

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 2, 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 November 2, 2018

Board Member Visit: Board member, Ms. Joyce Connery, and Mr. Cleaves visited SRS this week. Facilities visited included 235-F, the tritium facilities, and H-Canyon. Topics discussed with DOE and the contractors included the H-Canyon Exhaust Tunnel, conduct of operations improvement items, the Surplus Plutonium Disposition project, and emergency response.

Building 235-F: After a series of glovebox glove failures (see last two weeks reports), SRNS contacted the glove manufacturer. When the vendor reviewed their records, they identified that one of the suspected lots did not meet the requirement for tensile strength, but was shipped to SRS anyway. SRNS issued a nonconformance report for two lots of gloves (a total of 56 gloves) that were received as part of the same purchase order because defective gloves had been identified from both lots. All of the gloves are to be tagged until they can be replaced. Twenty-eight of the gloves were found at the Savannah River National Laboratory. SRNS began sweeping the floor of the Cell 1 wing cabinet and bagged out a can with a small amount of sweepings.

Salt Waste Processing Facility: The resident inspector and Mr. Davis observed portions of the 2-hour overblow tests with the air pulse agitators (APA) at different heights. These tests are examining how much waste could be aerosolized during an overblow of an APA. Parsons completed replacing all 448 valve controllers and testing them to ensure they were operating correctly. Earlier this year, Parsons identified that one type of valve controller was not consistently operating correctly. Parsons is also preparing to start the Integrated Water Run next week.

H-Canyon: Enterprise Assessment personnel recently identified that the H-Canyon Exhaust Ventilation System did not meet the required single failure criteria for safety class components. The ventilation system includes two safety class diesel generator trains that each support two safety class exhaust fan, which are credited to function during and after a design basis earthquake (DBE). The H-Canyon safety basis only requires entering a limiting condition for operation if less than two exhaust fans are operable as two or more fans can provide the necessary airflow to H-Canyon. Inconsistent with DOE requirements, the safety basis assumes that both diesel generators will be operable after a DBE, rather than assuming that one of the diesel trains fails. Failure of one diesel train (concurrent with a loss of offsite power) during a DBE could result in having less than two exhaust fans operating and thus an inadequate amount of air flow to provide the safety class safety function. As a result, SRNS initially declared a Potential Inadequacy in the Safety Analysis (PISA) and later a positive Unreviewed Safety Question (USQ). SRNS has determined that the controls already in place for the existing Justification for Continued Operations (JCO) (see September 7, 2018 Board letter), which does not rely on the ventilation system, will provide the necessary compensatory measures to ensure safe operations of H-Canyon. SRNS will draft an Evaluation of the Safety of the Situation and revise the JCO to include a description of this issue.