

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 3, 2006

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: Michael J. Merritt, DNFSB Site Representative
SUBJECT: Lawrence Livermore National Laboratory (LLNL)
Report for Week Ending February 3, 2006

DNFSB Staff Site Activity: R.T. Davis, J. Plaue, and R. Tontodonato were at LLNL this week reviewing Plutonium Facility resumption activities and projects, configuration management, conduct of operations, facility hazard categorization, and Livermore Site Office (LSO) oversight. The staff review included walk-through assessments of the Plutonium Facility, Radiography Facility, Tritium Facility, and waste management facilities.

Plutonium Facility Path Forward: LLNL provided a draft Memorandum of Understanding (MOU) to LSO this week that defines a path forward to return to normal operations. LLNL has defined normal operations as those activities that were approved and authorized prior to the stand-down of the facility on January 15, 2005. In the letter forwarding the MOU, LLNL communicates its intent to request LSO approval to remove current limitations and compensatory measures following completion of a readiness assessment (RA) and closure of any pre-start issues. LLNL has provided justification supporting this approach including completion of all corrective actions associated with the Technical Safety Requirements (TSR) recovery plans (see weekly report dated March 4, 2005). Facility management has also verified closure of corrective actions that address issues identified in numerous assessments during the past year. As part of the review and approval process for the MOU, LSO will need to determine the appropriate scope of the RA.

Radiography Facility Testing: This week, LLNL performed testing in the Radiography Facility to determine the cause of continuous air monitor (CAM) false alarms (see weekly report dated November 18, 2005). During the tests, two models of alpha CAMs were placed in the radiography bay to expose the CAMs to high radiation fields in an attempt to induce alarms. As part of the tests, radiation exposure and radio frequency (RF) data were gathered in the radiography bay during operation of a 9 MeV Linatron x-ray radiation generating device. Thermal luminescent dosimeters, self-reading ion chambers, and neutron bubble dosimeters were placed in various locations to record gamma, x-ray and neutron exposure. RF fields were also measured using specialized equipment. One model CAM was prone to alarm in the presence a RF from portable communications equipment. LLNL is currently evaluating the data in an attempt to determine the precise cause of the false alarms.

Tritium Facility Maintenance: In July 2005, LLNL reported a problem with maintaining equipment in the Tritium Facility designated as important-to-safety (ORPS report OAK-LLNL-LLNL-2005-0059). Specifically, the report identified deficiencies in the preventive maintenance program for the fire alarm system. Five of the 60 smoke detectors were considered inaccessible and were not tested as required. As a result, a violation of the facility Technical Safety Requirements (TSR) for the maintenance management program was reported and a TSR recovery plan was developed. This week, LSO determined that the recovery plan did not address the underlying causes leading to the TSR violation and directed LLNL to include additional actions in a revised recovery plan. The actions are to provide training to key facility management on the maintenance implementation plan (MIP) and formally define the responsibilities and assignments regarding the MIP to the facility management.