

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 24, 2013

**MEMORANDUM FOR:** S.A. Stokes, Acting Technical Director  
**FROM:** R.T. Davis and R.K. Verhaagen  
**SUBJECT:** Los Alamos Report for Week Ending May 24, 2013

Staff members D. Kupferer, J. McComb, and J. Plaue were on site this week to conduct a review of criticality safety. The review focused on site-wide and facility specific Criticality Safety Program implementation, impacts on limited criticality safety staffing resources, and federal oversight.

**Plutonium Facility – Criticality Safety:** Over the past week the Plutonium Facility has experienced a number of criticality safety infractions and process deviations. Several of these issues were self-identified and conservative action was taken to respond, critique, and develop corrective actions. However, these infractions and deviations indicate potential conduct of operations and Criticality Safety Evaluation (CSE) issues that emphasize the need for LANL to continue criticality safety improvements.

- During a system walkdown, the Board’s staff identified material located within a workstation that was not allowed by the CSE. This infraction was due, in large part, to inconsistent understanding of criticality safety requirements regarding the boundaries of the workstation and failure to follow good work practices as prescribed in the CSE. Because this is one of multiple infractions that have occurred in this particular room over the past few months (including inconsistent interpretation of requirements between facility and criticality safety personnel), operations have been paused in this room while operators and criticality safety personnel ensure limits specified in CSEs and postings are clear and well understood.
- A criticality control mass limit was exceeded in a vault location. Workers identified that two containers intended to be stored in certain locations had been inadvertently swapped when initially moved to the vault. This transposition resulted in one location exceeding the mass limit prescribed in the CSE.
- A process deviation occurred when liquid level was discovered in a trap tank sight glass for a wet vacuum system. Liquid is not normally expected to be located in this portion of the system. The CSE requires that if liquid is discovered that the source be located and the liquid be returned to the source. The source of the liquid has yet to be determined and the liquid could not be returned to its source regardless due to the system configuration. During review of this issue, Plutonium Facility personnel identified that the system configuration differed from the CSE description.
- During an extent of condition review, liquid was identified in another wet vacuum trap tank sight glass. The source of this liquid has yet to be determined as well.

**Plutonium Facility – Personnel Contamination:** A Plutonium Facility worker was identified with skin contamination after removal of a temporary foam plug used during a glovebox pressure test. Nasal smears following the discovery of contamination were positive. The foam plug was installed over an existing temporary plug that had been installed more than a decade ago but was not sufficiently airtight to allow the pressure test to pass. During this activity, the two plugs adhered to each other such that when the new plug was removed the old plug was removed as well resulting in the spread of contamination. Facility management is conducting an extent of condition review to determine whether additional “temporary” plugs are being used as contamination boundaries.