

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 6, 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 October 6, 2023

Plutonium Facility and Radioactive Liquid Waste Treatment Facility (RLWTF)–Tritium: Last week, Triad personnel determined that routine tritium releases from the Plutonium Facility’s stack had re-entered the facility due to atmospheric conditions. This same type of event happened on a much larger scale in January 2022 at the Savannah River Tritium Enterprise (see Board letter on tritium release event dated 8/11/2022). The first evidence of unusual tritium migration was in August when RLWTF started seeing elevated tritium readings in influent liquids. Readings remained in the nanocurie per liter range but were higher than normal which prompted action. In mid-September, further investigation determined the source of the tritium was the Plutonium Facility. Management paused all tritium activities in the Plutonium Facility last Monday. Triad personnel are still gathering information from this event and plan to hold a fact-finding meeting next week. Both facilities have entered the new information process to determine the safety basis implications of the unexpected tritium.

Plutonium Facility–Safety Basis: On Tuesday, Triad personnel met with NNSA Field Office and NNSA Environment, Safety, and Health (ESH) leadership to discuss the revised safety basis addendum for receipt and repackaging of large quantities of heat source plutonium (see 9/8/2023 report). NNSA ESH is the safety basis approval authority for this addendum given that the mitigated consequences during the bounding accident exceed the evaluation guideline for the public. NNSA ESH leadership has changed since the original approval and risk acceptance for this activity (see 4/1/2022 report). The meeting also included discussions on whether additional work could be performed at Idaho National Laboratory prior to shipment of this material to reduce risks at Los Alamos National Laboratory and on actions taken based on the Board’s letter dated August 11, 2022, regarding this activity.

Plutonium Facility–Glovebox Safety: On Monday, a glovebox worker using a measuring caliper saw visual evidence of a breach in one of their glovebox gloves. Responding radiological control personnel determined that there was indeed a glovebox breach. The impacted individual had contamination on a personal protective equipment glove, but no skin contamination. There was no evidence of an airborne contamination spread. During the response, there was a challenge locating respirator masks as the response cabinet closest to the event was depleted. The cause of the breach was the sharp caliper which is an alternative tool that was in use due to an electronic measurement device in the glovebox being out of service. Corrective actions under evaluation for this event include: evaluating the use of a different type of caliper, ensuring sufficient respirator masks are available for responses, reinforcing movement restrictions for workers involved in a suspected breach, and issuing a lessons learned report.

N3B–Training: N3B personnel are continuing their efforts to resolve the training issues identified in August (see 9/15/2023 reports). N3B is using a senior management review board to individually release specific activities while the overall stop work remains in place. So far at Area G, they have released offsite waste shipments, onsite material moves, technical safety requirements surveillances, and corrugated metal pipe cutting. All these activities have been performed since their release. This week Area G personnel moved waste to the RANT Shipping Facility and resumed corrugated metal pipe cutting. A root cause analysis for the training issues is in progress.