

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 14, 2007

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: M. J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory (LLNL)
Report for Week Ending September 14, 2007

Plutonium Facility Criticality Safety Program Improvements: The Livermore Site Office (LSO) has been tracking the LLNL actions in response to criticality safety deficiencies identified by the Board (see weekly report dated February 9, 2007). The initial LLNL response letter dated January 31, 2007, was incomplete in addressing the integration of roles and responsibilities, and the path forward on the configuration management of the Controlled Materials Accountability and Tracking System (COMATS). In a supplemental response dated March 12, 2007, LLNL took credit for a Nuclear Material Technology Program (NMTP) process improvement initiative that will clarify the roles and responsibilities of personnel with criticality safety duties to ensure proper integration. The supplemental response also provided a commitment to fully implement the Criticality Special Support System (CSSS). The corrective actions, with status are as follows:

- clearly articulate the policy statement on nuclear criticality safety (complete);
- more clearly define the continuing training for nuclear criticality safety engineers (on-going);
- ensure that oversight walkthroughs will include observations of actual fissile material activities to determine if procedures are being followed (criticality engineer walk-through checklist upgrades complete);
- review the roles and responsibilities of personnel with criticality safety duties to ensure proper integration (process improvement on-going);
- strengthen conduct of operations for criticality safety controls implementation (procedure revision in-progress);
- address concerns from recent self-assessments (complete); and
- address the Board's concerns regarding the configuration management of COMATS (behind schedule).

Overall, most corrective actions are either complete or progressing on a reasonable schedule. However, the CSSS, which is intended to resolve the COMATS issues, continues to only provide material labeling capability, and full implementation of CSSS is behind schedule.

Plutonium Facility Occurrence: On September 12, 2007, Plutonium Facility management issued an occurrence report (ORPS report OAK-LLNL-LLNL-2007-0043) regarding a discrepant as-found condition in the facility. The occurrence was reported because a glovebox without a housekeeping HEPA filter differential pressure gauge was discovered. The Plutonium Facility Documented Safety Analysis requires the housekeeping HEPA filters to be changed when the differential pressure exceeds a predetermined level. Based on the lack of a pressure gauge, a potential inadequacy of the documented safety analysis was declared. A critique was held on September 12, 2007, and an extent-of-condition review is underway to determine if similar conditions exist with other glovebox systems.