DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 12, 2008

TO: T. J. Dwyer, Technical Director
FROM: M. P. Duncan and M. T. Sautman, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending December 12, 2008

Liquid Waste Contract: DOE awarded this contract to Savannah River Remediation, LLC.

Plutonium Processing and Storage: As yet another indicator that H-Canyon's and HB-Line's processing missions may be drastically curtailed, DOE directed the contractor to prepare a scoping study to determine the overall impacts to nuclear materials operations based upon the following assumptions:

1) Unirradiated uranium processing will be accelerated with the goal of completion at the end of year 2010.
2) Spent nuclear fuel will remain in L-Area storage.
3) Plutonium (Pu) processing will be constrained to the Defense Waste Processing Facility glass loading that is consistent with the Yucca Mountain license application.
4) The only Pu processing in H-Area before the start of 2014 will be that needed to support the K-Area Interim Surveillance (KIS) project.

This potential change in direction causes uncertainty with regards to the upgraded Documented Safety Analysis, the Integrated Priority List, and the site-wide Integrated Facility Aging Management program. Modifications to K-Area Material Storage (KAMS) storage and receipt plans should preclude a previously predicted space shortfall in late 2009. Although aisle spaces are being tightened to support continued receipts, containers that will need to be accessed to support uranium processing and the KIS project are being segregated to allow easier access. If the above processing scenario is enacted, all plutonium storage locations are expected to be filled by May 2011. Because several hundred additional storage locations would still be needed, the contractor is examining the feasibility of higher stacks in KAMS and hopes to receive funding to start on a pre-conceptual design for an additional vault. (11/21/08 report)

F Tank Farms: The sand mantis utilizes a tilt wheel to adjust the amount of air entrainment, which is required for waste flow through the eductor. The tilt wheel arm is attached to a hydraulic motor using a key/keyway arrangement between the motor shaft and the arm. After removing sludge most of the weekend, the setscrew sheared apart. This caused the tilt wheel arm to fall off the motor shaft, leaving the mantis inoperable. The contractor hopes they can decontaminate the sand mantis enough to allow it to be repaired. If not, a modified backup unit will be installed. Meanwhile, they are accelerating the deployment of the Tank 18 sand mantis after reattaching the tilt wheel arm more securely.

Site procedures require the use of flame-retardant coveralls for open flame/spark producing welding in contaminated areas, but not for non-spark producing welding like Tungsten Inert Gas. While performing overhead TIG welding, slag fell on a welder's shoulder and burned through two pairs of cotton coveralls and his shirt, but only irritated his skin.

Modular Caustic Side Solvent Extraction Unit: A camera inspection determined that the cause of a siphon event last May was because the siphon break hole had not been drilled. (5/2/008 report)

Projects: The Deputy Secretary approved Critical Decision 3 for the Salt Waste Processing Facility. The total project cost is now $1.34 billion. The largest contributor to the change from $900 million is an increase in cost contingency. Startup would be as early as May 2013. With schedule contingency, it would be October 2015. In addition, Critical Decisions 2 and 3 were approved for the Waste Solidification Building. Startup is scheduled for September 2013.