

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 14, 2005

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Michael J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory
Report for Week Ending October 14, 2005

Plutonium Facility Resumption: This week, the Manager of the Livermore Site Office (LSO) authorized LLNL to resume limited operations in the Plutonium Facility effective October 11, 2005. Since the stand-down, Plutonium Facility management conducted a management self-assessment (MSA) and LLNL and LSO conducted readiness assessments (RA). The collective reviews resulted in a number of pre-start findings related to conduct of operations and procedures that were subsequently resolved. Prior to granting the resumption authorization, LSO also provided the Board with a response to its March 8, 2005, reporting requirement regarding the need to address critical issues as part of the approach to resumption. In its September 16, 2005, response, LSO ensured the Board that in preparing for resumption, four key elements – the safety basis, procedures, safety-related equipment, and personnel qualifications – would be thoroughly reviewed and deficiencies would be corrected, or in some cases, compensatory measures would be established and verified. In addition, LSO reported that the configuration management of vital safety systems has been reviewed by joint LSO/LLNL teams. The report also defined a path forward for formal readiness reviews.

With regard to the safety basis, LSO has approved LLNL recovery plans for the following Technical Safety Requirements (TSR) programs: configuration management, procedures, quality assurance, radiological protection, unreviewed safety questions, maintenance, occurrence reporting, and fire protection. In addition, a compensatory measure to limit the material-at-risk will remain in place as part of limited resumption. Additional compensatory measures exist for potential inadequacies in the safety analysis.

The procedures program in the Plutonium Facility has undergone a number of improvements in recent months. Expired procedures have been updated, procedure control has been improved, levels of use have been defined, and a conduct of operations manual has been developed to improve procedure adherence. A new procedure has also been developed for ensuring that work stations to be utilized for limited operations will undergo a thorough pre-operational check.

Safety-related systems and equipment have been reviewed for operability. Specifically, safety systems were assessed to ensure that the systems were capable of performing their safety function and that the systems received the proper maintenance, surveillance and testing. Red-line drawings were developed to confirm the system configurations and then entered in a change control process.

LLNL staffing has been increased with the addition of six system engineers, six safety analysts, a work control manager, a configuration control manager and a quality assurance specialist. Facility personnel have also received supplemental training in the area of conduct of operations.

On September 29, 2005, LLNL notified LSO that all pre-start findings from the MSA and RA have been verified as closed. LSO has also verified that the pre-start findings have been adequately closed. Facility management has established a prioritized sequence for resuming activities and plans a deliberate process for resuming operations. Even though substantial progress has been made, major challenges remain, including the transition from compensatory measures to permanent corrective actions, ensuring the effectiveness of recent improvements (e.g. conduct of operations), and the completion and implementation of a 10CFR830-compliant documented safety analysis to support full operations.