

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 11, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: A. Boussouf and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for the Week Ending August 11, 2023

Environmental Management–Safety Basis: N3B held another workshop to support development of a modern DOE-STD-3009-2014 compliant safety basis for Area G (see 03/24/2023 report). The workshop also included discussions for developing a Technical Area 21 safety basis to support sampling prior to decontamination and decommissioning. Several staff members from DOE Environmental Management Chief of Nuclear Safety’s office were onsite to attend the workshop. Meeting participants discussed proposed safety controls for the new Area G safety basis. A resident inspector accompanied workshop attendees on an Area G tour. One purpose of the tour was to observe the implementation of controls in Dome 33. Another was to observe flanged tritium waste container standoff distances which have now extended into the footprint of Dome 49 because of expected pressure increases over time due to tritium decay.

Transuranic Waste Facility (TWF): While restoring the system following performance of a surveillance on a channel of the safety-class seismic power cutoff switch, a fastening device sheared. Facility personnel determined this made the system inoperable and entered the appropriate limiting condition for operations. This requires all waste storage buildings at TWF be placed in warm standby, meaning transuranic waste drums may be stored but no other operations such as movements or gas sampling may be performed. Engineering personnel are evaluating how to restore the system to operability.

Plutonium Facility–Criticality Safety: Last week, workers moved a plutonium item into a dropbox with another item in it such that their combined masses exceeded criticality safety limits. The items were in water resistant containers with engineered spacers. When the workers recognized their error, they paused and made the appropriate notifications. The overmass was within the safe upset conditions analyzed in the criticality safety evaluation. Triad management is planning a causal analysis on this event and a comprehensive casual analysis reviewing overmass events in the past year to determine if common elements exist. Separately, efforts already in progress to improve the material move procedure to reduce the potential for human error are nearing completion.

Last week, workers disconnected a dropbox from adjacent gloveboxes to prepare for removal from the facility. However, this action rendered the seismic qualifications of the remaining gloveboxes indeterminate. One of those boxes had a criticality safety requirement to be seismically qualified. When personnel recognized this issue later in the week, they paused and made appropriate notifications. The non-compliant box has been placed out of service. It is also slated for removal, but still contains nuclear material. Corrective actions include evaluating the current seismic qualification of the non-compliant glovebox, evaluating integration process to assure glovebox removals recognize all requirements, and performing an extent of condition review of gloveboxes connected to those planned for removal to determine whether they could have a similar seismic non-compliance issue.

Plutonium Facility–Infrastructure: On Tuesday, the NNSA Project and Field Offices unconditionally approved the preliminary safety design report for the Los Alamos Plutonium Pit Production Project 30 reliable mission. Their approval included safety basis review comments that they requested be included in the future submittal of the final preliminary documented safety analysis at the final design stage.