

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 20, 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 June 20, 2003

SRS Contract: This week, the DOE-SR site manager and WSRC president signed a contract modification, effective through FY2006, to incorporate the new environmental management clean-up performance baselines and acceleration incentives.

HB-Line: WSRC resumed dissolving operations of enriched uranium scrap material on Thursday. Dissolving operations had been suspended following the unexpected exothermic reaction that occurred in late-May (site rep weekly 5/30/03). This week, WSRC issued a technical report that concludes that a Potential Inadequacy in the Safety Analysis does not exist. The report concludes that the event was caused by the reaction of aluminum with nitric acid. The can that caused the reaction had a higher concentration of aluminum (52%) than previous cans processed during this campaign.

The Justification for Continued Operations for this particular dissolving campaign requires 20 cfm of purge air for dilution of hydrogen. WSRC analysis of the event concludes that adequate purge was available during this event. However, the report notes that WSRC failed to implement adequate process controls to limit the rate of exothermic reaction. Characterization of this material indicated significant aluminum; however, operational controls to limit the rate of material addition to the dissolver were not identified and implemented. Controls have now been implemented to control the rate of addition for the remainder of this material.

HEU Blend Down: There have been continued delays in the ability of the Tennessee Valley Authority vendor to receive Low Enriched Uranium (LEU) solution (site rep weekly 5/23/03). It is currently not clear when the vendor will be able to receive shipments. As noted previously, this has the potential to impact H-Canyon processing activities because of Highly Enriched Uranium (HEU) solution storage space. Contingency plans have been developed to mitigate the impact of these delays. Shipment of LEU solution is a Recommendation 2000-1 milestone that was due in March 2003.

Tank Inspections: Ultrasonic inspections of three Type III waste tanks have now been completed in accordance with the sites' approved in-service inspection plan (site rep weekly 5/30/03). Tank 32 received a full-scope inspection with data collection performed over an eight week period. Tanks 30 and 31 received a more limited examination with data collection being completed in less than one-week. A limited scope inspection for the fourth Type III tank (Tank 34) is currently scheduled to commence next week.

Thus far, preliminary analyses of the ultrasonic inspection data have not revealed any significant degradations due to pitting, cracking, or general corrosion. The strategy for documenting the inspection results is now to issue summary reports for individual tanks shortly after they are examined and then to provide a comprehensive report on all tanks inspected at the end of the fiscal year. The summary report for Tank 32 has been issued and the summary reports for Tanks 30 and 31 are pending. The comprehensive report for the fiscal year is expected in October.