

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 7, 2019

**MEMORANDUM FOR:** Christopher J. Roscetti, Technical Director  
**FROM:** J.W. Plaue and D. Gutowski, Resident Inspectors  
**SUBJECT:** Los Alamos Activity Report for Week Ending June 7, 2019

**DNFSB Staff Activity:** Staff members Z. Beauvais, C. Berg, M. McCoy, and P. Migliorini were at the laboratory to review weapons response basis information in support of safe operations at the Pantex Plant.

**Plutonium Facility–Quality Assurance:** During commercial grade dedication of new conduit and drive train supports associated with installation of new process equipment, workers discovered that the installed supports were not the type identified in the approved design. The components procured for this project were still in a controlled storage warehouse. They will be replaced with the correct components at the appropriate procurement level. Proposed corrective actions include ensuring that existing construction practices are adhered to, evaluating said processes for improvements, and evaluating the need to clean out the facility basement where construction materials are usually staged once obtained from controlled storage locations. Longer term corrective actions under evaluation include adding a controlled storage location in the facility.

**Plutonium Facility–Operations:** On Wednesday, facility workers noted a fog or haze in an adjacent glovebox following completion of a metal chlorination activity. No activities with the potential to form vapors were occurring in that box. The haze traveled through connecting boxes, and there were solid deposits on the floors and windows of some of the boxes. The workers immediately paused operations and made the appropriate notifications. With the chlorine system secured and purged, the haze dissipated. The nature of this event is under investigation although unintended chlorine entry into the boxes through mass flow controllers is a likely cause. Chlorine is piped to two boxes and ball valves in the line are left normally open during operations leaving the mass flow controllers functioning as isolation points. The mass flow controllers will be tested for leakage and the operating procedure will be evaluated for inclusion of a valve lineup.

Senior Management briefed the facility workforce on last year's Pu-238 uptake from a puncture wound (see 9/7/2018 report). The briefing included a discussion of that event as well as earlier puncture wounds at Los Alamos in 2008 and the Savannah River Site in 2010. The training emphasized the importance of conduct of operations and the integrated safety management process. Other key points included the need for strong organizational learning in order to avoid repetitive, ineffective corrective actions and recurring events.

**Plutonium Facility–Infrastructure:** On Wednesday, the NNSA Field Office unconditionally approved a revised Safety Design Strategy for the Fire Alarm System replacement project (see 6/29/2018 report). The revised strategy addresses the comments from NNSA on last year's revision. Key changes include: a more detailed discussion of the interface between the new alarm system and existing credited safety equipment, explanation of the prioritization of criticality alarms versus fire alarms, and a commitment to develop a demolition plan as part of preliminary and final design to ensure all such activities are bounded by existing hazards analyses.