

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 23, 2016

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending September 23, 2016

Staff Activity: Staff member Carter Shuffler was onsite from September 19 to 22 to support site rep activities. Additionally, Mr. Shuffler performed a walkdown of the L-Area Basin and moderator storage.

HB-Line: Predictive maintenance personnel identified a potential hot spot with a thermography scan of a safety significant electrical equipment cabinet. In order to determine if the increased temperature was a real hot spot or due to loading, they requested a maintenance worker to attach a clamp to take an amperage reading as allowed by their procedure. When the worker attempted to do this, an apparently loose wire became disconnected causing the automatic transfer switch to swap from normal power feed to alternate feed. In addition, this caused multiple alarms, the room exhaust standby fan to start, and a 14-second transient where the building differential pressure was positive. All equipment responded as designed and the workers called a time out. A site representative was observing a plutonium operation when this occurred and the activity was suspended and all plutonium processing will be stopped until power is returned to normal. SRNS is reevaluating how they will troubleshoot hot spots in the future.

Tank Farms: SRR terminated the transfer from Tank 13 to 15 after two hours when they detected a drip from the transfer line (which later goes above ground) inside a Tank 13 riser. SRR is planning to re-tighten a union as well as separate the secondary hose from the primary hose to help determine if the dripping is coming from the union or the primary hose.

H-Canyon: DOE commenced their Readiness Assessment for the Target Residue Material project. The site representatives observed a tabletop spill drill and interviews.

F-Area: F-Area operations personnel performed an inspection of the segregated solvent recovery filters with holdup of fissile material identified in a potential adequacy in the safety analysis in May (see 5/6/2016 weekly report). SRNS personnel recently identified that the filters have the potential to become pressurized if the filters are sealed. The inspection revealed minor alpha contamination and that all six filters appear to be sealed at the inlet and outlets. SRNS is planning to meet next week to determine a path forward.

Last week F-Area personnel were performing a diesel generator load test that caused the supply fans to swap. The supply fan swap caused a fluctuation in the exhaust tunnel vacuum sufficient enough to trip the safety significant exhaust fan auto-start interlock. During an issue review, F-Area personnel noted that the supply fans have swapped but the exhaust fan interlock had never been actuated as a result of previous tests. F-Area personnel are working to determine the cause of the issue and develop a path forward for future load tests.