

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 29, 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 March 29, 2019

Defense Waste Processing Facility: SRR is investigating the cause of a catastrophic equipment failure that knocked a local control station panel door open and ejected an electrical relay 6-8'. The apparent short blackened the electrical equipment, but is not believed to have caused a fire. An operator working on a fire water pump in the area heard a loud noise. He was not injured.

Savannah River National Laboratory (SRNL): Multiple shortcomings resulted in Research and Development (R&D) personnel combining transuranic waste containing tributyl phosphate (TBP) and dodecane with a sorbent without permission from the General Certification Official (GCO). This is a new SRNL requirement included in the latest revision (March 2018) of the transuranic (TRU) waste procedure, but SRNL personnel were not trained on this addition. Previously, R&D personnel performed this work under a specific hazards analysis; however, it expired in January. Rather than perform the required bi-annual review of the hazards analysis which would have likely identified the need to obtain GCO approval, the principle investigator (PI) incorrectly determined that the hazards analysis was unnecessary, and the work could be done under the generic "Safe Practices – Radiological Work Practices" procedure. Additionally, the PI failed to hold a formal pre-job brief as required by the interim measure put in place as a result of a series of radiological issues in February. Further, the instructions used to perform this work were inadequate. SRNL personnel performed an apparent causal analysis and determined several corrective actions as a result of this event including adding clarification to which work is covered by the safe practices procedure. After the fact, the GCO determined that the waste was acceptable.

Saltstone: When working on the roof of a contaminated structure, workers on a man lift sometimes wear a fall protection safety harness on top of a powered air purifying respirator hood. Recently, the air hose for the hood became disconnected from the motor on a belt. An inspection of the hood did not identify any defects with the equipment and connections. One theory is that a harness strap rubbing against the air hose nut caused it to loosen. Meanwhile, the resident inspector and others have questioned whether the use of a fall protection safety harness on top of the hood could cause a loss of air if the worker fell and the flexible air hose was pinched between the harness strap and the worker's back. An investigation is underway.

Building 235-F: The safety basis requires the ventilation system alarms to be monitored by operators in the F-Area control room by using cameras and microphones in the 235-F shift operating base. Maintenance personnel installed a single point lockout/tagout (SPLT) which resulted in an unexpected loss of power to this remote monitoring station. While the engineer completing the safety system impact statement had ensured the SPLT would not cause a loss of power, the engineer and operations staff did not realize the loss of power to a locked communications room would prevent the video and audio signals from being transmitted.

H-Canyon Exhaust (HCAEX) Tunnel: SRNS personnel performed the bi-annual inspection of the HCAEX Tunnel with a robotic crawler equipped with high-resolution cameras.