

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 20, 2018

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending April 20, 2018

DOE-SR: Due to recent issues (see March 23, 2018 report), DOE-SR began a multi-discipline assessment of the Savannah River National Laboratory. The focus areas include work planning and control, radiological control, safety documents, and hazards analysis. The assessment scope covers both the Research Operations Division and Research and Development.

Salt Waste Processing Facility: Six complex lockout (L/O) orders were consolidated into two new ones. While the order listed the correct scopes on the front pages and the correct L/O points, two of the work order numbers were incorrectly swapped in the headers of the sign off sheets. An electrician noticed the error at the pre-job brief. The L/O writer and Work Release Coordinator did not approve the subsequent pen and ink changes in accordance with the minor change process in the L/O procedure.

Emergency Preparedness: The resident inspectors observed H-Canyon control room and Emergency Operations Center (EOC) performance during a drill simulating an H-Canyon process vessel vent explosion and exhaust tunnel degradation response. One of the main responsibilities of the Technical Support Room (TSR) in the EOC is to refine the source term using the actual release data (vice the initial default source term of the emergency action level) so that the Consequence Assessment Room can better estimate the onsite and offsite dose consequences. The engineers in the TSR were not familiar with the stack release data they would be provided by Radiological Protection personnel or how to use that data to refine the source term. Additionally, it took approximately 100 minutes before the Area Emergency Coordinator finally received the data they requested on the radiological dose rates and contamination emanating from the depression in the soil over the tunnel. This information was vital to determine if there was any ongoing unfiltered release. SRNS is evaluating what caused these issues and others in order to develop corrective actions and prevent re-occurrence.

Tritium Facilities: Although no hazardous energy was encountered, the execution of an electrical L/O work package was less than adequate. For instance, an individual from the Research and Development Engineering group (R&DE) who worked on the equipment failed to sign on the L/O as a holder, which is the signature that would prevent someone from removing the lock out before the work was complete. Additionally, the R&DE personnel involved in the work did not realize they were required to determine the lockout before starting work until informed by the shift manager (SM). They also failed to review and sign the L/O and review the electrical work pre-job brief checklist. Further, the SM did not ensure that all applicable work groups had reviewed and signed off on the L/O before releasing work. The R&DE personnel involved were qualified to perform the work, however, it had been over a decade since either of the individuals had performed work involving a documented lockout such as this. The resident inspector is concerned with the apparent gap between qualification and proficiency related to hazardous energy control these issues have revealed.