

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 22, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: L. Lin and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending October 22, 2021

Mixed Waste: A 55-gallon drum containing hazardous mixed waste was sent from F-Area Tank Farms (FTF) to Solid Waste Management Facility (SWMF), an infrequent occurrence. During receipt of the waste, the operator noticed that the hazardous material code on the drum did not match the number on the waste manifest and receipt was paused. During the issue investigation, personnel discussed that the form did not have the exact waste package number as an option and the waste operator chose the closest match. They also noted that there were differences between the FTF and the SWMF checklists. Personnel determined that the packaging for this waste type was appropriate. Personnel will update the container approval request and resume the procedure for receipt. Corrective actions discussed included evaluating the checklists across all the waste generators and developing a lessons learned.

Savannah River National Laboratory (SRNL): H-Canyon sends samples to SRNL to determine if they need to flush transfer lines to ensure they don't exceed the Tank Farms waste acceptance criteria. Recently, H-Canyon engineering was trending the sample data and noticed that the sample results for total alpha concentration was lower than the plutonium concentration, which is the main alpha contributor. It was discovered that the count room chemists had been inputting the count per minute (cpm) instead of the disintegrations per minute (dpm) in the total alpha spreadsheet; therefore, they had been under-reporting the results by approximately a third. Though a peer check is done for these spreadsheets, the error was not caught during that check. H-Canyon had been getting the reports from SRNL since February 2021. Personnel do not believe they exceeded the H-Canyon flush criteria or timeframe for flushing as a result of this error. Tank Farms will evaluate any impacts to their facility based on the data. During the issue investigation, personnel noted that similar spreadsheets that are used more frequently ask for cpm or counts and time, not dpm. They are doing an extent of condition on other spreadsheets and discussed changing them to be consistent. Personnel also discussed implementing a standard process for peer checking.

SRNL convened a Facility Operational Safety Committee (FOSC) meeting this week to discuss the revision to the (yet to be implemented) Technical Safety Requirements (TSR). This revision incorporates several new limiting conditions for operation (LCO) format specific administrative controls and defines several new process areas within SRNL. The new controls protect the TNT equivalent limits for flammable gas in the new process areas. The driver for these changes stems from a structural calculation nearing approval that determined the safety class safes had vulnerabilities. The FOSC voted to approve the document pending final signature on several supporting documents and plan to submit the document within the next two weeks to DOE-SR for their review and approval. Implementation is planned for later this fiscal year.

H-Canyon: H-Canyon personnel found $1.4E+06$ dpm/100 cm² beta-gamma contamination in a clean area in the facility. The liquid leaked from a canyon cell through an expansion joint. A fact finding is scheduled for next week.