DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 9, 2011

TO: T. J. Dwyer, Technical Director
FROM: M. T. Sautman and D. L. Burnfield, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending September 9, 2011

SRNS: Dwayne Wilson will replace Garry Flowers as SRNS president and chief executive officer.

Tank Farms: During severe weather, SRR procedures require operators to terminate all waste transfers per their specific administrative control (SAC). The documented safety analysis (DSA) assumes that once the transfers are stopped, 90% of the waste in the above-ground transfer piping will drain via gravity. In some cases, operators would have to take additional actions to vent and drain the piping to reach this assumed volume. While this is discussed in their procedures, venting and draining in response to a severe weather event is not discussed in the DSA or technical safety requirements (TSR). Because venting and draining piping is not discussed in the severe weather sections of the DSA, SRR declared a potential inadequacy in the safety analysis. As a compensatory action, SRR has prohibited the draining of any transfer lines during a severe weather threat that have a siphon potential. Furthermore, SRR has reduced the allowable radionuclide concentration in these waste transfers such that the source term posed by a full pipe is less than that of a pipe that is 10% full with more concentrated waste.

Nuclear Safety: In response to the Board's August 19, 2011 letter, SRNS has been comparing the results of atmospheric dispersion modeling using Biggs and Pasquill-Gifford (P-G) coefficients as well as various empirical equations that fit the P-G diffusion curves. Preliminary results suggest that the current methodology of using the Tadmor-Gur approximation of the P-G curve will end up significantly underestimating the calculated dose for the 100 m collocated worker.

HB-Line: SRNS commenced the Readiness Assessment for the Waste Isolation Pilot Plant blending demonstration.

H-Canyon: In response to last week's issue with incorrect setpoints, SRNS will provide training and require a verification step to ensure the desired changes are made to the configuration database. An extent of condition review of the current configuration database found that an engineer had mistakenly changed the specified mode for an evaporator coil pressure control loop while troubleshooting another problem recently.

F-Area Training: The site rep observed a watchstander evaluation for a shift operations manager. While not an official oral board, the conduct and thoroughness of it was comparable.

SRNL: The site rep inspected two 3-foot thick, hot cell viewing windows that are scheduled for replacement. Replacing these windows will pose significant radiological and industrial hazards to the workers due to the radioactive contamination present, the high radiation levels, and the weight of the windows. SRNL plans to use an experienced subcontractor to replace the windows. As recent events have shown, this will increase the complexity of work planning and control.