DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 11, 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 July 11, 2008

M. Sautman was offsite this week.

F-Canyon: The transuranic waste remediation campaign is nearing its end. Work recently began on drums that contain higher radioactivity than has been typical. As higher worker dose was expected, the suspension guides in the radiological work permit (RWP) were increased as well as the corresponding alarm set points for the electronic personal dosimeters (EPDs). While remediating waste in both the warm crane maintenance area and the truck well, at least five EPDs alarmed, and the workers exited the area. They discovered that the EPDs were incorrectly set to the old default values. None of the workers caught this error during the RWP sign-in process, which requires the user to click "yes" to confirm that the EPD settings displayed on the screen are correct. The set point changes were reportedly discussed in the pre-job briefing.

After the set points were reset to the correct values and confirmed with a peer check, the workers went back to sign in on the RWP and discovered that the incorrect settings were still being used. The apparent software issue is under investigation. While in this particular event there was no actual safety issue since the alarm set points erred in the conservative direction, facility management took it seriously because of the potential for a worker receiving a large dose due to a non-conservative error.

Interim Salt Disposition Project: The contractor decided to hold off on exiting the Management Control Plan for the time being. To deal with the unexpectedly high radiation rates from the process vessel ventilation system for the Actinide Removal Process, engineers chose to reduce the ventilation flow, minimize the time the agitators are running, flush the lines, and add shielding. These actions reduced the rate successfully. Long term fixes are being evaluated. Regarding the issue with the Decontaminated Salt Solution coalescer, the sudden, steep increase in differential pressure noted in last week's weekly report was not observed during processing of three subsequent batches.

Savannah River National Laboratory: After performing work associated with sample analysis of plutonium oxide from 3013 containers, contamination was discovered on a technician's lab coat after twice alarming a PCM-1B. The responding radiological control inspector's initial frisk did not detect any contamination. He performed another frisk after the technician set off the PCM-1B alarm again and found a spot that probed 1000 dpm alpha. After removing the lab coat, the same spot probed 4000 dpm alpha. No contamination was found in the corridor or the laboratory where he had been working. Since someone had been contaminated while working in the same hood in April, facility management decided that an engineering evaluation and smoke test of the hood was warranted.

Salt Waste Processing Facility: The mud mat is complete. Rebar installation is expected to begin the week of July 21. The 90% design review began this week.