

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 17, 2017

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Resident Inspector Report for Week Ending March 17, 2017

Defense Waste Processing Facility (DWPF): SRR approved the Deinventory Plan for the melter. This plan is discussed in the DWPF Technical Safety Requirements and defines the basis for placing the melter process area into Deinventoried Mode. Engineers evaluated the potential for flammable gases to be generated through chemical reactions and radiolysis once the melter is shut down since SRR was unable to drain the molten glass that was in the melter when it failed. The evaluation concluded there is no credible mechanism to generate flammable gases in the absence of feed and ongoing chemical reaction. This conclusion will allow the melter off-gas system to be shut down, the seal pot to be flushed, and jumpers and components to be removed.

The resident inspectors also observed workers blow down the Melter Cooling Water system of the failed melter (see 2/10/17, 2/17/17, and 2/24/17 weekly reports).

The resident inspector observed poor control of the DWPF access points during a recent emergency preparedness drill while a Remain Indoors protective action was in effect. The resident inspector found that twelve individuals had signed into a manual accountability log during the affected period and observed five vehicles driving into and out of the facility.

L-Area: SRNS personnel developed and approved a nuclear safety datasheet (NSDS) that determined that a fuel configuration consisting of one open Short Inner Storage Container (SISC) and two closed SISCs was a critically safe configuration. This allowed the facility to exit the Limiting Condition for Operation associated with fuel not being stored and handled per an approved NSDS (see 3/3/17 weekly report). L-Area personnel also developed a temporary procedure change which would allow the handling of the open SISC (holding the two inner fuel pin bundles) and isolating it in a transfer bucket before re-bundling the two remaining closed SISCs. The L-Area Facility Operations Safety Committee determined that the revised procedure does not constitute a positive unreviewed safety question and proceeded with the evolution. Operations personnel has since successfully isolated the open SISC and re-bundled the two remaining SISCs. L-Area personnel have placed the procedure on administrative hold until the inadequacy in the safety basis has been resolved.

F/H Laboratory: SRNS identified that the upcoming revision of the Curie Inventory Program, used for managing the material at risk, had some errors that were not identified during software testing. In response, SRNS had their Process Control and Automation Engineering group conduct an independent software evaluation. SRNS is correcting the errors prior to implementing this version of the software program.

HB-Line: SRNS applied a protective film over the crack in the glovebox panel (see 2/17/17 weekly report). The resident inspector attended a management review of the plans for removing the cracked panel and installing a new panel. While the dose rates will be low, contamination levels could easily exceed one million dpm alpha/100 cm². Workers wearing plastic suits will work inside a plastic hut and use ventilation controls to minimize the spread of contamination during the activity.