

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 19, 2017

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman, Resident Inspector
SUBJECT: Savannah River Site Resident Inspector Report for Week Ending May 19, 2017

Defense Waste Processing Facility: The resident inspector observed SRR transport melter #2 from the inner railroad well (RRW) to the outer RRW. The next day, SRR moved the melter storage box (MSB) outside, placed the lid on the MSB and remotely bolted the lid to the box. SRR then transported the MSB to the Failed Equipment Storage Vault by train, where a crane lowered the MSB into a vault. SRR's contamination controls ensured the exterior of the MSB was not contaminated when it was moved outside. Furthermore, shielding, remote operations, and practice with mockups helped keep the total dose for the 47 workers involved to under 180 man-mrem, much less than the estimated 1 man-rem for the job.

A fire watch quickly extinguished a small (3'X4') grass fire near the Low Point Pump Pit. Workers were performing some cutting and grinding work 50 feet away per their hot work permit. The shift operations manager was not notified until 80 minutes later.

F/H Laboratory: After transferring solution from the High Activity Drain to the sample returns trailer outside, operators flushed and drained the transfer hose. However, a few hours after the job was finished, a worker noticed liquid on the concrete pad below the loading arm and noticed drips from the bagged arm. The spill area initially probed 1.5 million dpm α and 200 mrad/hr β - γ although decontamination efforts have reduced these levels significantly. Considering that the hose had been flushed and drained, it is unknown why there was acidic, highly contaminated liquid leaking for a while although a nearby isolation valve may be the source. A recovery team wrapped additional bags to contain the leak, neutralized and absorbed the liquid, and will be fixing/removing the contamination from the trailer tires, concrete pad, and other equipment.

F-Canyon: SRNS conducted a reanalysis of the F-Canyon seismic event consequences. Based on their analysis, SRNS is proposing to no longer credit the sand filter, canyon exhaust ventilation system, or the diesel generator in the safety basis. SRNS continues to assume that only 10% of the material-at-risk (MAR) is not fixed (i.e., subject to release) and 50% of that is protected in ducts and gloveboxes. They are now making a new assumption that only 10% of the remaining MAR is impacted by the collapsing facility. The basis for this 90% reduction is that DOE-STD-5506, *Preparation of Safety Basis Documents for Transuranic (TRU) Waste Facilities*, assumes that 10% of waste drums in a substantial (i.e., concrete) TRU waste facility will be breached in a building collapse. SRNS is also proposing a 57.5 stack reduction factor for accidents where the stack liner does not collapse and normal airflow is maintained after a seismic event. DOE and the technical staff are reviewing this proposal.

L-Area: An operator accidentally wrote the wrong fuel bundle number on a cask loading data sheet. This was caught before it was shipped. The criticality safety control step in the procedure included more than one action, which may have led the second person verifier to verify that the fuel bundle ID matched what was written down in the main part of the procedure, but not what was written in the attachment. SRNS confirmed the right fuel bundle was in the fuel cask.