

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 17, 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 January 17, 2020

Plutonium Facility–Operations: Last week, during the first use of the chlorine system since a previous system leak (see 11/8/2019 report), the chlorine alarm activated and workers responded as required. The system had been successfully pressure tested in late November using a revised procedure and a new failure criterion. Facility management has suspended chlorination activities pending determination of the cause of the alarm and additional leak inspections.

Triad personnel have nearly completed installation of a newly designed replacement chlorine delivery system. The new system features several improvements including predominantly welded construction, new safety interlocks that include automated shutdown and argon purging, and construction using mostly Monel components. The new system is expected to be operational this summer.

Radiological Laboratory Utility Office Building (RLUOB): Last month, a janitor performing routine floor cleaning activities in a radiologically controlled area discovered contamination on his protective bootie during an exit survey using a personnel contamination monitor (PCM). Radiological control personnel further investigated and discovered that the contamination was promethium-147, which is primarily a beta emitter. This radionuclide is detectable by PCMs and most hand-held devices used by radiological personnel, but is not detectable by the hand and foot monitors or continuous air monitors in the facility, since it predominantly handles alpha emitters. At the fact-finding meeting this week, involved personnel noted that the radionuclide had been used for a project several years ago, but remained in the back of a fume hood pending a waste disposition path. Management identified corrective actions including: determining the current inventory of beta emitting isotopes in RLUOB; developing a process to inform radiological protection personnel when new beta emitting isotopes arrive at the facility; and determining disposition paths for non-routine waste streams.

Area G: N3B personnel recently resolved most of a backlog associated with inspection, testing, and maintenance (ITM) activities for fire protection systems in the facility. In October 2019, a N3B management assessment determined that 8 of 12 categories of fire protection systems had delinquent ITM activities. Examples of the delinquencies include: all 3 of the fire alarm panels were missing their annual inspections; all 12 of the major lightning protection systems were missing their annual inspections; and all 5 of the gaseous suppression systems were missing all of their required ITM activities. While none of these fire suppression systems are credited in the approved safety basis, N3B management elected to implement compensatory measures, such as fire watches, while maintenance personnel completed the ITM activities.

Power Outage: On Monday, electrical power from one of the laboratory's primary high voltage feed lines was lost for about an hour subsequent to Triad personnel attempting switching operations following corrective maintenance. Numerous facilities were impacted including the Plutonium Facility, Chemistry and Metallurgy Research building, and the DNFSB onsite office. Facility personnel did not report any issues with the response. Utility personnel are investigating the cause of the outage.