

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 23, 2011

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending September 23, 2011

Federal Oversight: Last week, the NNSA site office transmitted a series of letters to LANL that call for corrective actions in response to recent operational events and assessment results. The letters focus on issues related to criticality safety and conduct of operations at the Plutonium Facility, as well as, safety system and safety management program efficacy concerns at transuranic solid waste facilities (Area G, RANT, and WCRR). Collectively, the letters prompt LANL to take immediate actions to: • evaluate the adequacy and implementation of criticality safety controls for certain Plutonium Facility operations that rely heavily on conduct of operations to maintain criticality safety margin; • evaluate vital safety system operability concerns at transuranic solid waste facilities; and • evaluate whether safety management programs at the Plutonium Facility and transuranic solid waste facilities require compensatory measures. Longer-term, the letters call for LANL to examine the issues associated with the Plutonium Facility and transuranic solid waste facilities, determine causal factors, evaluate extent-of-condition across the site, and develop a comprehensive corrective action plan. The letters also drive LANL to develop a suite of performance metrics and leading indicators that can be used jointly by LANL and NNSA to track improvements in nuclear operations.

Plutonium Facility: In response to the NNSA site office correspondence discussed above, this week Plutonium Facility management suspended selected operations, pending review of the adequacy and implementation of criticality safety controls. One affected operation involves nitric acid-based plutonium recovery and purification. Close evaluation of this process based on NNSA concerns highlighted the fact that it is physically possible to transfer plutonium-bearing solutions from process tanks, through piping, into a bulk nitric acid tank that resides outside the Plutonium Facility's credited confinement boundary. This situation presents both safety basis and criticality safety concerns and prompted Plutonium Facility management to declare a Potential Inadequacy of the Safety Analysis.

Las Conchas Wildfire: Last week, the site office transmitted the Las Conchas Wildfire Final Emergency Report to NNSA-Headquarters consistent with the requirements in DOE Order 151.1C, *Comprehensive Emergency Management System*. The fire began on Sunday, June 26th at approximately 1300 roughly 12 miles southwest of LANL. An Operational Emergency was declared on Monday, June 27th due to a small (approximately 1 acre) fire on laboratory property that was quickly extinguished. LANL transitioned from an Operational Emergency to recovery mode on Friday, July 1st after the threat from the fire had been sufficiently mitigated.

As a noteworthy practice, the report identifies lessons learned and corrective actions developed after the 2000 Cerro Grande fire that included execution of a wildland fire management plan, construction of a new Emergency Operations Center (EOC), formalized training of Emergency Response Organization personnel, establishment of a 24/7 Emergency Operations Support Center and development of an enhanced drill and exercise program. The report identified opportunities for improvement in the areas of communication, management and staffing, EOC infrastructure, access control and accountability. The site office also reviewed the event and identified opportunities for improvement associated with LASO and DOE-Headquarters performance. The site office is developing a performance-based incentive for FY12 to drive improvements in the identified areas.