

# DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 23, 2001

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** R. T. Davis/ T. D. Burns  
**SUBJECT:** SRS Report for Week Ending November 23, 2001

**HB-Line Phase II:** This week, DOE-SR line management validated closure of all 9 pre-start DOE Operational Readiness Review findings (site rep weekly 11/16/01). In addition, response plans for the 9 post-start findings were also approved. On Tuesday, the WSRC president and DOE-SR manager signed the Authorization Agreement for processing plutonium solutions in HB-Line Phase II.

WSRC currently plans to transfer solution into the facility on November 26, 2001. The sodium iodide detectors used in the facility require plutonium solution for calibration and testing. The first transfer of plutonium solution is low concentration and will be used to calibrate the sodium iodide detectors throughout the facility. After this is complete, resin will be loaded onto the columns and WSRC will verify colorimeter operations. These activities are expected to be completed during the first week of December and actual solution adjustment and processing is scheduled to begin December 10, 2001.

**DWPF:** Last week, DWPF received the last sludge transfer from Tank 51 (sludge batch 1B) and WSRC expects to finish vitrifying this sludge batch early next week. DWPF will then enter a maintenance outage to perform several work activities including modifications to support receipt of sludge from Tank 40. Sludge batch 2 preparation at the Extended Sludge Processing facility (i.e., in Tank 40) continues. The last sludge wash and settling has been completed and WSRC plans to decant this tank once adequate space is available in the 3H evaporator system. SRTC sample results and testing indicate that this batch will meet the waste qualification requirements. DWPF processing of sludge batch 2 is expected to begin on December 14, 2001.

**2H/2F Evaporator Over-pressurization:** On Tuesday, DOE-SR issued a Safety Evaluation Report approving the WSRC Justification for Continued Operations addressing the unavailability of an assumed vent path in previous over-pressurization analyses (site rep weekly 11/09/01). Without the vent path in question, pressure losses in the steam and/or air supply lines must be credited to demonstrate acceptable peak pressure conditions in the pot. In the interim, air line pressure regulators (with weekly surveillance) will be credited. Ultimate resolution requires demonstration of adequate pressure losses from passive piping components.

**2H Evaporator Flammable Vapors:** SRTC compositional analyses of flammable vapors persisting in the 2H feed line Leak Detection Box (LDB-3) indicated they are hydrogen and not organics as originally suspected (site rep weekly 11/09/01). Subsequent system tests have led WSRC to conclude that the unknown source of hydrogen is localized in the LDB-3 drain system, and not the result of a feed line core leak. The current path forward for 2H restart requires isolation of LDB-3 from its drain system, and purge and backfill of the feed line transfer jacket to remove any residual hydrogen that may have migrated to the system high point.