DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 30, 2020

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: J.W. Plaue and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending October 30, 2020

DNFSB Staff Activity: The staff completed a fourth week of interactions with Triad and NNSA personnel for its remote review of credited safety systems. This week they discussed high efficiency particulate air filters for the Plutonium Facility. They also held discussions with Triad management and NNSA Field Office personnel to discuss institutional expectations and oversight for safety systems.

Radiological Laboratory Utility Office Building (RLUOB): Last Friday, the NNSA Field Office approved a revised safety basis for the upgrade of RLUOB to a hazard category 3 nuclear facility to be known as PF-400. There are two conditions of approval. The first directs Triad to develop a quality assurance plan specific to PF-400 to ensure that defense-in-depth controls identified in the safety basis and other controls designated by NNSA comply with the requirements in subpart A of 10 CFR 830, *Nuclear Safety Management*. The second condition of approval directs Triad to resolve the remaining four field office review comments by the first annual update of the safety basis.

Chemistry and Metallurgy Research (CMR) Building: Last Friday, Triad transmitted to the NNSA Field Office a revised evaluation of the safety of the situation (ESS) for the anomalous hydrogen gas generation in containers (see 6/26/2020 report). NNSA approved the first revision of the ESS in August with a condition of approval that required Triad to evaluate the physical hazard to a worker from an explosion. Triad's revised ESS concluded that a previous compensatory measure to sample and vent these containers needs to be elevated to a Specific Administrative Control in order to reduce the likelihood of a hydrogen explosion causing a serious physical injury to a worker.

DNFSB/TECH-46 Update: On September 24, 2020, the Board issued Technical Report 46, *Potential Energetic Chemical Reaction Events Involving Transuranic Waste at LANL*. DNFSB/TECH-46 uses NNSA and EM operations at LANL as a case study regarding safety bases for transuranic waste operations subsequent to the radiological release events in 2014 at the Waste Isolation Pilot Plant and in 2018 at the Idaho National Laboratory. The technical report highlights: (1) the lack of hazards analyses informed by chemical compatibility evaluations, (2) accident analyses that inappropriately assume initial conditions and do not defensibly estimate the amount of radioactive material released by an energetic chemical reaction, and (3) the need to incorporate multiple layers of protection beyond the waste container to reduce consequences of an accident. Since issuance, N3B has formally entered a process to examine its safety basis for inadequacies, overpacked and relocated potentially vulnerable containers, and commenced a broader extent of condition review. N3B has also reached out to the Board's staff to better understand the report. Triad is studying the implications of the report for its operations. NNSA and EM are striving to develop an integrated response.

Contract Management: Earlier this month, both field offices approved their respective performance evaluation and measurement plans for fiscal year 2021. For EM and N3B, incentives of interest to the Board include remediating or repackaging 262 m^3 of transuranic waste and developing a new safety basis for Area G that complies with DOE Standard 3009-2014. For NNSA and Triad, key outcomes include executing various construction projects supporting infrastructure within established baselines and effective implementation of the NNSA-approved enduring waste management plan to safely de-inventory transuranic waste from the laboratory.