

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 22, 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 22, 2004

Responsive Infrastructure Initiative: A kick-off meeting was held at Sandia National Laboratories (SNL), California on October 14 to initiate a project involving LLNL, SNL, Pantex, and the National Nuclear Security Administration (NNSA) to pursue an accelerated disassembly of two W84 error code units. A representative from NNSA led the meeting and emphasized the importance of initiating this *W84 Rapid Small Disassembly Project*. The goal of the project is to demonstrate the capability and process for accelerating weapon disassembly, not just for the W84 but with the potential for application to any weapons operations. It was not clear, however, why successful completion of the demonstration project requires work on actual W84 units. Each organization provided their perspective on the viability of accomplishing this project in the required time frames, although there appears to be some confusion regarding the scope of the effort beyond the two error code units. Resource limitations and budget constraints were a common theme during the discussions.

In 2002, the Board sent a letter to NNSA discussing the need for an adequate safety basis prior to beginning any work on the W84 program. In its November 15, 2002, letter, the Board maintained that any weapons disassembly work should meet the basic requirements of Integrated Safety Management, which include, at a minimum, development and approval by NNSA of the documented safety analysis, derivation and implementation of controls based on the hazard analysis (such as tooling upgrades), conduct of a new nuclear explosive safety study, and conduct of a readiness assessment. NNSA appears to have made little progress during the past two years with respect to establishing an appropriate authorization basis for W84 operations. During the meeting, the Board's staff suggested that NNSA brief the Board on the rationale for the program and NNSA's approach to pursue W84 operations as defined by this project.

Heavy Element Facility Risk Reduction Program: Currently, the Heavy Element Facility is categorized a Hazard Category 2 facility per DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*. A key goal of this project is to reduce the inventory in the facility to achieve Radiological Facility status by April 2005. Achieving Radiological Facility status will eliminate the need to prepare a Documented Safety Analysis (DSA); the facility was granted a schedule extension for meeting the requirements contained in Title 10, Part 830 of the Code of Federal Regulations (10CFR830), *Nuclear Safety Management*. As previously reported (see weekly report dated September 3, 2004), the next near-term goal of this project is to remove 49 radioactive items and to decontaminate and dispose of 8 gloveboxes by December 2004. However, achieving this interim milestone is proving to be more difficult than initially identified, and the re-categorization of the facility by April cannot be assured. An LLNL decision is expected in December to determine if a DSA will be required.

The remaining items will either be sent to Oak Ridge National Laboratory (ORNL) or discarded as waste. Agreements regarding packaging, shipping and receiving have been worked out between LLNL and ORNL, but the schedule for performing the required work is aggressive. The detailed requirements for the disposal of items to waste may also require more characterization and examination than originally identified in the project scope. Additionally, the decontamination of gloveboxes to remove radioactive materials holdup is taking much longer than expected.