

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 18, 2005

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Michael J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory
Report for Week Ending March 18, 2005

Nuclear Facilities Configuration Management: A Board letter dated November 3, 2004, requested an assessment of the existing condition of the configuration management program at LLNL as it relates to vital safety systems for defense nuclear facilities. On January 4, 2005, the Administrator of the National Nuclear Security Administration (NNSA) provided an interim response with a report providing an assessment of the program at the Plutonium Facility. The report identified or confirmed serious vulnerabilities with the vital safety systems in the Plutonium Facility. The NNSA letter also committed to perform assessments of configuration management of vital safety systems for all LLNL defense nuclear facilities. On March 15, 2005, the Manager of the Livermore Site Office (LSO) sent a report to NNSA providing an assessment of configuration management of vital safety systems for the remaining defense nuclear facilities at LLNL.

The LSO report evaluated the condition of the configuration management programs for the Tritium Facility, the Hardened Engineering Test Building, the Radiography Facility, the Heavy Element Facility, and the Radioactive and Hazardous Waste Management (RHWM) Facilities¹. The LSO team assessed the safety systems for these facilities using criteria based on DOE-STD-1073, *Configuration Management*, and review criteria for essential safety systems developed by the DOE Office of Independent Oversight and Performance Assurance. The assessment team reviewed documents, walked down vital safety systems, and discussed systems with facility system engineers and safety basis personnel.

The report concludes that configuration management is not complete or effective within the Tritium Facility, the Hardened Engineering Test Building, and the Radiography Facility. The vulnerabilities in these facilities are similar to the types of vulnerabilities found during the review of the Plutonium Facility. Additionally, the report indicates that configuration management in the Heavy Element Facility and the RHWM Facilities is not fully mature. A common concern for many of the facilities reviewed was that the system boundaries and interfaces were not well defined.

The report also notes fundamental issues with conduct of operations in the facilities reviewed. The review team noted specific issues in the following areas:

- Lack of procedures for performing inspections and tests of systems;
- Major flaws with the calibration program for measurement and test equipment;
- Performance of system modification prior to an evaluation of the change; and
- Inadequate evaluation of system modifications.

LSO and LLNL have established schedules to perform joint comprehensive assessments of configuration management programs for the defense nuclear facilities by July 5, 2005. A resource-loaded schedule to correct the vulnerabilities is due by September 1, 2005.

¹ RHWM Facilities include: B612, B625, B693, B696R, B696S, B695, WIPP Mobile Vendor, T6197, T6197B, and T6198.