

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 3, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending December 3, 2010

This week, Board members Peter Winokur, Jessie Roberson, Joseph Bader, and John Mansfield were onsite along with staff members Timothy Dwyer, Matthew Moury, John Pasko and William Shields to meet with NNSA site office and LANL personnel.

Chemistry and Metallurgy Research Building (CMR): This week, the NNSA site office concurred with LANL's proposed safety basis strategy for CMR. NNSA's concurrence formalizes a new approach to managing and controlling material-at-risk (MAR) at CMR that ensures the DOE Evaluation Guideline will not be exceeded in bounding postulated accident scenarios. Under this new approach, CMR will administratively control MAR at a level approximately 35% less than the approved facility-wide limit. The Technical Safety Requirement (TSR) MAR limit will be changed to formally reflect the new approach in the next annual safety basis update.

CMR facility personnel are also nearing completion of their efforts to implement the DSA and TSRs that support post-2010 operations. Facility management is expected to declare implementation in mid-December and formally transition from the 1998 Basis for Interim Operations (BIO) and associated interim TSRs to the new modern DSA and TSRs.

Plutonium Facility: Historically, LANL tended to store low plutonium-content process residues in the vault rather than performing additional aqueous processing to recover and consolidate the special nuclear material. As a result of these legacy practices, roughly half of all items currently stored in the Plutonium Facility vault are residues. Additionally, greater than 1000 items or about 20% of the total vault holdings are items packaged in potentially vulnerable containers with taped slip-top lids rather than in robust safety-significant containers that include a HEPA-filtered vent. The presence of these slip-top containers requires respirator use whenever operators access the vault. In FY10, LANL made meaningful progress in addressing these legacy materials.

Last fiscal year, Plutonium Facility personnel robustly packaged or dispositioned almost 700 kg of plutonium-equivalent material. Of this 700 kg, about 25% was addressed using aqueous processing to recover plutonium (the significant ramp-up of aqueous processing was enabled by the restart of transuranic liquid waste processing capability in the Radioactive Liquid Waste Treatment Facility); approximately 40 % was shipped offsite or dispositioned as waste; almost 15% was repacked in robust containers; and another roughly 20% was packaged in welded 3013 containers.

Chemistry and Metallurgy Research Replacement (CMRR) Project: In September 2009, construction activities for the Radiological Laboratory/Utility/Office Building (RLUOB) were substantially completed. Since that time, LANL has been working to outfit laboratory and office space with necessary equipment. RLUOB is a radiological facility (limited to MAR less than 8.4g Pu-239 equivalent) that will provide approximately 19,500 ft² of laboratory space. RLUOB will also serve as a consolidated training facility, a centralized utilities and services building for the entire CMRR project (including the nuclear facility) and will accommodate 350 personnel. Turnover of office space is scheduled for October 2011 and radiological operations are planned for mid-2013.