

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 4, 2017

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Resident Inspector Report for Week Ending August 4, 2017

Safety Basis Compliance: The DOE-SR Manager sent letters to the presidents of both SRNS and SRR directing them to develop corrective action plans within 30 days that address weaknesses in the following areas:

- Less than adequate knowledge of Technical Safety Requirements (TSR) and their bases
- Rigor of TSR implementation
- Work authorization process – how they will ensure that Shift Operations Managers (SOM) will not be the first and last lines of defense in ensuring the safety envelope is not violated.

These weaknesses were the subject of a staff conduct of operations review (see 5/5/17 report).

H-Canyon Exhaust (HCAEX) Tunnel: DOE-SR approved a revision of the H-Canyon evaluation of the safety of the situation (ESS) related to the HCAEX Tunnel degradation potential inadequacy of the safety analysis (PISA) (see 6/30/17 report). In addition to the scope of the original ESS (see 7/7/17 report), this revision allows for H-Canyon to receive lab sample returns (LSR). H-Canyon personnel have determined that the addition of LSR to the facility inventory does not result in significant additional risk to the public or collocated worker. As an additional compensatory measure, the ESS does require the removal of the diesel fueled tractor after it is used to move the LSR trailer into the truckwell to limit the combustible material.

DOE-SR directed SRNS to take actions to prohibit any vehicles with more than two axles from traversing the HCAEX Tunnel (see 7/14/17 report).

Seismic Response: The resident inspector met with DOE-SR and SRNS to discuss future drills. DOE personnel stated that there will be a drill involving a failure of the HCAEX Tunnel. The resident inspector also observed an interview conducted by DOE-SR and SRNS with an H-Canyon SOM on their response to such a failure (see 7/28/17 report).

Hydrogen Generation: A SRR/SRNL evaluation concluded that the organic contribution to radiolytic hydrogen generation is conservatively bounded by the current radiolytic model for high generation waste tanks with typical tank chemistry. The current model can be exceeded within low generation tanks or those with abnormal chemistries. The evaluation also concluded that at temperatures below 85 – 90°C, a statistically significant contribution from thermolysis is not discernible for the prevailing compositions and ventilation conditions. Other mechanisms for generating hydrogen were not found to be significant at tank farms. SRR submitted their ESS to address this PISA. The ESS replaced the existing 3 compensatory measures with 17 new ones that include several activity and mode prohibitions, required evaluations, and other requirements (see 3/3/17 report).

Salt Waste Processing Facility: The resident inspector observed simulator training for new operators on the Basic Process Control System. The class included several practical exercises.