DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 7, 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 7, 2018

H-Canyon: Engineers are recommending that the solution in the dissolver, which had aluminum nitrate solution added to it, be allowed to evaporate until the liquid level drops below the submergence limit that protects the H_2 generation rate (see 8/31/2018 report). This would allow the second charge and much of the planned third charge to be dissolved using existing procedures. Additionally, this week an H-Canyon operator inadvertently performed the incorrect section of a procedure that resulted in an incorrect valve lineup and another inadvertent transfer of non-radiological solution. Among other factors, SRNS identified that lack of explicit three-way communications (i.e., what valving had been completed) led to this error.

In response to three inadvertent transfers (see 3/23 and 8/31/18 reports), SRNS is requiring formal pre-job briefings for all lockouts and transfers. Furthermore, the first line manager will verify that operators have the correct procedure and check the sections to be performed. The valves/nozzle associated with the Dissolver Drowning Tank will be administratively controlled in the desired position all the time. SRNS is also requiring peer checks of valve lineups and senior supervisory watches of person-in-charge evolutions as temporary compensatory actions.

Salt Waste Processing Facility: Twice while troubleshooting a flow switch, workers lost control of a hose connected to fire water (system at ~150 psi). The first time the unrestrained hose whipped out of manhole and sprayed uncontrollably until a valve was shut seconds later. The second time, two workers holding the end of the hose lost control of the hose. One of the workers was knocked to the ground and had his elbow abraded.

Savannah River National Laboratory: During a diesel generator annual load test, an output breaker failed to close causing a loss of power to several ventilation systems. As part of the response, operations entered four limiting conditions for operation (LCO) and used the loss of normal power abnormal operating procedure, although it was not directly applicable. In the future, the test procedure will have the facility implement the required actions from the LCOs above prior to commencing the test although the actual LCOs will not be entered unless needed.

Solid Waste Management Facility (SWMF): SMWF personnel failed to follow procedure direction (a sign-off step) and a sign that limited the number of fork trucks in an area of a transuranic waste pad (TRUPad) to a single fork truck, which protects an input assumption in the fire hazard analysis. The evolution in question involved the transportation of ten TRU containers with significant radiological dose rates from one TRUPad to another. The DOE-SR facility representative observed the sign and three fork trucks on the TRUPad and alerted SWMF. However, at that point the evolution was complete. SWMF personnel called a time out and removed the fork trucks from the TRUPad. Several conduct of operations shortcomings contributed to this issue. For instance, the limit was not discussed during the prejob brief, nor did the personnel actually transporting the drums read or discussed the step that explicitly stated the limit. SWMF personnel are pursuing several corrective actions to prevent reoccurrence.