

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 6, 2005

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Michael J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory
Report for Week Ending May 6, 2005

Plutonium Facility Occurrence: On April 30, 2005, a problem occurred while technicians were performing maintenance on the ventilation system in the Plutonium Facility. Facility personnel were performing monthly switching of the exhaust fans in one increment of the facility. The switching tests the ability of the lag (backup) fan to start upon loss of the lead (running) fan. During the switching, the lead fan was secured and the lag fan started and ran for about 10 seconds. The supply fan shut down (as expected when exhaust fans shut down), but when the operator was about to restart the supply fan, he noticed that no exhaust fan was running. The operator then restarted the lead exhaust fan and was able to maintain differential pressure as required by the Technical Safety Requirements (TSRs).

The facility was in Maintenance Mode and a Limiting Condition of Operation (LCO) was entered. This LCO allows up to seven days to correct the problem before having to enter Repair Mode. The electrical system engineer investigated the cause of the fan failure and noted that the breaker for the lag fan had tripped. The breaker was replaced and facility engineering personnel continued to troubleshoot the cause of the failure. On May 4, 2005, the fan motor was replaced and the surveillance requirements to restore the system to normal operation were met. The occurrence was reported as performance degradation of a safety-class system (ORPS report OAK-LLNL-LLNL-2005-0034).

Facility Representative Staffing: On April 28, 2005, the Livermore Site Office (LSO) adjusted the assignments for Facility Representative (FR) coverage of the nuclear and non-nuclear facilities at LLNL. The adjustments were made to ensure that the FR coverage is consistent with guidance received from the Principal Deputy Administrator for the National Nuclear Security Administration (NNSA). The changes may also improve the rigor of FR oversight in nuclear facilities. The Department of Energy Office of Independent Oversight and Performance Assurance (OA) inspection report identified weaknesses in the rigor of FR reviews in nuclear facilities. As part of implementing the NNSA guidance, LSO was required to perform a staffing analysis for the FR program. This analysis concluded that 11 FRs are required. Currently, LSO has eight full-time FRs. LSO recently assigned a Plutonium Facility FR to the FR team leader position. LSO recognized that recruiting, training, and obtaining security clearances for new FRs is a lengthy process and initiated the recruitment process earlier this year. Currently, LSO is in the process of recruiting up to three new FRs and is also seeking to hire an additional system engineer.

Plutonium Facility TSR Violation: As part of the compensatory measures in place for the Plutonium Facility, LLNL committed to a number of actions. One of the actions was to prepare "red-line" drawings to match the existing configuration of 16 vital safety systems by April 29, 2005. LLNL has not yet completed the drawings for the glovebox system, and per the agreement between LSO and LLNL, the failure to meet this commitment on schedule has been reported as a TSR violation (ORPS report OAK-LLNL-LLNL-2005-0035).