

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 25, 2012

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending May 25, 2012

Staff members A. Hadjian, J. Kimball, J. Pasko and C. Shuffler were onsite this week to discuss the seismic analysis of the Plutonium Facility structure, systems and components.

Plutonium Facility – Seismic Safety: This week, NNSA and LANL personnel discussed the status and plans for completing the static non-linear seismic analysis of the Plutonium Facility. Following the completion of the Seismic Analysis of Facilities and Evaluation of Risk (SAFER) project review of the Plutonium Facility, LANL completed a series of facility upgrades to address identified vulnerabilities. NNSA and LANL also decided to perform a static non-linear seismic analysis to determine if other upgrades are required to support the safety function identified in the Documented Safety Analysis (maintain confinement integrity) and to identify whether additional collapse mechanisms need to be addressed. The staff expressed concern over certain inputs for this analysis and the details for modeling the service chase roof slab. LANL plans to perform testing this summer to better characterize the seismic performance for the service chase roof slab.

The site office also provided direction to LANL this week noting that the non-linear modeling needs to be completed expeditiously to determine if there are other deficiencies that need to be addressed in the near term. The letter requests a final report on the analysis by September with preliminary results in July and that NNSA be promptly notified if issues arise that delay this schedule. The letter also directs LANL to update the Plutonium Facility Seismic Project Execution Plan to include any additional out-year testing and analyses that are needed to address facility seismic concerns. While it is important to complete this work in a timely manner, NNSA and LANL need to ensure the results adequately evaluate the Plutonium Facility seismic performance to ensure any needed upgrades are identified and pursued.

Plutonium Facility – Safety Basis: On Friday, LANL requested and received approval of a one month delay in the schedule for implementation of the 2011 Documented Safety Analysis and associated Technical Safety Requirements (TSRs). The previously approved schedule for completion of this effort was May 25th. LANL identified issues and concerns with the implementation of the MAR tracker software, which is used to implement TSR controls for material at risk inventories.

Plutonium Facility – K2 Container Disposition Plan: Earlier this year, LANL provided NNSA with a disposition plan for the K2 containers that contain Plutonium-238 material received from Mound in the 1980's. Six of these containers are currently located in the vault water bath. The site office requested a disposition plan for the K2 containers as part of the closeout of a Potential Inadequacy of the Safety Analysis associated with miscellaneous vault water bath containers late last year. This material is particularly difficult to handle and repackage because of the high dose rates involved. LANL provided two options for disposition of this material as transuranic waste at WIPP. The first option would use existing pipe overpack containers to ship the material as contact handled waste. The second option would ship the material as remote handled transuranic waste and requires development of a shielded container. LANL plans to pursue both of these options in parallel with a schedule for completion in the 2018 timeframe. The site office requested LANL to include these plans in the safety basis during the next annual update and to pursue funding for this activity beginning in 2014.