC made this change from long-standing practice before preparing a formal technical basis raises questions about the WSRC standards review and approval process. The site reps will be pursuing these questions.

HEU Blend-down Program: The Highly Enriched Uranium (HEU) Program continues to have mixed success. The DOE 94-1 Implementation Plan (Rev 3, June 2000) includes milestones for establishing the DOE-TVA interagency agreement in August 2000 and beginning preliminary design for SRS modifications in October 2000. The latter has started, but the design schedule may be impacted by the one-month delay in FY01 funding. The interagency agreement is now not expected to be signed before January 2001, due to a leak discovered last weekend in one of the four lead assemblies irradiated in a TVA reactor. Whether the off-specification HEU caused the leak is to be determined. DOE is depending on the TVA pathway for HEU disposition and has discontinued work on alternatives, such as starting up FA-Line and disposing of the material as waste.

Tritium Extraction Facility (TEF): A construction contract was awarded this week (two months ahead of schedule) for the Remote Handling Building and the Tritium Processing Building. The contract is limited to the building shells. A process system contract will be awarded next year.

Public Interaction: This week, a site rep discussed DOE progress on Recommendation 94-1 with the Citizens Advisory Board (CAB) Nuclear Materials Committee. The full CAB meets in 2 weeks.