DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 2, 2007

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: T.L. Hunt, Acting DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory
Report for Week Ending February 2, 2007

Activity Summary: Michael Merritt was on leave this week. Tim Hunt was on site performing site representative duties.

Radiography Facility (B239) Safety System: LLNL has an annual technical safety requirement (TSR) surveillance to test and recalibrate the radiation area monitors (RAM) in B239 to ensure dose rates exceeding 10 mR/hr can be detected and associated warning lights activated. It was discovered that several previous annual surveillances had established trip points for warning activation at 20 mR/hr on each of the five detectors and a TSR violation was reported. The existing RAM calibration procedure lacks the detail necessary to prevent misinterpretation and misapplication of the requirements. Under development is a revised surveillance procedure that is expected to provide more explicit direction to the instrument technicians. It was also found during the test that the warning lights were not wired correctly and did not indicate the presence of high radiation levels during some of the source checks. The Facility Manager took the appropriate action by suspending operations until the issues with the surveillance criteria and warning lights are resolved.

Independent Oversight Inspection: This week an inspection team from the Department of Energy Office of Environment, Safety and Health Evaluations, HS-64 (formerly OA-40), completed the two-week on-site portion of its inspection of LLNL health and safety programs. In general, the team noted improvement in many areas relative to the OA-40 review performed two years ago. The Plutonium Facility was noted as having expended significant effort to address previous OA-40 findings. Positive results were seen in, among other areas, the work planning and control processes, health physics activities, configuration management, and the system engineering program. Preliminary results indicating areas of continued weakness with respect to the Plutonium Facility include facility operator training, configuration management of drawings, and requirements associated with safety-related components. Potential findings against the Livermore Site Office (LSO) include an inadequate process to track and trend operational data and weaknesses in the training and qualification program for the facility representatives. It will take several weeks for the review team to draft, validate, finalize and issue their report.

Readiness Assessment (RA) for Legacy Item Disposition: Issuance of the final report from the contractor portion of the RA is imminent. Four pre-start findings are expected, along with several observations and strengths. It will be noted that some emergency support personnel were not identified and properly trained. A broader issue deals with the informal closure of findings from the management self-assessment. LLNL material handler knowledge and conduct of operations discipline were recognized as strengths. The NNSA independent RA, consisting of document reviews and interviews, will likely commence in a couple weeks.

Hardened Engineering Test Building (B334): LLNL reported a discrepant condition last October when it was discovered that two permanent continuous air monitors (CAMs) that were required by the safety basis to be operational when special nuclear material was in the bays had been removed. Since the reliability of non-existent CAMs can not be credited, a positive unreviewed safety question was determined. Subsequently, the use of portable CAMs was proposed by LLNL and approved by LSO based on the expectation that a LLNL health physicist will position the portable CAMs in the worker's breathing zone. The recently submitted B344 documented safety analysis deleted any reference to specific CAM locations. LLNL issued technical guidance last year on the placement and use of CAMs and created an implementation plan to evaluate all effected facilities by the end of the year. The technical basis for B334 CAMs has not yet been developed.