

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 16, 2019

**MEMORANDUM FOR:** Christopher J. Roscetti, Technical Director  
**FROM:** J.W. Plaue and D. Gutowski, Resident Inspectors  
**SUBJECT:** Los Alamos Activity Report for Week Ending August 16, 2019

**Infrastructure:** NNSA's Office of Safety, Infrastructure, and Operations held a Master Asset Plan Deep Dive. The deep dive covered out-year planning for infrastructure needs across the laboratory.

**Transuranic Waste Management–Safety Basis:** Last Thursday, Triad transmitted to the NNSA Field Office their evaluation of the safety of the situation (ESS) on the nitric acid and polyol interaction issue (see 7/12/2019 report). This type of chemical reaction interaction between organic and oxidizer is one of the types of energetic chemical reactions that the safety basis for the Waste Isolation Pilot Plant (WIPP) precludes through the implementation of the Basis of Knowledge (see 8/9/2019 report). The ESS concludes that no controls other than the existing safety management program are needed. It notes that the facility will continue to use visual inspections and the current waste management processes to prevent the combination of cheesecloth (a polyol) and greater than 12 M nitric acid. The ESS further notes that an energetic chemical reaction can be conservatively modeled as a single waste container over-pressurization and shows that the unmitigated consequences do not challenge thresholds for requiring additional controls. Notably, at the Board's June 20, 2019, public hearing on solid nuclear wastes, DOE Headquarters personnel stated that the Department learned from the February 2014 radiological release at WIPP that it might be appropriate to use an effective respirable release fraction for energetic chemical reactions that is about a hundred times higher than the value used by Triad; however, DOE has not promulgated direction on the applicability and use of this release fraction beyond the WIPP contractor (see 11/20/2015 report). Use of a release fraction a factor of ten higher for this scenario would exceed the threshold for crediting safety controls.

**Area G:** Last week, Triad informed N3B about the presence in Area G of waste containers with contents similar to the container they discovered in the Plutonium Facility basement with a corroding vent (5/24/2019 and 8/2/2018 reports). These containers also have many glovebox gloves made from a chlorinated polymer that were previously used for plutonium-238 applications. N3B personnel checked the two containers and found that one appeared visually acceptable and the other had been overpacked in March 2019 after corrosion was detected during routine inspections.

**Flanged Tritium Waste Containers (FTWC):** The integrated project team continues to develop the procedures, personnel, and equipment necessary to vent the FTWCs with the potential for flammable headspaces that are stored at Area G (see 7/12/2019 report). In a letter dated June 28, 2019, Triad projected commencing the venting operation in October 2019 with completion of the remediation activities by January 2020. The latest schedule anticipates these activities in January 2020 and May 2020, respectively.

Two other FTWCs stored in the Weapons Engineering Tritium Facility with the potentially flammable headspace remain in an unvented state due to a shift in priority to repackage the contents of other FTWCs containing contaminated parts for offsite disposal. However, recent developments at the Nevada National Security Site have introduced uncertainty to the planned disposal option.