

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 11, 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 11, 2005

**Activity Summary:** W. White was on site Monday through Thursday to provide support for the DNFSB site office.

**Heavy Element Facility Risk Reduction:** On Monday, personnel with the Department of Energy's Radiological Assistance Program (RAP) swept various rooms in the Heavy Element Facility to verify that no significant quantities of nuclear material are present in the facility other than what is already known. The effort is part of LLNL's ongoing plan to remove the nuclear material inventory in the Heavy Element Facility and reclassify the facility as a Radiological Facility instead of a Category 2 nuclear facility per DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*. The current safety basis for the facility does not meet the requirements of 10 CFR 830, *Nuclear Safety Management*. The facility has an exemption from these requirements that expires in April 2005 and is based on the assumption that the facility will have less than Category 3 quantities of nuclear material by April 2005.

The RAP team found no significant surprises in the rooms that were surveyed. The validation effort provided training and experience for RAP personnel, in addition to verifying LLNL efforts to de-inventory the facility.

**Plutonium Facility Power Anomaly:** Early in the morning on Wednesday, February 23, the Plutonium Facility experienced a minor voltage dip caused by a switch failure outside the Superblock. The voltage dip lasted approximately 12 cycles. The automatic transfer switch for the emergency power system in the Plutonium Facility initiates a startup of the emergency diesel generator after power is lost for specified period of time. However, an audible alarm for the diesel generator went off, apparently as a result of the momentary loss of power to the charger circuit for the batteries that supply power to start the diesel generator.

In discussing the alarm associated with the battery charger, LLNL personnel noted that the lead diesel is affected if the battery charger circuit fails. A failure of the charger circuit does not necessarily mean the batteries will be unable to start the diesel. According to LLNL personnel, they are in the process of evaluating improvements to the design of the existing circuit configuration. The recent power anomaly also appeared to cause the loss of the lead fan for the glovebox exhaust system. This, in turn, caused the lag fan to start, as designed. The brief voltage drop appears to have caused the control circuit for the lead fan to turn off that fan.

**Environmental Impact Statement:** On March 10, 2005, the Administrator of the National Nuclear Security Administration approved the Final Site-wide Environmental Impact Statement (EIS) for Continued Operation of LLNL and the Supplemental Stockpile Stewardship and Management Programmatic EIS. The EIS documents analyze potential environmental impacts of continued operations, including near term proposed projects. The potential exists to significantly increase the administrative limits for the amount of plutonium stored in the Plutonium Facility and the amount of plutonium allowed in some rooms in the facility. A Record of Decision is expected in April 2005.