

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 27, 1999

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 August 27, 1999

Emergency Preparedness Drill - DOE-SR, DOE-HQ, SRS contractors, and state representatives (GA, SC) participated in the annual emergency preparedness drill this week. The drill involved a crane severing transfer lines in H-Canyon Outside Facilities (OF), an injured and contaminated operator, and a delayed Nuclear Incident Monitor (NIM) alarm, postulated to activate erroneously. Overall, The SRS response was proficient and timely. WSRC has self-identified several areas for improvement including immediate medical response, on-scene contamination control, operator systems training, and communications with the fire department and medical facilities. (I.A.4)

Recommendation 94-1 - On Thursday, DOE signed an amended Record of Decision directing that Rocky Flats sand, slag, and crucible (SS&C) residues be disposed in the Waste Isolation Pilot Plant (WIPP) instead of being processed in F-Canyon. SRS implications are discussed in last week's report. Planning is underway to utilize both dissolvers and process high risk materials (including Rocky Flats fluoride residues and scrub alloy) in the period between mid-FY 00 and FY 03 or later. It appears advisable that DOE efficiently utilize the limited resources (e.g., technical staff) and fully maintain F-Canyon and supporting infrastructure during this period to both reduce the risk involved with these materials and provide a backup option for SS&C disposition. (III.A.1)

Spent Nuclear Fuel and Canyon Utilization - On Thursday, DOE-SR and WSRC briefed a Citizens Advisory Board (CAB) subcommittee on SRS spent nuclear fuel and the issues raised in the Board's June 8th letter and associated staff report (TECH-22). (see site rep report 7/23/99)

DOE-SR stated that essentially all canyon eligible feed has been identified. The current DOE plan is to use H-Canyon to process defense-related spent fuel (Mark 16/22) and other high risk fuels until FY 04. H-Canyon would then be used to blend down off-specification HEU alloy until FY 07 or later. Some other materials (e.g., plutonium-contaminated HEU) may need to be processed in H-Canyon that could require H-Canyon to operate another 1-2 years. WSRC stated that processing the expected research reactor fuel receipts in H-Canyon would take 9 years, using 2 dissolvers. This could extend H-Canyon operation to beyond 2015.

WSRC expressed confidence that the preferred alternative (the melt-and-dilute process in Building 105-L) will work. However, the design is pre-conceptual, and a preliminary hazard analysis has not been completed. DOE and WSRC stated that a pilot demonstration will be done during the next 1-2 years, but at one point, DOE (EM-60) also stated that the final facility may not be operational until 2008. The site representatives pointed out the need for a systems approach. This might lead to choosing a different facility than 105-L. Building 105-L is an aging facility that has no reliable confinement features, and was never intended for this purpose. Based on these discussions, the CAB appears poised to recommend that DOE commit to keeping a canyon in ready status until the melt and dilute process is operating and producing a product acceptable to the repository. (III.A.3)