

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 22, 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 April 22, 2016

Board member Sean Sullivan was at SRS to observe operations.

Savannah River National Laboratory (SRNL): As part of the SRNL Justification for Continued Operations, site services performs a weekly functional test on an electric fire water pump. Before the test is performed, the facility shift operations manager (SOM) must enter a Limiting Condition for Operation (LCO) that requires a fire patrol in the affected area, establishing an alternate water supply, and restoration of the water supply within 120 days. Concurrent with the functional test, SRNL personnel needed to isolate a portion of the fire suppression system to tie in new construction. Isolating a single system calls for entry into a different LCO that requires a fire patrol and restoration of the fire water system within 4 days. The SOM did not enter the second LCO; however, the compensatory actions for both of the LCOs were performed as required. The failure to enter the second LCO resulted in SRNL's second Technical Safety Requirement (TSR) violation in less than a week (see 4/15/16 weekly). As a result of recent issues, the Research Operations Division of SRNL has entered into deliberate operations to focus on improving conduct of operations.

K-Area: K-Area Material Storage (KAMS) stores pallets of drums containing fissile material that are stored in accordance with an approved array plan, which is painted on the floor of KAMS. As part of the 2014 expansion of KAMS, K-Area personnel cut a hole in the wall. There were 8 storage locations in the previous approved storage array where the hole would be. Those 8 locations were intended to be painted over and are not in the current approved array. The general service design change package correctly identified which 8 spaces were to be painted over. However, the painters did not paint over two of the spaces. The mistake was not noticed by the engineer completing the design change implementation form, and the two incorrect spaces are still not painted over in KAMS.

During the week of April 11, K-Area operations personnel stored fissile material in one of the storage spaces missed by the painters. Before the work was performed, the operators checked a safeguards and security database to see which spaces were available. The program indicated the 8 spaces where the hole is now were available for use because a computer modification traveler did not reflect the removal of the 8 spaces. Per the TSRs, the storage procedure directed the operators to verify that the intended storage location was listed in the approved array plan listed in a procedure appendix, which did not list these spaces. This step was signed off by the operator, but the verification was not completed. Once they realized that the space was not in the approved array plan, K-Area personnel relocated the material to an approved location without entering the appropriate LCO. Entering the LCO would have required the exact actions K-Area personnel took; however failure to enter the LCO resulted in a TSR violation.

Recommendation 2012-1: Per the Implementation Plan, SRNS conducted an evaluated emergency preparedness (EP) exercise simulating a gas cylinder delivery truck crash that results in a damaged compressed gas cylinder breaching the building structure. Unlike previous 235-F EP exercises, communications amongst fire department, radiological protection, and operations personnel was good, which avoided past problems (see 5/16/14 and 5/8/15 weekly reports). It took 44 minutes for the fire department to arrive, retrieve a seriously injured worker, and load him onto an ambulance.