DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 9, 2010

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 July 9, 2010

L-Area: The site rep attended the safety reviews associated with pre-job planning to place divers in L-Area transfer basin. SRNS will use sub-contracted divers to do maintenance on structural equipment used for future fuel handling operations. The planning did not adequately balance the hazards associated with diving and potential radiation exposure. In this particular case, the area radiation monitor protects workers from exposure to fission product gases**.** The expected action to an alarm is to evacuate the area. However, fuel would not be located in the transfer basin nor would it be moved in the disassembly basin at this time. SRNS stated that the dose to the diver support team would be minimal from any activities with fuel stored in the current locations. Thus, the risk associated with a nuclear event, during this time, should be diminishingly small. The site rep was concerned that the evacuation of diver support team before removing the diver from the basin could jeopardize the safety of the diver. When the site rep raised this issue to SRNS management, they revised the alarm response procedure to allow the diver and supporting personnel to remain in the area until the diver had left the water.

K-Area: When the can cutter would not cut a 3013 inner container properly, an operator grasped the rough end of the can without using leather gloves. His glovebox glove snagged on a burr and tore, but his other gloves did not tear. No contamination was released from the glovebox.

Tank Farms: Camera inspections indicate that the Tank 30 telescoping transfer jet (TTJ) has a leak. Since this tank functions as the 3H Evaporator drop tank, steam leaking from the upper stuffing box may be impinging and aerosolizing waste whenever the tank level crosses the leak height. Engineers are reviewing past evaporator runs and the loading on the high efficiency particulate air filters. SRR put an administrative hold on all TTJ transfer procedures.

In response to site rep observations (See 6/18/10 report), SRR plans to conduct an H-Tank Farm seismic table top drill. Since seismic response actions would take place over several hours, SRR also intends to split the overall response into "cells" and then train operators on their response actions using their simulator and mockups. In addition, SRR is planning to conduct seismic drills focusing on the deployment of portable ventilation systems and the loss of a control room.

H-Canyon: The staff reviewed criticality scenarios with high worker radiological consequences where the overall Criticality Safety Program is credited as safety significant (SS), but the individual administrative controls (AC) are not. SRS procedures require that active engineered controls for unlikely, high consequence criticality scenarios be SS. However, rather than upgrading four decanter high temperature interlocks, SRNS chose to credit as a GS control operators manually shutting the steam off if the interlock failed. In another case, a GS AC to add acid to the sump receipt tank before receiving caustic transfers (to avoid precipitation) appears to satisfy SAC criteria.

F-Canyon: While investigating a tripped breaker, workers discovered that an arc flash had occurred in a deactivated motor control center (MCC). Because the bus was still needed for other MCCs and the equipment might be used for a future project, engineers decided to leave the lugs in place, air gap one end of the cable, but leave the other end of the cable connected to the bus (i.e., still energized with 480V) even though the SRS standard required both ends to be disconnected.

Saltstone: The Board and DOE-SR staff share concerns with applying the chemical screening methodology in DOE Guide 151.1-2 to non-spill scenarios as SRR proposed (see 5/21/10 report). SRR will now conduct a full chemical hazards analysis although they are concerned this might drive upgrades to their vault design.