

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 28, 2002

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 28, 2002

HLW Safety Basis Upgrade: On Thursday, WSRC submitted a new Documented Safety Analysis (DSA) for the HLW Concentration, Storage, and Transfer facilities to DOE for approval. DOE has commenced their review of the DSA for compliance with the 10 CFR 830 nuclear safety rule and expects to issue a Safety Evaluation Report by mid-October.

FB-Line Criticality Scenario: On Wednesday, material characterization operators identified an unauthorized fissile material item in the glovebox cabinet. Operators exited the room and a subsequent engineering evaluation concluded that the Criticality Safety Limit (CSL) for the glovebox was not exceeded. The material characterization activity in FB-Line retrieves fissile material cans from the vault, characterizes the material and determines the appropriate path forward for the material (i.e., HB-Line processing, inner 3013 packaging, or waste disposition).

The Double Contingency Analysis (DCA) identifies an inventory error that results in exceeding the CSL for the material characterization cabinet. Controls identified to prevent this scenario are procedural verification that material introduced will not violate the CSL and an engineering verification that the first control is adequately implemented. WSRC implements these requirements by first developing a list of acceptable cans that may be processed. As cans are introduced into the cabinet, operators are required to ensure that they are consistent with the acceptable list. A nuclear safety verification is then performed for this step. However, when the product can is removed from the vault, it is placed in pail, which is labeled consistent with the product can. During this particular event, a pail was mislabeled and operators used this incorrect label vice the label on the actual product can for comparison to the acceptable list. WSRC also noted that the product can label numbers may not be unique.

Corrective actions identified include operator training and review of procedures to ensure criticality requirements are clearly understood and implemented. WSRC is also evaluating whether other identifiers can be used to uniquely identify product cans.

Americium/Curium: A cold run to exercise the intended Am/Cm transfer path from F-Canyon to HLW Tank 51 was scheduled to commence on Monday. However, equipment problems associated with F Pump Tank-2 (FPT-2, the receipt tank from the canyon waste header for the Am/Cm transfer) have twice caused termination of the transfer shortly after initiation. Inability to maintain the minimum flow rate of inhibited water (IW) to FPT-2 (70 gpm), due to an undersized valve in the IW addition line, led to the first termination. Upon execution of a temporary modification to the IW line, the transfer was restarted. Erratic performance of the FPT-2 transfer pump resulted in the second termination. Resolution of the transfer pump issue will postpone resumption of the cold run transfer until this weekend at the earliest.