

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 29, 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 September 29, 2023

Staff Activity: Staff from the Nuclear Regulatory Commission's Office of the Inspector General were on site Tuesday for site familiarization and oversight of the resident inspectors.

Plutonium Facility–Criticality Safety: Two months ago, workers removed containers from the vault for repackaging. Upon opening these containers in a glovebox last month, they discovered that the nuclear material items were surrounded by thick polymer shielding that was unanalyzed in the criticality safety evaluation for the glovebox. To recover from this criticality safety infraction, they closed the containers and sent them back to their original vault locations under the assumption that they their original storage conditions were compliant with criticality safety requirements. Two weeks ago, personnel identified that the thick shielding is unanalyzed in the criticality safety evaluations for the vault locations as well. The vault locations containing these items and adjacent locations are currently restricted. An extent of condition review has identified that there are likely more of these shielded containers in the vault and personnel are evaluating appropriate operational restrictions. Meanwhile, criticality safety personnel are working calculations to verify safe configurations when thick shielding is present and evaluating the process for recovering from criticality safety infractions to ensure that recovery from one event does not lead to another. Personnel are also working with the Offsite Source Recovery Program to see if these high-dose items that need shielding can be disposed of through that program with minimal processing and worker exposure.

Legacy Facilities: Last Friday, N3B submitted a new documented safety analysis (DSA) supporting activities at Technical Area 21 to the Environmental Management Field Office for approval. The DSA is intended to replace the justification for continued operations that has been in place for several years since sampling data suggested Building 21-257 and the buried Industrial Waste Lines may exceed inventory thresholds and be nuclear facilities. Work allowed under this DSA is limited to surveillance and maintenance, removal of debris, and limited sampling and characterization. The proposed controls include two specific administrative controls: an inventory control program to protect material at risk assumptions, and a limit on the length of industrial waste line that can be exposed.

Radioactive Liquid Waste Treatment Facility (RLWTF)–Emergency Management: On Tuesday, there was an emergency preparedness drill at the RLWTF. The scenario was a forklift backing into a chemical storage building causing a partial building collapse and a fuming nitric acid spill and plume. RLW personnel performed a controlled exit from radiologically controlled areas and sheltered in place until receiving direction from the Emergency Operations Center to evacuate. Construction subcontractors working on the Transuranic Liquid Waste project also participated in the drill and relocated to a shelter in place location then evacuated. Drill performance was largely positive; however, there was some confusion on wind directions based on instrumentation readouts compared to a windsock. Emergency management personnel are following up on this apparent discrepancy.