

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 27, 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 September 27, 2002

Staff member Herbert Massie was on-site this week to attend the Pit Disassembly and Conversion Facility 90% design review.

K-Basin De-inventory: Last week, WSRC bundled and transferred the last spent nuclear fuel from K-Basin to L-Basin. In accordance with the Performance Management Plan, WSRC will consolidate spent nuclear fuel storage in L-Basin. WSRC continues to transfer fuel out of the Receiving Basin for Off-site Fuel (RBOF) facility and currently expects to complete de-inventory there in mid-2004. DOE-SR has directed WSRC to construct additional storage racks in L-Basin to support storage of High Flux Isotope Reactor fuel. L-Basin should have sufficient storage capacity to handle expected research reactor fuel receipts through 2012. DOE-SR has also directed WSRC to remove research reactor fuel from the list of H-Canyon processing missions. Path forward for this material will be developed by the Environmental Management integrated project team that is working on complex-wide spent nuclear fuel disposition.

WSRC has developed a safe shutdown and deactivation plan for K-Basin and efforts to reduce surveillance and maintenance activities are underway. After deactivation, WSRC expects very limited access to the basin area: twice a year for access to the process steam system and once every five years for a structural evaluation. Activated scrap and a thin layer of sludge remain in the basin. Surveillance activities will be limited to inspection of water level in an exterior weir box. Water level will be maintained to provide shielding for the activated scrap and ensure an air seal is maintained between the basin and the K-Area Material Storage area. Basin water filtration and de-ionization systems will be removed from service.

H-Canyon: This week, WSRC began a five week outage at H-Canyon. During this outage, WSRC will upgrade the Distributed Control System to include the Low Activity Waste and Rerun systems. This upgrade is required to improve system efficiency to support the Highly Enriched Uranium (HEU) Blend Down schedule. Other major activities during the outage include cooling water system repairs, new hot crane upgrades and tie-in to the HEU blend-grade tank in HA-Line (tank E4-2). After the outage is complete, WSRC will process existing HEU solution in the canyon through 2nd Uranium cycle to meet the TVA specifications (two passes may be required). The resulting blend grade material will be stored in E4-2. Blending with natural uranium to produce Low Enriched Uranium is expected to begin in January 2003.

DWPF: WSRC has prepared a de-inventory plan to support recovery from the leak last week in the Slurry Mix Evaporator (SME) vessel (site rep weekly 9/20/2002). Under this plan, the remaining SME contents and any additional leakage will be pumped into the Recycle Collection Tank. The SME vessel will then be moved to the Radioactive Equipment Decontamination Cell and cleaned. If the failed SME vessel can be repaired, WSRC estimates that DWPF operations could be resumed within two weeks. If a replacement vessel is required, restart could be delayed until mid-December.