

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 3, 2020

MEMORANDUM FOR: Christopher J. Roscetti, Technical Director
FROM: J.W. Plaue and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for Week Ending July 3, 2020

Plutonium Facility–Radiological Safety: On Tuesday, Triad personnel reconvened their fact-finding to better understand the unexpected radiation exposure during analysis of a legacy item (see 6/26/2020 report). The item in question originated in 1990 and was removed from the vault in 2018. In November 2019, chemistry personnel received a portion of the item. In December, they received the remaining pieces of the item into a glovebox without leaded gloves or shielded windows. Breakdowns in communications meant that chemistry personnel did not realize the item represented a significant gamma radiation exposure hazard (approximately 3 rad/hour on contact, 300 millirad/hour at 30 cm). Consequently, the chemistry personnel performed the analytical work on the item without using a radiological work permit or with supplemental dosimetry. This meant that management did not discover the elevated radiological exposure until after measurement of the worker's quarterly dosimeter. The item remains in the analytical chemistry box with temporary shielding until a recovery plan is completed. Repack, consolidation, and discard operations of legacy nuclear materials remain paused, and facility management is evaluating radiological controls for high dose items.

Plutonium Facility–Infrastructure: The cross-town trolley has been out of service since it ran into a closed damper door at the beginning of June. This trolley connects the trolleys that service each of the four laboratory area. As a consequence, intra-area trolley transfers have been hampered. The trolley bucket is stuck with a container of nuclear material inside; however, the location is not creating any radiological exposure concerns. Last week, facility personnel entered their potential process deviation process to formally document the evaluation of the criticality safety of the configuration and formalize the recovery path forward. Criticality safety personnel confirmed the existing configuration is analyzed and safe, but also noted the importance of ensuring compliant use of connecting boxes. Maintenance personnel are developing work documents to restore operability in the near future. A replacement project for the trolley system is still in progress. The replacement trolley is expected to use more sophisticated control systems to prevent these types of problems.

Area G–Readiness: On Tuesday, N3B submitted to the EM Field Office their startup notification report for the third quarter of 2020. The report identifies three planned readiness activities and levels that require field office approval. The activities are glovebag drill and drain operations in the Dome 231, retrieval of the corrugated metal pipes, and size reduction of the corrugated metal pipes in Dome 375. They have proposed the cognizant secretarial officer as the approval authority for all three activities. Notably, N3B is no longer proposing parallel contractor and federal assessments due to the COVID-19 pandemic (see 5/8/2020 report). The EM Field Office last formally responded to one of N3B's startup notification report in April 2019 (see 6/12/2020 report).