

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 8, 2004

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Michael J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory (LLNL)
Report for Week Ending October 8, 2004

Configuration Management: During the past few months, there have been several occurrences reported by LLNL involving the inadequate condition of safety systems. These include inadequate covers (tape) for safety-class ventilation duct penetrations (see weekly report dated September 24, 2004), potential cracking in safety-significant ventilation duct welds (see weekly report dated September 17, 2004), and inadequate seismic restraints for safety-significant gloveboxes (ORPS report OAK–LLNL–LLNL-2004-0024). In Recommendation 2000-2, *Configuration Management, Vital Safety Systems*, the Board recommended a number of measures necessary to ensure reliable performance of safety systems, including an effective configuration management program.

As part of its response to Recommendation 2000-2, DOE committed to having LLNL perform an assessment of its configuration management (CM) program for vital safety systems. This assessment was completed in May 2003. According to the assessment report, however, “as the estimated implementation dates for the directorate CM programs are about 15 months to almost six and one-half years away, a rigorous assessment to measure effectiveness was premature.” The report provides a cursory assessment of the Nuclear Materials Technology Program (NMTP), the LLNL organization responsible for the operation of the Plutonium Facility. The report states “Because of the detailed NMTP gap analyses, and since the NMTP CM plan and procedures have not yet been written or revised to reflect the [Configuration Management Program Description] requirements, the preparation of numerous detailed Opportunities for Improvement was not warranted.”

According to this LLNL report, the actual implementation of CM program requirements for the directorate in which NMTP is located is not scheduled until November 2010. It is not clear how the Livermore Site Office has reconciled the absence of an implemented configuration management program with specific requirements such as those in 10CFR830.122, *Nuclear Safety Management, Quality Assurance Criteria*, DOE Order 420.1A, *Facility Safety*, and DOE Order 433.1, *Maintenance Management Program for Nuclear Facilities*. Presumably, DOE would not propose closure of the Board’s Recommendation until a configuration management program is actually implemented for safety systems in LLNL nuclear facilities.

Building 231 Contamination: During replacement of exhaust fans in Building 231, radioactive contamination was detected in a system that was not identified as a radioactive system (ORPS report OAK–LLNL–LLNL-2004-0045). The fans were part of the exhaust system for an operating fume hood in the chemistry section of the building. The contamination was detected when the old fans were being surveyed to allow release to a landfill. Appropriate surveys were conducted after LLNL discovered the contamination and it does not appear that the contamination was spread outside of the system or to the workers. The fume hood presently connected to this system has not been used to process radioactive materials; however, it is clear that prior work (using a different fume hood with the same ducts) involved radioactive material processing. The facility management is attempting to identify the isotopic composition of the contamination by analyzing samples and reviewing the process history of the work station. In general, it does not appear that process history at LLNL facilities provides definitive information on the prior use of equipment and systems.