

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 2, 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 April 2, 1999

Waste Tank Corrosion - On March 31, WSRC informed the South Carolina Department of Health and Environmental Control that the high level waste tank 11 carbon steel annulus pan may be degraded. Video inspections of the annulus pan performed on March 16 and 17 identified general corrosion and the potential for significant degradation of the tank secondary containment. Because this tank is located below the water table, external water frequently leaks into the tank annulus. Dry air ventilation is used to remove moisture in the annulus; however, because of steam problems, water remained in the annulus for several months over the winter. In 1974 and 1982, leaks were identified in the carbon steel primary tank at 235" and 190", respectively. The tank level is maintained below these leak sites and is currently at approximately 55" of sludge and 70" of supernate. During these recent video inspections, WSRC was unable to inspect the bottom of the primary tank because of ventilation duct interference. Additional video inspections of the tank annulus and of the primary tank will be performed next week.

Spent Fuel Storage Division Stand Down - WSRC management began a self-imposed operations stand down last week at the spent fuel storage facilities. Over the last two weeks, several occurrences indicated that operators may not be performing work safely and with proper formality of operations. Two of these occurrences are summarized below:

- ! Drum washing, which has the potential for limited tritium release, was conducted in the Heavy Water Facility without proper ventilation because of inadequate shift turnover and equipment tag out. During the operation, a tritium alarm was ignored because radiological personnel assumed the alarm was caused by steam, which is produced during the washing operation.
- ! Cropping operations with the potential for tritium release were performed in K-Area while the required tritium alarm was tagged out-of-service.

WSRC management appears to be aggressively pursuing these issues and have conducted several training briefings to ensure operators understand their responsibilities with regard to safety and formality of operations.

H-Canyon Stand Down - On April 2, WSRC management suspended discretionary operations at H-Canyon because of several indications of formality of operations problems. The most recent occurrence involved replacing the wrong instrument, which was performed without the proper hazardous energy controls. WSRC will develop a path forward for resolving this issue next week.

Evaporator Startup - The replacement high-level waste evaporator is scheduled to begin operations in late September '99. The primary project uncertainty is associated with the performance of the demister. The demister was designed for a 10^8 decontamination factor (DF); however, testing indicates only a 10^5 to 10^6 DF. The manufacturer and WSRC are evaluating design modifications to improve demister performance.