

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 17, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending December 17, 2010

Staff members Caleca, Gibson, Hadjian, Kimball, Pasko and Shuffler were onsite this week to discuss the Chemistry and Metallurgy Research Replacement (CMRR) Project, walkdown the Plutonium Facility and to observe the peer review team meeting for the Plutonium Facility seismic evaluation.

Chemistry and Metallurgy Research Building (CMR): On Monday, CMR management declared implementation and began operating under the modern Documented Safety Analysis and Technical Safety Requirements that were approved by the NNSA site office in June. This action retires the 1998 Basis for Interim Operations, CMR's previous safety basis, which was set to expire on December 31, 2010. The new safety basis, in conjunction with a standing order that implements CMR's new policy for more tightly controlling material-at-risk (MAR), authorizes post-2010 operations using a quantity of MAR that ensures the DOE Evaluation Guideline will not be exceeded in bounding postulated accident scenarios.

Transuranic Waste Operations: This week, LANL resumed the readiness assessment for the startup of two heated transportainers at Area G. The heated transportainers are needed to ensure that any free liquids inside transuranic waste containers are in an unfrozen state prior to undergoing the radiographic characterization required by the Waste Isolation Pilot Plant waste acceptance criteria. In October, LANL started but then paused the review due to inadequate implementation of Technical Safety Requirements associated with tracking and limiting material-at-risk allowed inside the transportainers and within 50 feet. At the time, the review team also identified concerns related to the potential for hydrogen concentrations above the lower flammability limit to accumulate inside the heated transportainers.

These issues have now been resolved and the readiness assessment resumed on Thursday. Because of the work previously reviewed, the team expects to complete their review early next week.

Plutonium Facility: On Monday, the site office issued a letter to NNSA-Headquarters summarizing the completed near-term actions to reduce the probability and consequence of seismic accident scenarios. These actions included the following:

- Design of an automatic seismic shutdown of laboratory electrical equipment to reduce electrical ignition sources
- Removal or lock-out of glovebox ignition sources that are no longer needed
- Procurement and installation of six safes with adequate fire ratings to protect special nuclear material during a fire
- Testing of two container designs under fire conditions (testing completed supports a damage ratio of 1% for these containers)
- Establishment of project scoping for seismically upgrading the fire suppression system and key portions of the active confinement ventilation system
- Repair of deficiencies in the main Plutonium Facility fire barrier
- Robustly package or disposition special nuclear material (almost 700 kg Pu-239 equivalent was repackaged or dispositioned in FY 2010)