

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 8, 2021

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: D. Gutowski, Resident Inspector
SUBJECT: Los Alamos Activity Report for Week Ending October 8, 2021

Plutonium Facility–Criticality Safety: Over the past month, facility personnel have discovered and reported several instances where extraneous materials such as construction or radiological control supplies were stored on or around nuclear material safes in the basement. Controls listed on the criticality safety postings vary by safe, but many include a requirement to keep an area of six inches around the safe clear. Following one such discovery in September, personnel added operator aids to the safes to provide additional clarity to facility residents that materials are not allowed close to certain safes. So far, all these instances where the spacing control was violated have not included enough reflective materials to approach the analyzed condition for neutron reflection around the safes. On Wednesday, the resident inspector and an NNSA facility representative observed portions of a Triad walkdown of basement safe conditions. At the time, one safe had a welding curtain propped against it, and several had miscellaneous items sitting on their tops. Facility personnel are working on methods to prevent these occurrences. This is a challenge given the rapid increase of staffing in the facility especially of construction and craft forces who are not trained on criticality safety postings to the same level as fissile material handlers. In the near term, facility management plans to mark areas where no material is allowed with painted no storage zones on the floor and rope them off. Longer term, they are evaluating engineered controls such as a physical cage around safes to help ensure compliance with the spacing requirement. Additional training and lessons learned, especially for personnel who are not fissile material handlers is also planned.

Plutonium Facility–Safety Basis: Last Friday, Triad submitted to the NNSA Field Office for approval a revision to the safety basis for the Plutonium Facility. This revision includes a reanalysis of the seismic accident, reapportionment of material at risk, and a downgrade of the seismic power shutoff system from safety-class to other hazard control (see Board Letter 6/9/2021). The seismic accident change includes the removal of three specific post-seismic fire initiation locations with molten plutonium. As all gloveboxes containing molten plutonium have been seismically upgraded, they are no longer considered a credible fire initiation source. A randomly initiated post-seismic fire location remains in the analysis. With this reduction in post-seismic fire consequences, the locations of material at risk have been reapportioned to support the facility mission. The seismic power shutoff system, an active system, now has its credited safety function being performed by the passive system of seismically credited glovebox stands that reduce the likelihood of heat producing equipment from spilling even if powered.

Flanged Tritium Waste Containers (FTWCs): N3B recently submitted the annual update to the Area G safety basis that covers FTWC venting activities (see 9/24/2021 report). Approval and implementation of this safety basis is expected before the end of the year and is a key prerequisite for Triad personnel to perform the venting activities. This week, Triad personnel resumed practice for the venting activity at the mockup area in Technical Area 49. They have also procured a new portable generator with a smaller fuel capacity in order to ensure compliance with the liquid fuel limits at Area G. Another activity that must be completed prior to commencing the actual venting activity is a demonstration for the federal readiness assessment team given the gap between assessment and performance (see 11/13/2020 report).