

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 2, 2018

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 Feb. 2, 2018

L-Area: L-Area personnel were tasked with removing a bundle of fuel from the dry fuel storage area (DFSA), disassembling a fuel assembly, repackaging a single fuel plate for future analysis, re-bundling the rest of the fuel, and storing the re-bundled fuel in the basin. As this is not a routine evolution, L-Area management held a facility radiological assessment team meeting to ensure proper implementation of radiological protection (RP) precautions prior to the work.

The resident inspector observed a thorough pre-job brief by the first line manager prior to the evolution. After repackaging the single fuel plate and placing it back in the DFSA, the procedure required the operations team to verify and independently verify (V and IV) that there is no material in the designated standoff zone just inside the DFSA before shutting and locking the door. These steps implement a criticality safety requirement credited to prevent a fire outside the DFSA from being able to effect any nuclear material inside the DFSA. The resident inspector observed the operations team V and IV that the standoff zone was empty, however before completing the criticality safety requirement (by closing and locking the door) a RP inspector re-entered the DFSA to perform final radiological surveys. The resident inspector questioned whether re-entering the DFSA after the standoff zone had been V and IVed empty met the intent of the requirement. The operations team decided to suspend the procedure and with management permission re-performed the verifications and shut and lock the door uninterrupted.

Tritium Facilities: A faulty communications card in an input/output cabinet resulted in the exhaust fans at H-Area New Manufacturing (HANM) shutting down and a total loss of normal ventilation for approximately four hours. The malfunction also led to a false alarm that indicated the tornado damper had closed. The lack of ventilation resulted in an increase of humidity which triggered a fire alarm. HANM personnel evacuated and the fire department responded and later determined it was a false alarm. The Tritium Extraction Facility also went to reduced ventilation mode momentarily due to an equipment failure. A loss of equipment communication due to a fault caused both Cask Decontamination fans to fault. When communication was automatically re-established, the programmable logic controller detected the fan faults and put the facility into reduced ventilation, as designed.

Tank Farms: The resident inspector observed a drill which simulated a seismic event causing a fire in the 18F control room and a spill at an F-Tank Farm diversion box. The drill started without key controllers in place. The desire to have new operators observe the drill likely resulted in negative training since they were provided little guidance and ended up standing as a large group in a simulated 60 mr/hr field for too long and accomplishing little while ignoring a nearby alarming area radiation monitor. Radiological protection department personnel were slow to respond, were observed cross-contaminating personnel they were assisting (without controller noticing), and showed poor survey techniques at times. Communications via the public address system and verbally at the incident command post were hard to understand.