

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 10, 2014

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.T. Davis, R.K. Verhaagen, and J.W. Plaué
SUBJECT: Los Alamos Report for Week Ending January 10, 2014

Criticality Safety: Last month, LANL released its *Criticality Safety Infractions Causal Analysis*, performed largely in response to the Board's July 15, 2013, letter to DOE on criticality safety at the Plutonium Facility. A six-person causal analysis team was appointed by the Laboratory Director to analyze a series of criticality safety infractions that occurred in the Plutonium Facility from January to August 2013. The team conducted interviews, performed walk-downs, and reviewed documents related to criticality safety infractions or process deviations that occurred during that time period. Overall, the team identified five root causal factors supported by 22 contributing causes, many of which appear applicable to other facilities and functional areas. The following is a list of some of the key contributing causes:

- Current efforts appear reactive, rather than executing to a strategic plan with prioritized actions
- Lack of robust communications reflects insufficient management attention to the causes of infractions and needed corrective actions
- Roles and responsibilities are not consistent, not flowed down, and not well communicated
- Unclear requirements and terminology identified during critiques have not been effectively evaluated and corrected
- Conduct of operations issues evident in criticality safety events are not probed to determine issues and corrective actions, including improvements needed in management
- Documented hazard analyses did not account for collocated hazards and controls
- Critique process and output is insufficient to drive enduring improvements
- Internal assessments are not used to self-identify issues and resolve them
- Corrective actions are vague and focus on actions that are near-term and easier to achieve
- Lessons learned information does not provide clear operational insight, nor is it adequately communicated and implemented

Training: This week, the site reps observed an oral board for a criticality safety analyst (CSA) qualifying in the 300 area of the Plutonium Facility. The qualification process for CSAs at LANL is a three part process that includes a training curriculum for criticality safety technical knowledge, a requirement to demonstrate facility specific knowledge, and a practical exercise to demonstrate competency at performing criticality safety evaluations. The board conducted a thorough examination of the qualifying CSA's knowledge of general facility and 300 Area specific process and criticality safety. The board concluded that the qualifying CSA demonstrated acceptable knowledge.

Plutonium Facility – Safety Basis: The field office provided feedback to LANL this week on resolution of two conditions of approval from the 2011 Safety Evaluation Report associated with process descriptions and Hazard Analysis (HA). The latter requires LANL to revisit the process hazard analyses for operations at the Plutonium Facility to ensure a comprehensive evaluation of accident scenarios. The HA development process and results were submitted to the field office in September 2013 and include hazard scenario development, hazard identification, and control identification. Following resolution of field office comments, the HA results will be used to support the 2014 safety basis annual update that is scheduled to be submitted in September 2014.