DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 6, 2025

TO: Technical Director
FROM: Los Alamos Site Resident Inspectors
SUBJECT: Los Alamos Activity Report for the Week Ending June 6, 2025

Plutonium Facility—Criticality Safety: Facility personnel identified a concern that materials that are effective neutron reflectors may not be explicitly bounded by Criticality Safety Evaluation Documents (CSED) in several areas of the plutonium facility and could challenge the upper safety limit. This concern stems from the resolution of a previous criticality safety concern in the vault, where the storage of materials that are effective neutron reflectors needed to be analyzed; the results of that analysis determined that the vault is in a safe condition. The CSEDs include a bounding threshold for "incidental reflectors", but some larger quantities of these reflector materials may exceed the analyzed threshold under certain credible configurations and conditions. As an immediate compensatory action, facility management restricted the movement of known reflector materials in the areas of concern unless approved by a criticality safety subject matter expert. Recovery actions include conducting an extent-of-condition review, revising CSEDs if warranted, and considering changes to procedures to address any deficiencies.

Plutonium Facility—Safety Basis: Triad submitted revised Safety Analysis and Technical Safety Requirements documents to the NNSA Field Office (NA-LA) for approval. Triad's Safety Basis team is revising the documents to conform to current DOE standards for safety analyses as part of a site-wide safety basis improvement effort. The safety analysis had previously been provided to NA-LA in draft form for review and comment (see 4/4/2025 report).

Plutonium Facility—Maintenance: Operations staff responded to an unplanned ventilation shift caused by planned maintenance, which resulted in an orderly exit of personnel from the facility. Maintenance workers were replacing components in the ventilation control system and were following an approved work procedure. Facility management reviewed the event and determined that the work procedure had been modified from the previous evolution of the activity to eliminate the need for a planned outage. Facility personnel did not properly account for the dynamic response of the air supply system during system restoration when approving the procedural changes. Facility management determined that the response and recovery from the event was as expected, and no contamination events occurred. Plant personnel discussed options to prevent similar events from occurring in the future.

Chemical and Metallurgy Research Facility (CMR)—Oversight: On Wednesday, a DNFSB resident inspector shadowed a contractor walkdown of the CMR attic. The contractor team conducted the walkdown appropriately, and a small number of issues were identified for follow up including potential postings and housekeeping. The DNFSB resident inspector noted that, in one area of the attic, some drums were marked with radioactive material tags and tamper-indicating devices but also marked as empty. CMR operations staff promptly followed up with the owner of the drums and radiation protection staff to ensure the drums were empty and stored in a manner consistent with radiation protection procedures. NA-LA also reviewed the drums and discussed with operations staff ways to ensure postings are clear and to determine the best means to store the drums given the isolated location.