

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 24, 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 January 24, 2003

HEU Blend Down: The Highly Enriched Uranium (HEU) Blend Down project will provide a disposition path for HEU solutions in H-Area. Existing solutions will be processed through 2nd uranium cycle to produce a high purity blend grade HEU solution. These solutions will be transferred to HA-Line for blending with natural uranium to meet the Tennessee Valley Authority (TVA) specifications. The resulting Low Enriched Uranium (LEU) solution will be loaded into shipping containers for shipment to a TVA vendor for further processing. Contractor Readiness Assessments (RAs) have been completed for transfer and blending activities (site rep weeklies 10/11/02 and 12/13/02). Several batches of blend grade HEU solution have now been transferred to HA-Line tank E4-2 and are ready for blending activities. However, the site has not received the first shipment of natural uranium that will be used as blend stock. Receipt of natural uranium from the TVA vendor has been delayed. This delay may impact the site's ability to meet the Recommendation 94-1/2000-1 commitment to begin shipping LEU solutions.

The final contractor RA that covers loading LEU into shipping containers began this week. Field activities included transfer of simulated LEU from the measuring tank to shipping containers in the loading station. All field activities for the contractor RA are complete with no significant issues identified to date. WSRC plans to issue their report next week. Following the contractors declaration of readiness, DOE will begin their RA for LEU loading activities. The current schedule is to begin the DOE RA during the first week in February.

Americium/Curium: This week, WSRC made two attempts to transfer the americium/curium material, currently stored in F-Canyon, to H-Area Tank 51. Due to equipment problems, both attempts were aborted while priming the transfer path with inhibited water. Transfer of actual americium/curium material from F-Canyon did not take place in either attempt.

The first transfer attempt commenced on Monday. Adequate flow of inhibited water was established throughout the transfer path. However, failure of level-indication equipment (reel tape) in Tank 51 precluded the performance of required material balances and, per the procedures, the transfer was suspended. Following repair of the reel tape, equipment checks supporting transfer restart revealed that dip tubes in F-Pump Tanks 1 and 2 were plugged.

After correcting the dip tube problems, the second transfer attempt commenced on Wednesday. However, the transfer was suspended because the F-Pump Tank 2 transfer pump was unable to maintain its required flow rate. Insufficient agitation in F-Pump Tank 2 prior to re-starting the transfer is the likely cause of the flow-rate problem (site rep weekly 8/16/02).

Inclement weather has precluded any further attempts to re-start the transfer this week. Based on current weather predictions, WSRC expects to begin the third transfer attempt on Tuesday.