DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 27, 2012

TO: T. J. Dwyer, Technical Director
FROM: D. L. Burnfield, Site Representative
SUBJECT: Savannah River Site Weekly Report for Week Ending July 27, 2012

David Gutowski and Patrick White were on site this week assisting the site rep while Mark Sautman was out of town.

Defense Waste Processing Facility (DWPF): On July 24th, 2012, a high temperature alarm was received from the Slurry Mix Evaporator (SME) at DWPF. The SME was in Standby Mode after completing remediation activities. Operators isolated the steam line used to heat the tank and initiated cooling as per the action response procedure. SRR determined that a safety significant steam valve had degraded and allowed steam to leak into SME heating coils. The SME vessel temperature reached 70.6° C, exceeding the maximum temperature limit defined by the TSR for SME Standby Mode. This limit protects hydrogen generation assumptions. SRR issued an ORPS report because a Safety Significant component failed but they later revised it to include a Technical Safety Requirement violation because the SME exceeded the maximum Standby mode temperature of 70°.

Field Observation: The Site Rep and Staff performed a field observation of F-Tank Farm. They observed riser grouting of Tanks 18 and 19 as well as the F-Tank Farm control room and the electrical hardware for consolidation of tank farm control rooms. The Site Rep shared some minor observations with the DOE Facility Representative.

Solid Waste Management Facility (SWMF): SWMF personnel will repackage high dose rate TRU waste in cell 11 (see 7/13/12 and 7/20/12 reports). This week SRNS expanded the Functional Area Manager review that was conducted last week to assess key areas that had not been fully assessed last week. The team as well as the SWMF personnel concluded that SWMF personnel were ready to begin the remediation and repackaging of the first eight drums.

The site also determined that the vortex fire protection system will be returned to service prior to continuing with the cell 11 activities.

H-Canyon: During late June and early July H-Canyon personnel unpacked what is likely the most challenging waste container encountered to date. Workers used copious amounts of fixative, water mists (to help knock down airborne contamination), and long-handled tools when handling the highly contaminated drums, several of which were breached. In general, the workers completed the work safely and methodically. (See 6/29/2012 report.) During that evolution there were two instances where workers could have received low inhalation doses from spikes in airborne radioactivity. After reviewing the bioassay data it has been determined that no workers received a measurable dose from these incidents.

F-Area: This week the staff attended two SRNS presentations: one on the end point analysis for F-TRU facilities and another discussing the initial planning for the Board recommendation 2012-1 risk reduction work on 235-F plutonium-238 activities. F-TRU intends to return F-canyon and adjacent facilities to the same state they found it in with the exception of a few modifications that they are being asked to leave behind for future operations. In 235-F, it now appears the combination of the expected lifetime of the concrete and longevity of the ^{238}Pu decay products could impact the option to grout the facilities and leave them in place.