DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 18, 2005

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: J. S. Contardi/M.T. Sautman, SRS Site Representatives
SUBJECT: SRS Report for Week Ending November 18, 2005

FB-Line Deactivation: This week the Site Rep walked down FB-Line and observed ongoing deactivation work. The contractor has completed all deactivation work in the process cabinets and all major system have been deactivated or configured to establish a safe interim state. Decontamination and decommissioning activities will not begin until the final end state has been determined, which is not in the current contract.

Tank 5: The first sludge slurry operation was terminated early due to increased dose rates around the ventilation system. To reduce the dose rates, the contractor replaced the high efficiency particulate air (HEPA) filter and flushed the ventilation system. While flushing the ventilation system, the contractor identified several leak sites around the reheater. Inspection of the system revealed several bolts which were not fully tightened and degradation of caulk placed around a condensate line penetration. A path forward has been established to seal the various interfaces with a qualified caulk. Once the system has been re-sealed, the HEPA filter will be tested with dioctyl phthalate particles and the reheater system boundary smoke tested.

Upon identification of the leaks the contractor entered the tank into a limiting condition of operation and reported the event as a degradation of a credited safety system. The ventilation system provides a safety class control to prevent an unfiltered release, which includes the pressure boundary provided by the reheater assembly.

Saltstone Production Facility: Following the resolution of fly ash particle size issues (see Site Rep. weekly 11/4/05), the contractor began cold test runs in preparation for the upcoming Readiness Assessments. While conducting a cold run, grout solidified in the discharge pipe from the mixer. A portion of the solidified grout has been removed and the grout hopper moved to allow further inspection. The contractor is developing a path forward to remove the remaining grout and implement corrective actions. Recovery from the event will likely delay the contractor RA.

Tritium Extraction Facility: The target rod preparation (TRP) module is used to cut the Tritium Producing Burnable Absorber Rods for subsequent extraction in the furnace modules. Previously, the contractor identified several electrical components which sparked when energized in the argon environment. The increased conductivity of argon and manufacturing defects was determined to be the causes. The components were removed and the defects corrected. Recently, the contractor identified a similar phenomena with other electrical equipment in the TRP module. To help resolve the most recent issue, the contractor has enlisted an independent expert as well as researchers at the Savannah River National Laboratory. Several options are being considered including modifications on all TRP circuits to prevent voltage fluctuations and the addition of oxygen into the module to reduce conductivity. In addition, SRNL is investigating the potential affects of high gamma irradiation fields on the conductivity of argon gas.