

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 26, 2021

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: D. Gutowski, Resident Inspector
SUBJECT: Los Alamos Activity Report for Week Ending November 26, 2021

Plutonium Facility–Safety Basis: Triad is developing a safety basis addendum to support a future campaign for receipt and processing of additional heat source plutonium materials in the Plutonium Facility. The nature of this activity will result in mitigated public dose consequences from a post-seismic fire event that are expected to exceed the 25 rem TED evaluation guideline from DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*. NNSA Headquarters and Field Office personnel are preparing to use the process described in DOE-STD-1104-2016, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents*, for review, approval, and risk acceptance of this activity. The NNSA Field Office Manager will make the recommendation for approval of the addendum to the cognizant NNSA Program Secretarial Officer who will serve as the safety basis approval authority, with concurrence from the NNSA Central Technical Authority.

Area G: Last week and on Monday, N3B personnel executed the movement of several problematic containers associated with the recently approved and implemented justifications for continued operations (see 10/15/2021 report). In total, N3B personnel moved 24 containers from Domes 48, 49, and 375 to Dome 33. Of note, 21 containers contain waste with the potential for energetic chemical reactions and are associated with DNFSB TECH-46, *Potential Energetic Chemical Reaction Events Involving Transuranic Waste at Los Alamos National Laboratory*. Three of these containers also have contents with high fissile gram equivalents. The other three containers moved were pipe overpack containers with material-at-risk greater than 80 plutonium-239 equivalent curies. Facility personnel briefed the work crew last Thursday afternoon to explain why the drums were being moved, review the applicable controls from the justifications for continued operations, and review criticality safety requirements. The work commenced on Friday, continued through Saturday, and completed on Monday. The activity proceeded smoothly according to the planned sequence of moves with one exception due to an error in the waste tracking software.

Waste Characterization, Reduction, and Repackaging Facility (WCRRF): On Tuesday, Triad submitted to the NNSA Field Office for concurrence a safety basis strategy for developing a new documented safety analysis to operate WCRRF as a hazard category 3 nuclear facility. WCRRF is currently a hazard category 2 nuclear facility and has been in cold standby for approximately three years. The new mission for WCRRF will be to size-reduce large metal objects (e.g., gloveboxes removed from the Plutonium Facility) and repackage them as either transuranic or low-level waste. The safety basis strategy notes that material-at-risk in the facility will be limited such that unmitigated dose consequences due to a building collapse and fire will not exceed the thresholds for identifying safety class or safety significant controls. While the facility will not have any credited safety controls, the safety basis strategy identifies existing hazard controls (e.g., fire suppression system, ventilation system, lightning protection system) and notes that Triad is evaluating options for performing size reduction activities in a radiological protection enclosure (e.g., the existing glovebox enclosure, a Perma-Con, or containment tent). Triad plans to submit a draft safety basis in August 2022.