

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 10, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: D. Gutowski, Resident Inspector
SUBJECT: Los Alamos Activity Report for the Week Ending November 10, 2023

Plutonium Facility–Emergency Response: On Monday, there was a flash and a fire in a glovebox in the Plutonium Facility. Workers were pulverizing legacy material from 1983 for introduction into the aqueous chloride line. Upon activating the bonecrusher, there was a flash, followed by flames and smoke in the box. The workers immediately deactivated the equipment, activated dropbox fire alarms, and evacuated the room. All the continuous air monitors in the room alarmed, as did one in an adjacent room. Other workers in the facility performed a controlled egress to assembly areas outside the building. Los Alamos Fire Department personnel responded and found the fire was out when they made entry into the laboratory room where the event occurred. No workers were injured, contaminated, or showed any evidence of a radiological uptake. The likely cause of the energetic reaction was calcium metal contained in the feed material. Engineering personnel have determined that the glovebox is still maintaining negative pressure with respect to the laboratory room but have recommended replacing all filters and gloves as well as glovebox windows closest to the event. Access to the room is still restricted while Triad personnel develop a formal recovery plan. They also entered the New Information process to determine any safety basis implications from this event.

Plutonium Facility–Radiological Control: Management from operations, performance improvement, and radiological control organizations have started a new approach to learning from radiological events. While significant events will still be treated individually and have fact-finding meetings, the new approach involves management evaluating all radiological events over the past week and elevating topics to discuss further during fact-finding meetings, potentially with other similar events. This week, the first fact-finding meetings using this new approach were held. One covered a series of events during decontamination and decommissioning activities on a glovebox that had been used to process heat source plutonium in the past. Some of the events included continuous air monitor alarms, personal protective equipment contamination, and contamination found outside expected areas. Triad is planning to perform a causal analysis to evaluate this series of events to improved glovebox removal processes.

Transuranic Waste Management: This week and last week, Triad completed two mobile loading shipments from Technical Area 55. The shipments included several pipe overpack containers with large amounts of heat source plutonium. Personnel executed a series of moves in and out of the Plutonium Facility during packing these pipe overpacks into standard waste boxes and then into the TRUPACTs. This maintained compliance with all material at risk limits and avoided a repeat of the limit exceedance during the last mobile loading activity (8/25/2023). Longer term, safety basis personnel are developing a change to allow compliant shipping of higher material at risk items without resorting to a series of extra waste movements.

Waste Characterization, Reduction, and Repackaging Facility (WCRRF): Workers completed repairs to the exterior stucco of WCRRF this week (see 10/13/2023 report). This repair does not address the fire rating of the exterior walls. Therefore, the plan to implement a compensatory measure of restricting vehicles with a physical barrier to keep them at least 10 feet from the exterior walls remains in place.