

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 9, 2007

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: M. J. Merritt and A. Matteucci (acting), DNFSB Site Representatives
SUBJECT: Lawrence Livermore National Laboratory (LLNL)
Report for Week Ending February 9, 2007

DNFSB Staff Site Activity: Staff member A. Matteucci was at LLNL this week providing site representative augmentation.

Plutonium Facility Criticality Safety Program: On January 31, 2007, LLNL responded to a November 22, 2006, letter from the Livermore Site Office (LSO) regarding criticality safety deficiencies identified by the Board. In its response from the Deputy Director for Operations, LLNL proposed resolutions to issues identified in the Board's October 11, 2006 letter on the matter. Specifically, LLNL provided a formal response on its plans to:

- clearly articulate its policy statement on nuclear criticality safety;
- more clearly define the continuing training for nuclear criticality safety engineers;
- ensure that oversight walkthroughs will include observations of actual fissile material activities to determine if procedures are being followed;
- review the roles and responsibilities of personnel with criticality safety duties to ensure proper integration;
- strengthen conduct of operations for criticality safety controls implementation;
- address concerns from recent self-assessments; and
- address the Board's concerns regarding the configuration management of the Controlled Materials Accountability and Tracking System (COMATS).

In general, the response was adequate to address the issues. However, the response was incomplete in addressing the issues of integration of roles and responsibilities, and the path forward to address the configuration management of COMATS. The response that integration is achieved by simply identifying three existing documents, fails to adequately address the observed deficiencies. The response on the configuration management of COMATS correctly identified the future use of the Criticality Special Support System (CSSS), but noted that the resources to implement CSSS were not yet provided.

Indirect Lightning Effects: As part of a project plan to determine the response of weapons when exposed to hazards resulting from the indirect effects of lightning strikes to Pantex facilities with nuclear explosive operations, LLNL issued an information engineering release (IER) containing preliminary weapon response information (see Pantex Plant site representative's weekly report for week ending February 2, 2007). The concern with the indirect lightning effects and the need to determine the response of weapons and weapon components when exposed to these environments was formally raised in early 2004. A final weapon response determination from the design agencies is still in development. To clarify that the subject weapon response is only an initial ("entry") effort to fully address this concern, LLNL will revise its IER to reflect that the weapon response was only the first phase of their project plan. In the revised IER, LLNL will explain that the information is too premature to suggest any specific actions on the part of Pantex to protect the weapons from the indirect effects of lightning strikes to facilities where nuclear explosive operations are performed.