

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 26, 2001

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: R. T. Davis/ T. D. Burns
SUBJECT: SRS Report for Week Ending October 26, 2001

HLW Tank Integrity: Staff members Randall Robinson, Rich Tontodonato and Bill Yeniscavich were on site this week to review the HLW tank integrity program. The review focused on the long-term program for preventing and monitoring corrosion of double shell tanks. As a part of the Recommendation 2001-1 Implementation Plan, DOE committed to revise the HLW tank inspection program by April 2002. WSRC is developing a basis for this program and currently expects to bin the tanks by functional categories and inspect representative tanks. The staff noted that it may be difficult to form an adequate technical basis given the variability in tank service. The staff also noted that the program should focus on monitoring tank corrosion trends to identify problems early as opposed to a bounding acceptance criteria.

Tritium Consolidation and Modernization Project: The WSRC Readiness Assessment for the restart of the Z-bed recovery system, originally scheduled to begin October 22, has been delayed by approximately two weeks. Start-up testing of the water trap modifications to the Z-bed recovery system revealed problems with achieving adequate system operating temperature. Attempts to rectify the situation by adding additional insulation proved unsuccessful, and significant modifications to the heat-trace equipment were proposed. Subsequently, it was determined that a circuit breaker feeding the existing heat-trace equipment was open. Closure of the breaker appears to have obviated the need for further modifications.

HLW Space Management: Both the 2H and 3H Evaporators are to be restarted this weekend. This will be a significant accomplishment with regard to tank space management as it represents the first time in over a decade that three evaporators will be in concurrent operation on-site. The 2H Evaporator will be restarted after being placed in warm stand-by last week to support a waste transfer. The 3H Evaporator is coming out of a routine maintenance outage. The 2F Evaporator continues to operate with some concerns about recurrent plugging problems with the dip tubes, lift line and gravity drain line. WSRC also transferred approximately 375,000 gallons of waste into Tank 49 (previously an In-Tank Precipitation tank) with no problems.

Americium/Curium: Recently completed solubility tests confirm that the proposed dilution, neutralization, and washing processes result in a caustic supernate in which Americium and Curium (Am/Cm) are highly insoluble (greater than 99.99% insoluble). These results imply that previous concerns about waste acceptance criteria requirements at the Saltstone and Effluent Treatment facilities will be manageable. Further tests are on-going to characterize the effects of nitrate concentration on both hydrogen generation and Am/Cm solubility. The results of these tests should be available in late December and will be used to determine whether physical modifications along the intended transfer path will be necessary to prevent excessive hydrogen concentrations.