

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 16, 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 16, 2020

DNFSB Staff Activity: The staff continued remote interactions with Triad and NNSA personnel for a review of safety systems. This week, they discussed the Electrical Distribution System and Seismic Power Cutoff System at the Transuranic Waste Facility (TWF) and the Criticality Alarm System at the Plutonium Facility.

Federal Oversight: Last Thursday, a team from NNSA's Chief of Defense Nuclear Safety briefed the results of its biennial review of nuclear safety oversight by the field office (see 3/17/2017 report). The team evaluated 13 functional areas and concluded that 12 met expectations and four showed improvement since the 2017 review (see 3/17/2017 report). The functional area that did not meet expectations was oversight. There were six findings and two weaknesses associated with oversight. The findings indicate that the field office needs improvement in performing, documenting, and conducting management review of its oversight.

Transuranic Waste Management: On Monday, TWF operators took a safety basis required action to immediately remove two waste containers from the facility after conservatively concluding their contents had a potential for a chemical incompatibility. They based their decision on information received last Thursday from the Central Characterization Program (CCP) regarding a forthcoming non-conformance report on a failure of one of the containers at TWF to meet the Basis of Knowledge requirements for oxidizing chemicals in transuranic waste. The TWF safety basis prohibits such waste. After researching the situation, Triad personnel identified two other containers (one at TWF and the other at the Plutonium Facility) that were generated from the same parent item of legacy residues that had been stored in the Plutonium Facility vault for more than a decade. Triad personnel successfully shipped the two containers from TWF back to the Plutonium Facility within about 2.5 hours of determining the need to take action. All three containers currently reside on one of the outdoor storage pads, since the safety basis for that location does not prohibit incompatible chemicals in waste containers. Triad's subsequent research suggests that the contents are not chemically incompatible and they plan to submit associated evidence to CCP. Several aspects of this situation are addressed in DNFSB/Tech-46, *Potential Energetic Chemical Reaction Events Involving Transuranic Waste at Los Alamos National Laboratory*.

Area G–Safety Basis: Last Tuesday, N3B submitted to the EM Field Office a revised evaluation of the safety of the situation (ESS) concerning the temporarily blockage of waste container vents with a spatula-like tool during flammable gas sampling (see 1/31/2020 report). N3B sent the original ESS to the EM Field Office in March, which was rejected in September (see 9/11/2020 report). The revised ESS leaves flammable gas sampling operations paused pending the development of a justification for continued operations, planned for December 10, 2020, that will develop any controls needed to resume gas sampling. The NNSA Field Office approved Triad's ESS for the equivalent issue in March (see 3/20/2020 report).

Plutonium Facility–Safety Basis: Earlier this month, the NNSA Field Office sent a letter to Triad requesting revision of the ESS associated with the trailer loaded with combustibles parked in proximity to transuranic waste containers (see 5/29/2020 report). The field office acknowledged that the relocation of the trailer addressed the immediate hazard it posed, but noted that the ESS did not provide analysis supporting that an ordinary combustible fire is bounded by a fuel pool fire. They further noted that questions could not be answered associated with the need to elevate the safety significance of combustible limits or the need for other controls and requested the analysis within 60 days.