

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 30, 2011

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending September 30, 2011

Broderick was out of the office this week.

Plutonium Facility – Seismic Safety: This week, NNSA-Headquarters formally submitted the Project Execution Plan for structure, system and component upgrades to ensure worst-case accident scenario consequences do not exceed the DOE evaluation guideline. The plan is identified as a deliverable for Recommendation 2009-2, *LANL Plutonium Facility Seismic Safety*, and includes the initial strategy, cost, scope, schedule and funding sources for the proposed upgrades. A key proposed upgrade, safety-class, performance category-3 active confinement ventilation has a current schedule for completion in fiscal year 2020; however, the forwarding letter notes that NNSA is reviewing this project to determine if the schedule can be accelerated. NNSA also commits to updating the Project Execution Plan in January to include any additional input from the Plutonium Facility Seismic Analysis of Facilities and Evaluation of Risk (SAFER) analyses. Based in part on input from the Board staff, LANL is currently evaluating the impact from the facility service chase roof cold joint and the performance of corridor columns after other upgrades are completed. These evaluations may identify the need for additional facility upgrades to address worst-case seismic accident scenarios.

As a part of the Justification for Continued Operation associated with the increase in seismic risk identified by the SAFER project, LANL included a compensatory measure to containerize a significant quantity of heat source-plutonium (HS-Pu) into safety-class fuel storage outer containers. This week, LANL reported to the site office that 1.2 kg of HS-Pu from the laboratory floor has been packaged in safety-class containers. Because of the high specific activity for HS-Pu, this represents a significant quantity of plutonium-239 equivalent material.

Safety Basis: Recently, LANL responded to site office direction on management of safety system deficiencies related to declaring Technical Safety Requirement (TSR) violations, the new information process, the non-conformance report process, integration of these procedures and required training. With input from the site office, LANL has developed a standing order that defines the conditions for declaring a TSR violation. This definition will be incorporated into safety basis documents as part of the annual update process. In addition, the NI and NCR procedures have been revised to address site office comments and ensure process integration. LANL plans to perform a training needs analysis to determine appropriate training content, target audience and best method to deliver training material to the target audiences.

Formality of Operations: Earlier in September, LANL responded to a July 2011 NNSA-Headquarters request to analyze the site's issues and weaknesses in formality of operations, identify common contributing factors and corrective actions and describe "best in class" practices in this area. The site office response notes that while formality of operations procedures adequately address DOE requirements, uniform and compliant implementation of these procedures and processes remain a problem at LANL as evidenced by facility centered assessments, readiness review results and site office oversight activities. Specific issues that need to be addressed are identified for conduct of operations, engineering, maintenance and training. The site office notes that LANL continues their "maturation" of formality of operations; however, full compliance is expected to take several more years to complete.