DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 5, 2021

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: J.W. Plaue and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending February 5, 2021

Transuranic Waste Management: On Wednesday, Triad management transmitted to the NNSA Field Office for approval three evaluations of the safety of the situation (ESS) concerning DNFSB/TECH-46 (see 12/25/2020 report). The ESSs note that anion exchange resins that have not been rendered nonreactive could result in a potential energetic chemical reaction that overpressurizes a waste container. The ESSs analyze the potential radiological consequences from this event using an effective respirable release fraction of 0.07 that results in unmitigated doses that challenge or exceed DOE's criteria for credited controls to protect the public and workers. The ESS for the Plutonium Facility notes that waste containers stored outside have no viable controls to mitigate a release. Accordingly, each ESS proposes a credited control to ensure that spent resin in excess of 150 mL in a single waste container is rendered nonreactive. The ESSs also note an ongoing extent of condition review to identify other potentially incompatible chemicals in waste; however, a schedule to complete that effort was not provided.

Federal Oversight: On Monday, DOE Office of Enterprise Assessments personnel out-briefed Triad and the NNSA Field Office on the results of their remote assessment of the Nuclear Criticality Safety Program. Overall, they concluded that the program has improved since the 2013 Director's pause and that the field office has been providing comprehensive oversight. The final report is expected to be completed by May 2021. The team is planning a second assessment focused on control implementation and conduct of operations once an in-person review is feasible.

Plutonium Facility–Material-at-Risk: On Tuesday, operations personnel suspended heat-source plutonium activities after discovering an error in the calculated elemental weight of plutonium during aqueous processing. Operations personnel performed initial calculations that suggest that no material-at-risk limits were exceeded; however, heat-source activities will remain suspended until a formal validation of the material-at-risk is completed.

Area G–Safety Basis: On Monday, the DOE Office of Environmental Management rejected the latest iteration of N3B's approach to upgrade the safety basis for Area G (see 9/18/2020 report). The rejection letter noted that the safety basis strategy submitted at the end of October 2020 did not provide adequate information to balance upgrading the safety basis while managing issues with the existing safety basis that supports current operations.

Weapons Engineering Tritium Facility: On Thursday, facility operations personnel discovered that a tritium room monitor had failed overnight due to loss of flow. They took the required safety basis actions and were later able to restore operability to the unit. These monitors are old and the facility has experienced several of these failures in the past few years. Consequently, facility personnel are already in the process of replacing the units and expect to complete the effort in the next month. On Monday, the NNSA Field Office approved Triad's ESS concerning the oxygen monitoring system (see 1/8/2021 report).