DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 11, 2003

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
J. J. McConnell, Deputy Technical Director
FROM: R. T. Davis/ T. D. Burns
SUBJECT: SRS Report for Week Ending April 11, 2003

Low-Curie Salt: Efforts to remove the un-expected solid material from Tank 50 are underway. The four slurry pumps are running (two original and two newly installed); however, camera inspections indicate that the solid material is not breaking up as expected. Weather permitting, a sub-contractor will commence water lancing activities to break up the solids this weekend. Given the recent issues with water lancing activities in Tank 41, the site reps will be following this evolution closely (site rep weekly 3/7/03). WSRC intends to begin sending Tank 50 material to the Saltstone Processing Facility (SPF) early next week. Instrumentation issues associated with the recent Distributed Control System upgrade at the SPF could negatively impact the schedule for commencement of Tank 50 material processing.

Additional SRTC testing is pending to determine if heel removal activities will be required once transfer of the Tank 50 bulk material is complete. If heel removal is not required, WSRC expects to return Tank 50 to service by early-June. Delays of up to four months may be incurred if heel removal activities prove necessary.

Tritium Activities: WSRC has completed the final modifications necessary to address issues originally raised during a 1999 independent review of the Tritium Facilities' fire protection systems. The final modifications included repositioning of sprinkler heads, as well as elimination of ceiling grates. Both of these measures ensure that there will be adequate heat collection for the fire suppression systems to work effectively.

F-Canyon Cooling Coil Failure: This week, F-Canyon operators received an alarm indicating high activity in the segregated cooling water system. In response, the facility isolated segregated cooling water from process vessels containing non-trivial radio-nuclide inventories, validated the presence of elevated activity in the segregated cooling water basin, and diverted the contaminated basin water to the Effluent Treatment Facility. Subsequent sampling of residual cooling water in the cooling coil traps of isolated process vessels indicated that the coil leak occurred in Tank 13.1.

Tank 13.1 contains the greater than expected americium/curium heel (~9,000 Ci) left behind as the result of an agitator failure during the previous transfer evolution from F-Canyon to H-Tank 51 (site rep weekly 3/14/03). The heel is currently dissolved in approximately 17,000 gallons of nitric acid solution. No safety-related temperature limits are applicable for this solution while in Tank 13.1, thus restoration of cooling water service is not necessary.

WSRC plans to begin neutralizing the Tank 13.1 solution in Tank 15.4 on Monday and sending the resulting slurry to F-Tank Farm (Tank 33) early next week. A total of 25,000 gallons of neutralized waste will be transferred to Tank 33 in ten separate batches.