DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 23, 2005

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Michael J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory (LLNL)
Report for Week Ending December 23, 2005

Plutonium Facility Safety Basis: On December 19, 2005, LLNL submitted a Documented Safety Analysis (DSA) and Technical Safety Requirements (TSR) for the Plutonium Facility_ to comply with the Nuclear Safety Management rule (10 CFR Part 830). The DSA retains the current safety-class designation for the facility's ventilation systems and the Emergency Power System. This revised DSA also eliminates non-conservative calculations (see weekly report dated August 20, 2004) of leak path factors (LPF). The DSA uses LPFs of one, that is, no credit is taken for building structure or any other active or passive equipment that can prevent radioactive material from reaching the environment. The improved conservatism in the analysis is consistent with the request made in a letter from the Board dated April 12, 2004.

LLNL initially submitted a DSA for the Plutonium Facility in October 2003, but the DSA was determined to be inadequate by the Livermore Site Office (LSO) and the Board. LSO provided more than 270 comments and the Board's letter identified additional concerns. In September, 2004, the LSO Manager directed a path forward to resolve issues with the DSA stating that LLNL did not provide sufficient technical basis for downgrading existing safety systems. LSO also directed LLNL to utilize the more conservative leak path factor analysis (performed by Omicron Inc.) to support the source term calculations in the DSA. In this DSA, LLNL opted not to use either LPF analysis, but rather assume an LPF of one. Resolution of these issues was expected by LSO in early 2005, but delays is revising the DSA occurred due to LLNL adjusting priorities to resolve issues related to implementing the current Safety Analysis Report and **TSRs.** LLNL is developing an implementation plan for the DSA and will provide it to LSO in the near future. The DSA submittal is currently undergoing a review by LSO.

Radiography Facility Occurrence: Based on observations of Radiography Facility operations in November (see weekly report dated November 18, 2005), LLNL reported an occurrence (ORPS report OAK-LLNL-LLNL-2005-0101) related to the placement of continuous air monitors (CAMs) positioned in the radiography bays. The Radiography Facility DSA requires the CAMs to be located in the radiography bays during handling operations. A CAM was moved out of an operational bay in an effort to reduce false alarms.

Tritium Facility Training: On December 19, 2005, the LSO Manager approved the Training Implementation Matrix (TIM) for the Tritium Facility. LSO notes in its approval that the TIM will need to be revised to reflect recent improvements in the LLNL Nuclear Materials Technologies Program (NMTP) Training Manual. The NMTP manual is applicable to all Superblock facilities. Currently the TIM references the Tritium Facility Training Manual, dated June 2003.

Plutonium Facility Compensatory Measures: LLNL has requested LSO approval to remove some compensatory measures in the Plutonium Facility. The compensatory measures were initially identified in February and refined in May as part of LLNL's request to resume limited operations in the facility. In each case, LLNL provides justification for why removal of the compensatory measure is warranted at this time. In general, the compensatory measures included in this request are extra administrative checks, increased frequency of off-shift monitoring by technicians, and the elimination of grace periods for TSR surveillances. Based on the demonstrated performance during the resumption, the requests appear to be reasonable.