

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 12, 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 July 12, 2019

**Transuranic Waste Management–Conduct of Operations:** Last Tuesday, Plutonium Facility workers were unable to locate a waste drum. After further investigation, they determined that the nuclear material control and accountability system had not been updated when 39 waste drums were moved the previous week. Waste operations personnel commenced a full inventory of drums in relevant locations and found a new concern—tamper indicating devices (TID) were not installed correctly on some drums. After a multi-facility review, they found 35 drums at the Plutonium Facility and seven at the Transuranic Waste Facility (TWF) with incorrectly installed TIDs. Most of the drums with incorrect TIDs originated from 2018 Confinement Vessel Disposition project activities at the Chemistry and Metallurgy Research Building. Workers replaced all of the incorrectly installed TIDs without opening drums and re-inspecting the contents after consulting with the Central Characterization Project. To prevent recurrence, Triad personnel are evaluating the procedure for moving waste drums, as well as the training that took place two years ago when the process for installing TIDs changed.

**Transuranic Waste Management–Safety Basis:** Triad personnel determined that the potential inadequacy of the safety analysis related to nitric acid interactions with cheesecloth (e.g., polyols) constitutes a positive unreviewed safety question for the Plutonium Facility (see 6/28/2019 report). The current safety basis only evaluates drum deflagrations which behave differently than the rapid over-pressurization event that could be caused by incompatible materials. Facility personnel noted that while high concentration nitric acid and polyols exist in the facility, there are no drums in the current waste inventory that contain polyols that have been contacted with such nitric acid.

**Area G:** While reviewing existing criticality safety evaluations for storage of high fissile gram equivalent (FGE) waste containers, N3B personnel noted that there is an insufficient technical basis for the existing criticality control set for these containers. Criticality safety personnel have determined that the eight high FGE containers currently present are safe. Management has isolated the area and prohibited receipt of container with greater than 300 FGE.

On Monday, a team commenced the contractor readiness assessment for resumption of drum liner pulls and solid waste box de-nesting operations in Building 412 (see 5/17/2019 report).

**Flanged Tritium Waste Containers (FTWC):** Triad is continuing to develop safety basis documentation for venting, transportation, and receipt of the FTWCs currently stored at Area G (see 6/21/2019 report). They are evaluating means to prevent the release of tritium even if the consequences would not trip the threshold for credited safety controls. Remediating the four FTWCs at Area G and the two unvented FTWCs of concern at the Weapons Engineering Tritium Facility (WETF) is challenged by the lack of useable space at WETF. Tritium-containing waste may need to be shipped offsite prior to continued venting of the FTWCs at WETF and receipt of vented FTWCs from Area G.