

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 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 October 24, 2003

Actinide Removal Process: As part of their Recommendation 2001-1 Implementation Plan, DOE committed to the Board to begin radioactive Actinide Removal Process (ARP) operations in Building 512-S by June 2004 (site rep weekly, 8/16/2002). The ARP capability is intended to expand the amount of salt-cake that could be dispositioned on-site via the Saltstone Production Facility and Disposal Vaults.

Modifications to Building 512-S to support ARP are complete and DOE-SR has issued a Safety Evaluation Report approving changes to the DWPF Documented Safety Analysis that provide the safety basis for ARP operations. Integrated cold testing of the ARP has commenced this week and the WSRC and DOE Readiness Assessments are scheduled to start next week. Current plans indicate that Building 512-S will be ready to begin radioactive operations by December 2003. However, unresolved regulatory issues will likely preclude actual startup until mid-2004.

Tank Farm Hydrogen Monitors: During a recent surveillance, the hydrogen monitor in Tank 30 failed its calibration in a non-conservative direction. This hydrogen monitor is a Safety Class piece of equipment that protects the tank vapor space from reaching flammable conditions. This is the 12th time a hydrogen monitor in the tank farms has failed its calibration in the last twelve months. In each of these cases, subsequent sampling indicated that actual hydrogen concentrations had not exceeded flammable limits. A further evaluation of these Safety Class pieces of equipment is warranted. WSRC has commenced an engineering review of the hydrogen monitors and plans to issue a report by the end of October.

H-Canyon: On Monday, a Mark 16 spent fuel assembly separated from a fuel bundle and dropped on the spent fuel cask in the H-Canyon shielded railroad tunnel. There was no damage identified to either the cask or the fuel assembly. H-Canyon personnel were in the process of transferring the bundles from the cask car to the 6.4D dissolver when the event occurred. When the bundle was lifted to the vertical position, one of the three assemblies in the bundle disengaged from the bundle and fell several feet. No criticality concerns were identified as a result of the drop. WSRC had charged 30 bundles of the same reactor discharge material without problems.

Following the event, WSRC performed visual inspections (using remote cameras) of the bundle but could not identify problems that would have caused the drop. This bundle was subsequently charged to the 6.4D dissolver on Wednesday. The dropped assembly was picked up using a special tool and transferred back to the spent fuel cask. The cask will be transferred back to L-Basin. WSRC plans to perform inspections on the dropped assembly to help determine the cause of the drop. In addition, WSRC plans visual inspections of other bundles in L-Area.