

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 29, 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 November 29, 2002

Tank 37 Activities: The second of five batches of dissolved salt-cake has been successfully transferred from Tank 37 to Tank 35 (site rep weekly 11/1/02). Salt level measurements indicate a decrease of 17 inches (60,000 gallons) of salt-cake during the second batch dissolution, bringing the total salt-cake removed after two batches to 30 inches (105,000 gallons). Thus far, the salt dissolution efficiency has been better than anticipated as indicated by the 2:1 ratio of inhibited water added to salt-cake dissolved. Addition of the third batch of inhibited water for dissolution was initiated on Tuesday. It appears likely that the project goal of removing 50 inches of salt-cake will be achieved on schedule.

Saltstone Authorization Basis: WSRC has submitted an Auditable Safety Analysis (ASA) package for the Saltstone Production Facility (SPF) that covers both current and proposed low-curie salt operations. This ASA package represents the WSRC technical basis for a proposed re-categorization of the SPF from a Hazard Category 3 facility to a Radiological Facility. DOE-SR is currently reviewing the ASA package and expects to issue a Safety Evaluation Report by mid-December.

DWPF Outage: Attempts to drain the melter proved unsuccessful due to failure of the drain valve actuator system (site rep weekly 10/18/02). The decision was made not to further pursue removal of the approximately 4000 lbs (~1.5 canisters) of glass waste remaining in the melter. The safety basis for removal and interim storage in the failed equipment storage vault assumes a full melter and thus bounds similar operations with the current melter inventory. However, a significant amount of glass waste in the failed melter may complicate final-disposition options in the future.

Subsequent to the glass waste removal decision, the melter was de-energized and cool-down has completed. WSRC has finished blowing down the melter cooling system and jumper removal evolutions are under way. The melter storage box has arrived at the facility and is being staged at the failed equipment storage vault. Removal of the melter from the melt-cell to the Railroad well is expected in late-December.

H-Canyon: Earlier this month, WSRC completed a major outage at H-Canyon and facility operations to support Recommendation 94-1/2000-1 activities (i.e., Mark 16/22 dissolution and Highly Enriched Uranium Blend Down) are underway. As a part of this outage, the Low Activity Waste (LAW) and Rerun systems were successfully tied into the existing Distributed Control System. This should help improve LAW throughput, which was a bottleneck for H-Canyon operations. In addition, HA-Line Tank E4-2 is now available for storage of blend grade Highly Enriched Uranium (HEU). All pre-start issues associated with the Readiness Assessment for receiving HEU in E4-2 have been closed and startup approval has been granted.

Over the past week, uranium solutions have been processed through the second uranium cycle to produce blend grade HEU. This is the second pass for these solutions. A second pass is required to meet purity specifications. However, samples from Tank 15.4 inside the canyon indicate that the alpha contamination levels are well above requirements (approximately 12 times greater). WSRC believes that the likely cause of the contamination was residual material in the warm side to hot side cross-over route. Because of facility inventory, it was impractical to flush this route earlier. WSRC plans to flush the transfer routes early next week and recycle the contaminated solution back through second uranium cycle.