

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 20, 2004

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Michael J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory
Report for Week Ending August 20, 2004

This is the inaugural report for activities at the Lawrence Livermore National Laboratory (LLNL). The establishment of the Board's site office at the LLNL was facilitated by the support and cooperation of the National Nuclear Security Administration's Livermore Site Office personnel.

Plutonium Facility Safety Basis: On April 12, 2004, the Board established a 30-day reporting requirement for the National Nuclear Security Administration to establish a position regarding LLNL's proposed safety basis modifications. The safety basis modifications were submitted to NNSA by LLNL as part of LLNL's preparation of a Documented Safety Analysis (DSA) to comply with the Nuclear Safety Management rule (10 CFR Part 830). LLNL's proposal assumes unfiltered plutonium releases as part of the accident analysis and, if approved, would result in the down-grading of portions of the safety-class ventilation systems and the Emergency Power System. The approach used by LLNL relies on potentially non-conservative calculations of leak path factors to predict the magnitude of off-site releases. The Board's letter questioned the validity of the LLNL calculations and the philosophical judgement of down-grading the classification of existing safety-class equipment.

In an interim response dated May 14, 2004, the NNSA Administrator informed the Board that the Livermore Site Office (LSO) was commissioning an independent calculation of the leak path factors that will be used by LSO to determine whether to endorse LLNL's approach. LSO has received a draft report containing the independent calculations of the leak path factors done by Omicron Safety and Risk Technologies, Inc. The Omicron analysis uses the Melcor code rather than the CONTAIN code that was used by LLNL. Currently, LSO engineers are reviewing the Omicron report to determine if the baseline assumptions used are consistent with LLNL's calculations. LSO may request resolution of the issue in the approval process for the DSA, but also has the option to require that the current safety systems' classification remain as-is by specifying a condition of approval in the Safety Evaluation Report. There is no schedule or deadline associated with the resolution of this issue.