

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 12, 2004

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Michael J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory
Report for Week Ending November 12, 2004

Plutonium Facility Safety Evaluation Report: On November 4, 2004, the Livermore Site Office (LSO) notified LLNL that certain conditions of approval (COA) contained in LSO's Safety Evaluation Report had not been satisfied. In its letter, LSO identified three specific conditions of approval that had not been fulfilled. LSO considers the failure to meet these conditions of approval as violations of the facility Technical Safety Requirements (TSR). Additionally, LSO directed that the TSR violations be reported as required by DOE Order 231.1A, *Occurrence Reporting and Processing of Operational Information*. One of the conditions is also considered to be a discrepant, as-found condition that could impact the existing Plutonium Facility safety basis; LSO directed LLNL to report this condition as a potential inadequacy in the safety analysis (PISA). The conditions of approval were originally identified by LSO in July 2002. LSO directed that occurrence reporting of these issues was to be completed by November 12, 2004. Notification reports were published in the occurrence reporting system on November 8, 2004.

Condition of Approval #11: This COA deals with the functional requirements and performance criteria of the Fire Detection and Suppression System. LLNL failed to provide technical justification that the final stage of high-efficiency particulate air (HEPA) filters will perform their intended function. Specifically, an analysis of the expected temperatures from a fire was not provided to LSO.

Condition of Approval #19: This COA required that transuranic (TRU) waste drums be designated as safety-significant components. LLNL has not submitted any changes to TSRs to demonstrate safety-significant classification of the drums.

Condition of Approval #27: This COA required LLNL to address the effects of high humidity and smoke conditions produced by fires on the HEPA filters. Specifically, LLNL was required to evaluate if the differential pressure across the HEPA filters can exceed the performance criteria of the filters. This differential pressure is postulated during an evaluation basis fire. LLNL addressed the effects of high humidity conditions on the HEPA filters, but did not address smoke conditions. This condition is considered by LSO to be a PISA.

Emergency Preparedness Drill: On November 9, 2004 an emergency preparedness drill was conducted at LLNL. The goal of the drill was to ensure that the Emergency Response Organization is prepared to carry out emergency response functions during an operational emergency, as required by DOE Order 151.1, *Comprehensive Emergency Management System*. During this drill, a site-wide notification was made declaring an earthquake event and providing instructions to evacuate all buildings. The LLNL site is divided into "self-help zones" to allow effective management of evacuation or protective actions. The Emergency Operations Center (EOC) was activated, and an operational emergency was simulated. During this drill, personnel from each zone were expected to confirm that the buildings within that zone were evacuated and that all personnel were accounted for. In this case, some of the zones did not report to the EOC. Other zones were excluded from this drill, including the zone that contains the Plutonium Facility. Lessons learned as a result of this drill will likely include the need for improvements in personnel accountability and the effectiveness of the public address system. The announcement was not audible in some buildings and in many outdoor areas.