DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 14, 2003

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 March 14, 2003

Low-Curie Salt: To support the low-curie salt initiative, interstitial liquid is being drained from Tank 41 salt-cake. Previously, the interstitial liquid has been sent to Tank 49 via existing underground lines. The low salt-well pumping flow rates (~2 gpm) result in transfers of extended duration (months) that monopolize the common transfer path elements (valve boxes, line segments, etc.) and preclude other necessary waste transfers. To improve operational flexibility, WSRC has implemented a dedicated above ground transfer line from Tank 41 to Tank 39 for the remainder of the Tank 41 interstitial draining campaign.

The Tank 41 to Tank 39 dedicated line consists of a 300 ft hose-in-hose arrangement suspended approximately 2 ft above grade by seismically qualified supports. Augmented seismic bracing has been installed on adjacent slurry pumps and other appurtenances based on the results of "2 over 1" seismic analyses. The inner hose is 1" diameter and rated to 200 psi. The outer hose is 3" diameter and rated to 150 psi– both were successfully hydrostatically tested (inner at 600 psi; outer at 240 psi). Maximum transfer pump pressure is 95 psi and maximum flush water pressure is 150 psi. Concrete barriers are in place to preclude vehicle impacts. Concrete blocks, water-filled B-25 waste boxes, and lead blankets are positioned to provide adequate shielding. The transfer line has a center high point and is sloped such that any leakage to the outer hose will drain back to either Tank 41 or Tank 39. Camera monitoring of both ends of the outer hose is being implemented to detect primary hose leaks.

WSRC began using this transfer line on Thursday and expects to complete interstitial draining of Tank 41 within six months. The hose-in-hose transfer line arrangement appears adequate for draining the remaining interstitial liquid from Tank 41. However, additional analyses would be necessary to justify using this transfer line for other purposes or for significantly extending the duration of its current use.

FB-Line Readiness Assessment: A 19-member independent contractor team commenced the Packaging & Stabilization Project Phase I contractor Readiness Assessment (RA) this week. Nineteen functional areas are being assessed with DOE validating the contractor's assessment of key areas. Operation of the outer can welder, the associated leak detector and digital radiography system were completed satisfactorily. Concurrent with the Phase I RA, the contractor is also assessing nine functional areas to determine the facilities' readiness to implement FB-Line Authorization Basis upgrades. Both RAs are scheduled to complete during the week of March 17, 2003.

Americium-Curium Solution: WSRC estimates that more than 9000 curies of the Americium-Curium (AmCm) material remain in the F-Canyon facility. This represents 5% of the original 180,000 curies contained in F-Canyon tank 17.1. It appears likely that a failed agitator that was required to be operational during the transfer contributed to the amount of AmCm that remains in F-Canyon. WSRC plans to transfer the remaining AmCm solution to High Level Waste Tank 33 by early April.