DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 11, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending January 11, 2019

235-F: Cell 1 contains several old product cans (i.e., threaded pipe). Although workers opened and verified the cans were "empty", these cans contain enough residual Pu-238 that the resulting dose rates would have exceeded the Radiological Work Permit's suspension guides for contact and whole body dose rates when the cans were brought out of the cabinet. This caused work to be suspended twice this week. Ultimately, placing one of these cans inside two cans (normally used for floor sweepings) taped together reduced the contact dose rates by a factor of several hundred and avoided the need to invoke high radiation area controls.

Emergency Preparedness (EP): The resident inspector observed an EP drill involving a mechanic receiving an electrical shock and a fire in a transformer room in L-Area. The field response was more efficient and better integrated than observed previously (see 8/10/18 report). During the drill, the Emergency Duty Officer (EDO) chose not to classify the event as an Operational Emergency and the SRS Operations Center controller did not issue a contingency message per the scenario. The scenario will be reviewed because the EDO did not perceive a threat to workers and the public beyond the medical emergency. The scenario also raised questions whether K-Area or L-Area should be responsible for occurrence reporting.

The resident inspector observed a coached EP drill involving a transuranic waste drum fire and a minor injury at K-Area. The controller organization noted some shortcomings during the post-drill discussion, but failed to provide critical feedback despite some significant issues. Most notably, Technical Support Room personnel did not understand the concept of the hot/warm/cold zones and the applicability of the contamination levels radiological control personnel reported. Additionally, while extinguishing the simulated fire, the fire department personnel admitted to the controller that they did not realize that the fire involved radiological material, which was not discussed after the drill until DOE brought up the issue.

Tritium: In December, maintenance personnel identified that a general service pressure relief valve number did not match their work package. Subsequent investigation revealed that this valve was installed in the incorrect place in November 2017. At that time, the maintenance mechanic noticed the valve they were replacing did not match the work package. The mechanic failed to notify their supervisor and only discussed the discrepancy with the work planner (no longer with SRNS) who supposedly revised the work package. However, the completed work package still has the original valve number and locations, and is marked revision 0. Tritium personnel convened a fact gathering to discuss this issue, but did not discuss or were unable to answer several lines of relevant questions such as: whether a pre-job brief occurred or if it was adequate, whether the information in the work package was accurate, how the work package was completed as-written, the inadequate review of the completed work package, the inaccurately documented work history, failing to meet management expectations for calling a time-out, or the inadequate work package administration in the December 2018 evolution. Discussions between NNSA and Tritium personnel regarding this issue are ongoing.