DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 10, 2004

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
J. J. McConnell, Deputy Technical Director
FROM: J. S. Contardi SRS Site Representative
SUBJECT: SRS Report for Week Ending September 10, 2004

3013 Container Testing: The office of Environmental Management has requested the Savannah River Site perform extreme temperature tests on 3013 containers. The tests will be used to determine the burst temperature of the container under fire scenarios. Cerium oxide with 0.5 weight per cent water will be utilized as a surrogate material for plutonium oxide. The results of the tests may be used to justify authorization basis changes for the long term storage of plutonium. The K-Area Material Storage Facility does not have safety class ventilation or fire protection systems and the authorization basis requires 3013 containers to be stored within a 9975 Type B shipping container.

Building 235-F Legacy Source Term Study: A study to evaluate options to mitigate the dose consequences resulting from the legacy source term in Building 235-F is nearing completion. The Westinghouse Savannah River Company (WSRC) expects to transmit the study along with recommendations to DOE on September 17, 2004. The vast majority of the source term is due to residual plutonium-238 contamination. The options evaluated range from source term removal to engineered isolation to mitigate the calculated dose consequence through leak path factor reduction. The total cost for mitigating the source term will be in excess of $50 million and require more than two years to complete. Future missions in 235-F (i.e., the limited extent surveillance project) are not expected to be disrupted by the planned source term mitigation operations.

Plutonium Contaminated Scrap Processing: Approximately 300 plutonium contaminated enriched uranium scrap items are stored in K and F-Area. The materials will be shipped to HB-Line for repackaging and processing through H-Canyon using the H-Modified process. The recovered uranium will be used to support the low enriched uranium blend down project. A Justification for Continued Operations to support this activity has been developed for both H-Canyon and HB-Line operations. Operations are scheduled to begin in November with an initial 6 items per month processing rate and will likely increase to 16 items per month.

High-Level Waste Tanks 9 and 12: As previously reported (Site Rep Weekly 7/30/04 & 8/6/04), high-level waste Tanks 9 and 12 may be leaking. For both Tanks, the photographs obtained can not confirm the source of the leak. The observed changes in the waste appearance have been subtle. To help identify the leak source, WSRC has proposed increasing the inspection frequency from once a year to quarterly. Thus far, only camera inspections have been proposed. After four quarterly inspections, the frequency will be returned to an annual basis if no further changes are observed. Recently, a significant amount of rain has fallen which should help determine if the potential leak is from groundwater intrusion. An evaluation of the annulus ventilation system will also be performed. An improperly operating ventilation system could allow condensation to form and collect in the bottom of the annulus.