

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 11, 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 October 11, 2002

Staff members Roy Kasdorf, Dan Ogg and Ralph West (outside expert) were on-site this week reviewing the FB-Line Packaging and Stabilization Project and nuclear material stabilization activities.

FB-Line Packaging and Stabilization: WSRC continues design and construction activities for the Packaging and Stabilization Project that will achieve DOE-STD-3013 packaging for SRS plutonium metal and oxide. The current schedule is to start outer can welding operations for metal in April 2003. Oxide stabilization (i.e., furnace operations) is scheduled to begin in October 2003. The outer can welder has been fabricated and is currently at SRTC for weld evaluation. During weld testing, SRTC has noted a high frequency of weld failures and is currently evaluating weld parameters to resolve this issue. A 25 can acceptance test run will be performed prior to moving the system to FB-Line. WSRC will perform 100 percent digital radiography and periodic standard radiography to evaluate the outer can weld. The digital radiography system is undergoing final checkout and a formal acceptance test will be performed prior to installation at FB-Line.

H-Canyon Red-Oil Controls: As a part of the Safety Basis controls to prevent a red oil explosion in H-Canyon tanks, adequate vent area is required for tanks that could potentially contain Tributyl Phosphate (TBP) and greater than 2.5M nitric acid. For some tanks, vent area provided by the tank overflow and process vessel vent system are inadequate and a red oil vent is used to provide sufficient vent area. The safety analysis references a 1995 technical memo that evaluated H-Canyon processes and tanks as the basis for requiring red oil vents. This week, WSRC issued a Potential Inadequacy in the Safety Analysis (PISA) after identifying additional tanks that should have red oil vents that were not identified in the 1995 technical memo. WSRC has performed a walk down and technical evaluation to ensure all tanks that require red oil vents are identified. This basis will be captured as a Level I safety basis calculation. As an interim compensatory measure for the PISA, WSRC will provide process blanks, administrative locks or other controls to preclude nitric acid from being introduced to these tanks. Additional red oil vents will likely be installed to resolve this issue.

HEU Blend Down: As part of the Highly Enriched Uranium (HEU) Blend Down project, several Readiness Assessments (RAs) will be performed leading up to the shipment of Low Enriched Uranium in April 2003. This first RA covers the transfer of blend grade HEU from the canyon through the B-3 basin to the HA-Line tank E4-2. WSRC needs to begin storing HEU solutions in E4-2 because storage space in the Enriched Uranium Storage (EUS) tank and in the canyon is full. The RA for transfer to E4-2 began on Monday this week. During simulation of a transfer, numerous errors in the procedures were identified. Contrary to site policy on declaring readiness, WSRC did not perform an integrated group walk down of these procedures. Facility management considered this activity very similar to other existing procedures (i.e., transfer to the EUS tank). Based on the procedure problems identified, WSRC has suspended this part of the RA until the procedures can be walked down and corrected.