

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 11, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: A. Boussouf and D. Gutowski, Resident Inspectors
SUBJECT: Los Alamos Activity Report for the Week Ending November 11, 2022

Plutonium Facility–Emergency Response: Last Wednesday, the newly installed chlorine delivery system was brought online and used for the first time (see 8/5/2022 report). The system was then shut down, valves were isolated, and chlorine lines were purged without incident. Approximately six hours later during the night shift, chlorine was detected in the chlorine cylinder cabinet with a peak concentration of 0.7 parts per million. A responding worker also reported smelling chlorine in a laboratory room. The facility operations center contacted the emergency operations support center who issued a shelter in place order for surrounding buildings. Initially, personnel believed that residual chlorine in the line may have leaked, triggering the alarm. On Monday, a fact-finding meeting was held to discuss the event. Participants identified several issues: the local alarm readout provided conflicting information regarding the location of the potential leak while the readout in the operations center had the correct information, the detection system does not communicate real-time chlorine concentrations to the operations center, and there were miscommunications between different responding organizations in providing meteorological data. After the meeting, facility personnel concluded that the likely cause of the alarm was due to transient vehicle exhaust fumes from nearby idling vehicles rather than a chlorine leak as there was no evidence of any pressure changes in the system.

Radiological Laboratory Utility Office Building (RLUOB)/PF-400: The NNSA Field Office, with support from an independent NNSA Headquarters and NNSA Sandia review team, approved the revised corrective action plan to address findings from the federal readiness assessment to startup RLUOB as a hazard category 3 nuclear facility to be known as PF-400. Field Office personnel provided copious commentary on the original corrective action plan and causal analysis (see 7/15/2022 report). In general, their commentary focused on corrective actions not being specific enough or obviously flowing from the causal analysis. The revised documents adequately addressed these concerns.

Emergency Management: The NNSA Field Office approved the contractor's corrective action plan to address two of the issues from the annual emergency exercise (see 7/15/2022 report). These two issues tied directly to the operations of a defense nuclear facility (the Plutonium Facility) and thus required a formal corrective action plan. The first finding was that the initial operational emergency notification form identified the wrong community location for protective action recommendations. Corrective actions included enhanced means to correct errors and new data validation processes to assure accuracy prior to issuance. The second finding was that workers in the Plutonium Facility did not all exit from the closest facility exit point. Corrective actions included revising evacuation maps and enhancing emergency training for facility workers.