

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 26, 2017

TO: S. A. Stokes, Technical Director
FROM: C. A. Shuffler
SUBJECT: Savannah River Site Resident Inspector Report for Week Ending May 26, 2017

Defense Waste Processing Facility: Savannah River Remediation (SRR) declared a technical safety requirement (TSR) violation after failing to implement a specific administrative control (SAC) under the Transfer Control Program. The SAC requires that prior to transferring radioactive waste between buildings or facilities, operators identify and discontinue excavation work with the potential to breach the transfer line. Due to imprecise communications, a control room operator mistakenly believed that a walk down for in-progress excavations had been performed prior to transferring the contents of the Recycle Collection Tank to the Low Point Pump Pit Recycle Waste Tank. The implementing step in the transfer procedure allowed the operator to record the name of the person who performed the walk down, rather than requiring the person to sign the step off as complete. In addition, workers present in an excavation over the transfer line were not notified of the transfer. SRR determined that sufficient soil coverage remained to prevent any radiological consequences to the workers.

In response to the TSR violation, SRR placed all DWPF radiological waste transfer procedures on administrative hold. SRR will revise the procedures to strengthen pre-transfer requirements, notably to require that operators performing walk downs in accordance with the SAC must print their own name in the procedure and sign the step off as complete.

H-Canyon: Savannah River Nuclear Solutions (SRNS) declared a potential inadequacy of the safety analysis (PISA) after discovering that the completion time for TSR-required actions in response to inadequate purge airflow to the dissolver was potentially non-conservative. SRNS later determined that the PISA constituted a positive Unreviewed Safety Question. To prevent flammable gas explosions in the dissolver, the TSR requires that an alternate purge be established upon loss of adequate normal purge airflow. The time allowed for completing the action assumes that the vessel headspace is at 25 percent of the composite lower flammability limit when normal purge airflow is lost. SRNS recognized that the dissolver vessel headspace may approach 60 percent of the composite lower flammability limit during fuel dissolution activities, reducing the time to achieve a flammable atmosphere if normal purge is lost. In response to the PISA, SRNS shut down dissolution activities. SRNS is developing an Evaluation of the Safety of the Situation with compensatory measures to permit the completion of the current fuel dissolution campaign.

F/H Laboratory: SRNS prepared to replace several components in the transfer path between the high-activity drain tank and the sample returns trailer after a recent leak (see Resident Inspector Report for Week Ending May 19, 2017). The components include a vacuum breaker, isolation valve, and flexible hose with zenith connector. X-ray inspection of the components revealed limited liquid hold-up in the hose. A glovebag will be secured around the components prior to replacement. Decontamination efforts reduced the levels of contamination on the outdoor pad where the leak occurred. A decision regarding the final resolution of the contaminated concrete (e.g., scabble, coat, or cover) has not been made.