

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 3, 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 September 3, 2004

Nuclear Facility Authorization Basis Corrective Action Plan: During the past few years, LLNL's Assurance Review Office (ARO) has been assessing the adequacy of LLNL's adherence to authorization basis (AB) requirements. In fact, ARO has identified significant weaknesses in LLNL's AB program dating back to 1997. Since that time, ARO has been attempting to verify that the issues identified have been adequately addressed to allow closure. Despite this longstanding effort, ARO has not been provided with adequate evidence to consider all of the issues closed. A recent ARO closure assessment report, dated April 28, 2004, concluded that a number of the corrective actions could not be verified as completed.

Two areas of particular concern, based upon the ARO reviews, are the need to prepare AB procedures and the use of the Unreviewed Safety Question (USQ) process to ensure adherence to nuclear facility AB requirements. Corrective actions have been identified, including the need to update implementing procedures and the LLNL ES&H Manual, creation of a nuclear facilities AB support group, AB process training, strengthening of the quality assurance function, and improving the issues tracking system. Unfortunately, LLNL's progress in implementing these corrective actions has been slow. The Livermore Site Office (LSO) has been active in trying to force timely improvements, but LLNL continues to manage a list of open items and has not successfully demonstrated closure of actions. Even after the verification of the corrective actions, a review of the effectiveness of the procedural changes will be needed to assure resolution of the initial issues. A letter has been prepared by LSO requesting a LLNL review of the effectiveness of the corrective actions.

Heavy Element Facility Risk Reduction Program: The goal of this program is to reduce the inventory in the facility to achieve Radiological status per DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*, by April 2005. During 2003, the facility's inventory was reduced by 80% (based on curie content) from the original inventory. Much of the removed inventory was sent to LLNL's Plutonium Facility and Los Alamos National Laboratory. The next near-term goal of this project is to remove between 27 and 49 items by December 2004. These items will either be sent to Oak Ridge National Laboratory (ORNL) or discarded as waste. The schedule for this effort is aggressive considering that details regarding packaging, shipping and receiving have not been worked out between LLNL and ORNL. Decontamination and disposal of between 8 and 14 gloveboxes will also be necessary to achieve the project goals. All of these gloveboxes have been characterized to identify the approximate amount of radioactive materials holdup. The remaining work will require the removal of equipment from the gloveboxes and the decontamination of the internal surfaces of the gloveboxes to allow for disposal as low-level waste to the Nevada Test Site.