

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 6, 2001

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers / R. T. Davis
SUBJECT: SRS Report for Week Ending April 6, 2001

Recommendation 94-1: The Highly Enriched Uranium (HEU) Blend-down Program achieved several milestones in the last two weeks. This week, TVA signed the interagency agreement with DOE to accept off-specification uranium, opening the way for eventual disposition of more than 30 MT of DOE HEU. This inventory includes about 9 MT of SRS HEU in irradiated Mk 16/22 spent fuel and H-Canyon solutions. Last week, WSRC began the design review for the LEU loading station foundation. Construction authorization is scheduled for June. The loading station will be in HA-Line, has design features to control spills, and consists of a pre-engineered metal building with a reinforced concrete slab-on-grade foundation (PC-2). The foundation partially extends over the safety class exhaust tunnel (PC-3) that runs from the canyon to the fanhouse, 13 feet below grade. A compensated foundation design was selected because of uncertainty in how much extra surcharge the tunnel can sustain. Compensation is achieved by excavating and placing foam-filled corrugated aluminum pipes (5 foot diameter on 6 foot centers) below the foundation, and backfilling. Administrative controls may be needed to limit the construction loads and the weight of the transport trucks (40 tons assumed). On April 16th, WSRC expects to begin a formal design review for the remainder of the HEU Blend-down Program scope.

Salt Processing: Last week, the Salt Processing Supplemental Environmental Impact Statement (SEIS) was published in the Federal Register, which begins the 45 day comment period. This second SEIS to the 1982 DWPF EIS evaluates potential environmental impacts of implementing a salt processing alternative to replace the ITP process. Salt processing alternatives evaluated include small tank precipitation, ion exchange, solvent extraction and direct disposal in grout. No preferred alternative is identified. All research, evaluation, and independent review to support a technology selection will be complete in May with a summary report expected in mid-May. These activities support a technology decision in early-June. The draft Request for Proposals (RFP) for design and implementation of a technology is now expected in the next few weeks. The final RFP should be released in June with a contract award expected in October.

2H Evaporator: The 2H evaporator has been shutdown since January 2000 because of significant solids identified in the pot. This evaporator is used to process DWPF recycle waste and the extended shutdown required WSRC to pursue reuse of old-style Type I tanks. WSRC developed a chemical cleaning flowsheet to remove these solids and declared readiness to proceed with the DOE Readiness Assessment (RA) in January 2001. However, this RA was suspended because of numerous procedure deficiencies (site rep weekly 1/19/01). In addition, DOE-SR identified an Authorization Basis deficiency with regard to organic contribution to the pot deflagration scenario. Last week, WSRC finished resolving these and other issues and DOE-SR restarted the RA. The RA team concluded their assessment this week with 8 pre-start findings. WSRC is working to resolve these issues and now expects to begin chemical cleaning next week. WSRC is also developing an operating strategy with appropriate controls to deal with the solids formation issues. Additional chemical cleaning will likely be required as a part of this strategy. The 2H evaporator is currently scheduled for restart in August 2001.