

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 1, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Z. C. McCabe, Resident Inspector
SUBJECT: Savannah River Site Activity Report for Week Ending February 1, 2019

Staff Activity: Mr. D. Cleaves, Ms. L. Lin, Mr. D. Owen, and Mr. R. Quirk were on site this week to observe Tank Closure Cesium Removal (TCCR) operations, perform a familiarization walkdown of the Salt Waste Processing Facility, and provide resident inspector augmentation.

Savannah River National Laboratory (SRNL): The resident inspector attended two SRNL quarterly safety pause meetings this week. In both meetings, the personnel leading the discussion appeared knowledgeable of recent issues at SRNL and lessons learned. They were also able to describe how some of these events could be applicable to their group. Although a limited data set, this is representative of an improvement from similar meetings in the past the resident inspector attended at SRNL (see 5/4/2018 report).

While performing preventative maintenance, personnel identified two general service pressure relief valves in place of two safety significant valves which are part of the Off-Gas Exhaust System. The valves are credited to prevent over-pressurization in a safety significant glovebox. The general service valves that were installed would relieve the system at a much higher pressure (order of magnitude) than the safety significant valves. After the fact, SRNL personnel performed a structural integrity inspection of the glovebox and determined that there was no damage due to over-pressurization. Further investigation was able to determine a date range spanning multiple months of when the valves were erroneously replaced.

In an unrelated event, the Independent Evaluation Board recently identified an expired calibration on a pressure relief valve on one of the two compressed gas cylinders on a personnel contamination monitor (PCM-1B). These pressure relief valves prevent tubes from disconnecting and creating a whipping hazard. An extent of condition review revealed that an additional PCM-1B had two compressed gas cylinders without any pressure protection. A week after the IEB identified the issue, SRNL held an issue review where they realized that this may be an issue affecting different personnel contamination monitors at SRNL and other facilities and determined that it was necessary to inform others on site of this possible hazard.

HB-Line: The High Volume Air Activity Monitoring (HVAAM) Exhauster #2 in HB-Line that failed after several years of service. A fire alarm was activated in the HVAAM Exhauster Room, and upon arrival at the room operators identified smoke in the room and the motor of Exhauster #2 glowing red. The operators properly shut down the motor, and discharged part of a fire extinguisher on the motor to knock down sparks. The operators remained at the scene until the fire department arrived. In early December 2018, operators had noticed a higher than usual noise coming from this exhauster, and a subsequent vibration check resulted in the conduct of a preventive maintenance activity to lubricate the bearings on the motor. Corrective actions going forward include replacing the motor, conducting a failure analysis of the failed motor, and the consideration of other equipment monitoring technologies that might be able to provide timely indication of impending bearing failure.