

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 7, 2012

MEMORANDUM FOR: Timothy Dwyer, Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending September 7, 2012

Inventory Reduction: Last week, laboratory contractor personnel completed the last major shipment of special nuclear material from the Plutonium Facility to other Department of Energy (DOE) sites. This significant achievement represents more than four years of effort and the contribution of many workers; however, the path to operating as a Security Category III facility still requires several additional actions. Between now and the end of this month, contractor personnel need to accomplish additional moves of nuclear materials within Superblock, complete modifications to access control and security features in the facility, revise and train personnel on procedures, and complete a verification review performed by the Livermore Site Office (LSO) and DOE Headquarters personnel.

Safety Basis: On August 29, 2012, the contractor submitted to LSO for approval a proposed change to the minimum staffing specified in the Technical Safety Requirements. Specifically, the contractor proposed to change the requirement for Health and Safety Technicians to be on “call back” for the Plutonium and Tritium Facilities outside of normal working hours without planned ongoing radioactive material operations. Previously, a technician was required to be onsite at all times to respond to alarms and perform periodic facility walk-downs. The status of “call back” does not require physical presence on the laboratory property. If approved, this change will result in no onsite technician coverage for the entire laboratory during off-hour periods without planned work. The contractor proposed this change as an efficiency measure to compensate for expected funding reductions in the next fiscal year. As part of their approval process, LSO personnel are reviewing the types, responses, and alerting locations for the full suite of alarms in these two facilities.

Nuclear Materials Management: This week, the contractor switched to a new materials control and accountability software system known as the Lawrence Livermore Nuclear Materials Accountability System (LLNMAS). This software is a local variation of the Local Area Nuclear Material Accountability System currently being deployed across the DOE complex. As a consequence of this software change, a number of procedures involving material movements and nuclear criticality safety required revision and subsequent worker training. This process is ongoing and facility management has directed that near-term material movements be performed in a deliberate manner with additional oversight from safety office, criticality safety, and materials management personnel.

For purposes of software quality assurance work practices, the contractor categorized LLNMAS as risk level 4, the lowest level for safety software. LLNMAS replaced the Controlled Materials Accountability System (COMATS), which historically generated significant debate on the role of the system and the need for software quality assurance (see weekly report dated February 10, 2006). The contractor’s current position is that LLNMAS simply provides workers with information and all criticality safety and material-at-risk calculations are performed manually.