

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 21, 2018

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 September 21, 2018

H-Canyon: SRNS personnel have begun evaluating alternatives to crediting the safety class H-Canyon Exhaust (HCAEX) ventilation system to mitigate a radiological release during and after a design basis earthquake. SRNS has chartered a team of subject matter experts tasked with developing an acceptable control strategy that does not (or to a lesser extent) rely on the HCAEX ventilation system during and after an earthquake. The effort is in the early stages, but SRNS is planning to draft a safety basis strategy to submit to DOE-SR in the first quarter of FY19.

DOE-SR Assessment: DOE-SR transmitted an assessment report to SRNS that includes three findings related to the H-Canyon Justification for Continued Operations transfer protocol which requires a standby operator to stop an ongoing radiological material transfer within five minutes of a seismic event to prevent a radiological release. The transfer protocol was the subject of a Board letter sent to DOE on September 7, 2018. Several of the safety issues identified in the Board letter are echoed in the DOE-SR assessment report including the lack of demonstration of the transfer protocol. The assessment report request SRNS to develop a corrective action plan within 45 calendar days of the transmittal date on September 13.

Savannah River National Laboratory (SRNL): As part of an extent of condition (EOC) review for another issue, operations personnel were confirming the positions of all status control valves for the fire suppression system in Building 773-A. Management directed the operators to perform this EOC via a procedure that is typically used after system maintenance or testing to confirm the proper alignment to ensure it can perform its safety function. As such, the procedure requires an initial operator to reposition any valves that are not in the specified position and then to independently verify the position. However, since the EOC drove this evolution, there was no intent to actually change the position of any valves, but rather to confirm their position. Operations personnel had already completed the initial confirmation of the valves when an operator was tasked with locating and independently verifying the position of a specific valve in F-Wing. The valve is part of a deluge system for two seldom used shielded cells. The ball valve handle was parallel to the line, which typically indicates the open position; however, this valve had a reversed stem and was actually closed (as required). Per the site procedure for verifying a valve is “closed”, the operator manipulated the valve by slightly rotating it (a few degrees of rotation) and returning it again. This manipulation caused the valve (actually closed) to open and the fire alarm to activate. Opening the valve also resulted in water flowing from the sprinkler head inside the shielded cells. After ~20 minutes, operations personnel were able to successfully stop the water flow, which did not result in the spread of contamination.

SRNL personnel attempted to perform the first annual maintenance on a Bulk Tritium Shipping Package (BTSP) that had been used for radiological purposes. When the SRNL personnel removed the outer lid of the BTSP the radiological protection inspector’s portable tritium air monitor alarmed. They replaced the outer lid and all personnel in the building exited. The building is now barricaded while SRNL and Tritium personnel develop a path forward.