DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 19, 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 August 19, 2011

Nuclear Safety: DOE-SR and the major SRS contractors continued to assess their approach to the collection and use of onsite meteorological data and surface roughness for consequence evaluation (see 8/12/11 report). Site personnel have used one of the two alternative approaches for classifying atmospheric stability that were identified in the 1980 proposed revision to Nuclear Regulatory Commission Regulatory Guide 1.23, *Meteorological Monitoring Programs for Nuclear Power Plants*. The latest revision to DOE Standard 3009, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*, change notice 3, dated March 2006, cites Reg Guide 1.23, but does not specify the revision. The Nuclear Regulatory Commission approved a revision to this Reg Guide in 2007 that removed the alternative approach currently used by SRS. According to DOE-SR and the contractors, the revised Reg Guide does not provide the technical justification for removing this alternative approach. Discovery of this potential problem with their selection of an approach for classifying atmospheric stability led to confusion among DOE-SR and the contractors regarding the use of meteorological data and surface roughness as inputs to their accident analysis. Discussions among the site contractors and personnel from other sites have not resulted in the clarification needed to resolve this confusion. Therefore, DOE-SR has notified the appropriate DOE-Headquarters offices and has asked the Office of Health Safety and Security for assistance.

Saltstone: After reviewing three major pluggage events dealing with the drain water return system, SRR is taking action to improve the management of solids in the drain water piping. Modifications would enhance the flushing of pump suction piping. Drain water flow rates would be monitored more to ensure the velocities are adequate to move solid particles. Finally, the grout recipe will target a water/premix ratio and tighten control of the use of additives.

K-Area Accident Investigation: On July 1, 2011, a construction worker fell from a portable scaffold while working on the K-Area Purification Area Vault (PAV) project (see 7/8 and 7/15/11 reports). He fell onto a concrete floor from a height of as high as 12 feet and sustained head trauma and broken ribs. Co-workers in the area immediately attended to the injured worker until emergency response personnel arrived and he was then transferred to the hospital via the site helicopter. The DOE accident investigation board has concluded its report and identified several activity-level integrated safety management (ISM) practices as requiring improvement. For example, the report notes that the SRNS hazard analysis did not correctly identify the hazards associated with the portable scaffold; SRNS did not provide the appropriate subject matter expertise involvement; SRNS failed to ensure clear lines of authority and responsibility were defined, communicated and understood; SRNS did not ensure that the work crew was adequately trained in a consistent manner; and the work crew deviated from the specified controls. DOE-SR and SRNS are reviewing their practices for implementing ISM in order to meet the judgements of need identified in the accident report.

American Recovery and Reinvestment Act (ARRA): ARRA workers have been collecting tritium exit signs from various areas undergoing deactivation and have been storing them in a radiologically clean area. While surveying the signs in preparation to ship them to the solid waste management facility, SRNS personnel discovered more than 1,000,000 dpm tritium. After discovering this contamination, the workers appropriately secured and labeled the signs. SRNS reported this event under DOE M 231.1-2, *Occurrence Reporting and Processing of Operations Information*, as a management concern rather than as an inadvertent spread of contamination because tritium exit signs are a consumer product. The site rep has asked SRNS to clarify this decision.