DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 19, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: D. Gutowski, Resident Inspector
SUBJECT: Los Alamos Activity Report for the Week Ending April 19, 2024

Plutonium Facility–Safety Basis: Last Thursday, Triad personnel submitted to the NNSA Field Office the new documented safety analysis for the Plutonium Facility. This safety basis submittal includes only portions of the documented safety analysis and not the technical safety requirements and is intended to allow field office personnel to identify major deficiencies that could impact technical safety requirement development. Following that initial review, Triad personnel plan to submit a complete safety basis for the field office's review and approval. This safety basis has been in progress for many years (see 2/23/2018 report) and was developed using the modern DOE standards DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis* and DOE-STD-5506-2021, *Preparation of Safety Basis Documents for Transuranic Waste Facilities*. Other new items in the safety basis include: an updated dispersion analysis, calculation of new leak path factors, and updated material at risk values based on current and expected mission needs.

Plutonium Facility–Radiological Control: Last Thursday, there was a contamination event involving workers performing decontamination and decommissioning activities. The crew was performing a high hazard removal of a spool piece between gloveboxes within a tent enclosure. Upon exiting the tent, contamination was identified on the personal protective equipment of one of the workers performing the hands-on removal. During recovery in the decontamination room, responding radiological control technicians found skin contamination on the worker's wrist, and were able to successfully decontaminate the area. Following the exit of the worker with skin contamination, two radiological control technicians exiting the tent discovered personal protective equipment contamination without any skin contamination.

Plutonium Facility–Criticality Safety: Last Wednesday, personnel in a laboratory room identified an overmass condition after checking mass limits following a material move. This room has criticality mass limits that apply to the entire room so responding criticality safety personnel determined the condition fell within the credible off-normal condition and was safe and stable as the objects were many feet apart. Management promptly performed retraining to ensure that workers check mass limits for criticality safety compliance prior to making materials moves to help avoid recurrence.

Waste Characterization, Reduction, and Repackaging Facility (WCRRF): An independent team commenced an implementation verification review at WCRRF. The team is looking at safety basis implementation of both the new hazard category three safety basis and the temporary modification that allows readiness activities to take place in cold standby mode under the current hazard category 2 safety basis. The team completed its field work this week.

Chemistry and Metallurgy Research Building (CMR): On Thursday, Triad personnel sent the NNSA Field Office a retraction of an earlier major modification request to support storage and downsizing of mixed oxide (MOX) fuel rods at CMR (see 12/15/2023 report). The retraction notes that the mission is not compatible with CMR's expected operational lifetime.