DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 7, 2014

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and D. L. Burnfield, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending February 7, 2014

Defense Waste Processing Facility (DWPF): After exiting the Contact Decontamination and Maintenance Cell, a personnel contamination monitor detected a small particle of contamination on the sole of a Radiological Protection Division inspector's shoe. Based on the results of surveys and personnel protective equipment inspections, SRR believes the worker stepped on a piece of safety wire while performing housekeeping. The wire punctured his rubber overshoe, plastic suit boot, and additional cloth and plastic shoe covers. The safety wire is ~1/16" dia. stainless steel wire that is used to control bolts and other parts used in pumps and other rotating equipment. This is the third puncture event since 2011 believed to be caused by these small pieces of cut safety wire. While SRR was already implementing actions to reduce the use of safety wire, they are also pursuing actions to reduce the amount of cut wire on the floor and improve foot protection.

H-Canyon: After analyzing historical sand filter performance and taking into possible sand filter media settling after a seismic event (see 12/13/13 and 1/17/14 reports), SRNS believes they can credit the sand filter with providing an overall 99.89% filter efficiency even if 7.8% of the release occurs at the ground level versus the stack. Ground level releases result in a 45X increase in dose to the collocated worker compared to stack releases.

HB-Line: SRNS completed their facility self-assessment for their new safety basis and plutonium oxide production mission and approved the closure of the findings with their Corrective Action Review Board. The facility manager briefed the Senior Management Review Board on the corrective actions they have taken since DOE suspended their Readiness Assessment (see 8/30/13 report) and why they believe they are ready to proceed. The contractor's Independent Assessment will commence early next week. The site representative also observed a tabletop drill involving a failure of the process air system.

Tritium: The site has experienced several failures of the oxygen monitors within the tritium gloveboxes during the past several years, including two failures in January. SRNS has been evaluating and selecting instruments and attempting to qualify a vendor. The site rep reviewed the progress for replacing these monitors, inspected the instruments that are being tested in the field, and walked down representative locations for the new instruments within H-Area New Manufacturing.

K-Area: During testing of the new electric fire pump, the pressure unexpectedly dropped from 170 psi to 17 psi (see 1/17/14 report). The test was terminated when smoke was seen coming from the pump. SRNS personnel, in the presence of the vendor, opened the pump and found no visible damage to the pump. Several theories exist for the loss of pressure. SRNS is planning additional troubleshooting for the coming week.

K-Area personnel have experienced an increased rate of failure in the tamper indication devices (TID) that are placed on material storage containers. The replacement of these devices has resulted in increased dose to the workers and may require an increase in the administrative control level or the dose to be spread out over several personnel. SRNS has been in contact with the national laboratories to develop a solution to the failing TIDs.