

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 5, 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 July 5, 2002

2H Evaporator Leak: To facilitate more efficient operation of the 2H evaporator, a sample guide tube was installed in the 2H evaporator's E3 nozzle. This guide tube allows pot inspections and sampling to be performed while the evaporator is in warm standby, thereby precluding the need to shut-down the evaporator to perform these evolutions.

An Unusual Occurrence was reported on Monday when post-modification testing under normal evaporator operating conditions revealed minor leakage of condensed overheads around the E3 nozzle. The evaporator pot and penetrations (including the nozzle and guide tube) comprise a safety class pressure boundary credited with maintaining integrity up to 32 psig. Efforts to repair the leaking nozzle are underway.

Plutonium to HLW: Last week, DOE issued an amended record of decision regarding the October 1995 final environmental impact statement, DOE/EIS-0220, *Interim Management of Nuclear Materials*. Previous records of decision identified three options as preferred alternatives for stabilization of Pu-239 solutions stored in H-Canyon – process to metal in FB-Line, process to oxide in H-Area facilities, or vitrification in F-Canyon. Under the amended ROD, processing to oxide in H-Area facilities and vitrification in the Defense Waste Processing Facility have been identified as the current preferred alternatives. This NEPA action will support site plans to send 7,200 gallons of solution containing approximately 80 kg of plutonium to Tank 51 in mid-July for inclusion in sludge batch 3 (site rep weekly 3/15/02).

Americium/Curium: This week, WSRC concluded that the erratic performance of the F Pump Tank-2 (FPT-2) transfer pump that led to a second termination of the Am/Cm cold run was related to the high density residual sludge heel in FPT-2 (site rep weekly 6/28/02). When the newly installed agitator is running this sludge heel is disturbed more than was anticipated and the resulting high density slurry causes pluggage in the transfer pump. The cold run has been postponed until this issue is resolved. A path forward to remove the FPT-2 sludge heel and transfer it to either Tank 26 or Tank 33 is being developed and future windows of opportunity to resume the cold run are being explored.

Tank 37 Activities: Efforts to bring Tank 37 on-line as the replacement drop tank for the 3H evaporator continue. The first of five batches of dissolved salt cake is ready for transfer from Tank 37 and awaiting available space in Tank 35 (site rep weekly 4/5/2002). The 3H system (Tanks 30 and 32) is currently being de-liquored to Tank 49 to make room for Tank 35 material by late-July. Operation of the 3H system with the Tank 35 material will require DOE to approve a revised feed qualification JCO. Transfer of the five dissolved salt batches (~650,000 gallons) is currently scheduled for completion in late-August with Tank 37 operational by August 31.