

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 27, 2006

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: M. J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory (LLNL)
Report for Week Ending October 27, 2006

Plutonium Facility Criticality Safety Implementation: A recent event which occurred on October 16, 2006, in the Plutonium Facility underscores the need for LLNL management to aggressively pursue improvements to the implementations of criticality safety controls and the conduct of operations. A Board letter dated October 11, 2006, provided observations that directly relate to the underlying causes for this most recent problem. The event was reported on October 24, 2006, as a management concern (ORPS report OAK-LLNL-LLNL-2005-0054). Numerous operational and configuration management lapses resulted in the following problems:

- a Standard Criticality Control Condition (SCCC) for a workstation was changed to a SCCC not authorized by the Operational Safety Plan (OSP);
- the Controlled Materials Accountability Tracking System (COMATS) did not reflect the current OSP-authorized SCCC; and
- the procedures for material movement (OP-B332-001) and changing a SCCC (OP-B332-003) were not followed by fissile material handlers (FMHs).

These problems indicate a breakdown of the administrative systems that ensure criticality safety controls are properly implemented. In this case, the FMHs relied on administrative indicators (the SCCC placards and COMATS) that lacked adequate configuration management. Reliance on these indicators rather than on adherence to mandatory procedures suggests that conduct of operations has not yet reached an acceptable level of implementation. Both the material movement procedure and the SCCC change procedure require the FMHs to refer to the OSP to ensure compliance with the workstation requirements. In this most recent event, the initiating FMH and the verifying FMH failed to consult the OSP that, if followed, would have prevented this event. OSP training deficiencies also contributed to this event.

LLNL Management Contract: The deadline for proposals is today. The planned contract award date is in the February-March 2007 timeframe.

Plutonium Facility Safety System Repair: In 2004, cracking was observed in the safety-significant portion of the glovebox exhaust system in one laboratory processing room (see weekly report dated September 17, 2004). The replacement of the duct work finished this week completes the repairs to the glovebox exhaust system in this room.

Plutonium Facility Compensatory Measures: This week, the Plutonium Facility implemented compensatory measures during the replacement of the first of two room ventilation system exhaust fans. The compensatory measures prohibit activities involving dispersible material and activities involving welding or hot work. The Livermore Site Office approved LLNL's request to take up to 14 days to replace each fan, during which time, these compensatory measures will be in place. A Technical Safety Requirements deviation was approved to allow the facility to support the accomplishment of several important programs without disruption.