DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 16, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: J. S. Contardi/M.T. Sautman, SRS Site Representatives
SUBJECT: SRS Report for Week Ending June 16, 2006

DNFSB Activity: Headquarters staff conducted an electrical system/instrumentation and control review for the Salt Waste Processing Facility, observed the Old HB-Line Ventilation Readiness Assessment, and walked down various plutonium operations in K-Area.

HB-Line: As a result of previous moisture issues with neptunium-237 (Np-237) oxide, the contractor refined their sampling protocol to characterize specific radionuclides in the product. This week, HB-Line personnel identified higher than expected levels of plutonium-239 (Pu-239) in the Np-237 oxide produced in HB-Line. Of the six cans that have been sampled to date, four exceeded the 9975 Safety Analysis Report for Packaging (SARP) Pu-239 limit. Previously, the contractor relied upon small-scale flow sheet development work to ensure SARP compliance. Hence, no product material was sampled or analyzed. Due to the potential that unanalyzed items exceeded the SARP limit and have since been shipped to Idaho National Laboratory, the site contractor reported the recent finding as a potential transportation violation. The contractor also temporarily ceased Np-237 oxide production as well as off-site shipments.

Savannah River National Laboratory (SRNL): Because of conduct of operations and procedure compliance findings, the Readiness Assessment team recommended that senior supervisory watch (SSW) personnel be assigned during initial transuranic waste repackaging. While the Modular Repackaging System kept their SSW in place for ~3 months, SRNL terminated theirs after 3 drums. When the Site Rep observed the drum repackaging soon afterwards, the technicians encountered a drum lid which was stuck to the drum liner lid - a condition not addressed by the procedure. When it appeared that the supervisors were going to direct actions that were not in the procedure, the Site Rep asked what steps they were performing and encouraged them to use their procedure change process, if necessary. Although the supervisor intended for the work to stop, a technician went back in the Use Every Time procedure and repeated earlier steps without documenting this. Three days later, a critique was held and operations were temporarily suspended. Corrective actions include discussing management expectations with supervisors, reviewing procedure adequacy, and resuming SSW.

Nuclear Operations: The Site Reps observed the start of the Tank 804 cleaning in F-Area. Cleaning operations are going well, but workers were observed walking through a very large puddle and wet anti-contamination clothing can allow plutonium to pass through the clothing. A waste transfer was partially conducted in F-Tank Farms without monitoring the tank level in a downstream tank. An operator working in HB-Line Phase II (i.e., Np-237 production) signed in on the wrong radiation work permit which resulted in his electronic personnel dosimeter alarming at the wrong set point. At the Heavy Water Rework Facility, tritium-contaminated water leaked out of a deactivated tank that was being removed for disposal. A glove failure while repackaging a transuranic drum resulted in an ORPS reportable skin contamination (6,000 dpm alpha) at the Solid Waste Management Facility.