DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 22, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending January 22, 2010

Plutonium Facility – Seismic Safety: This week, LANL responded to the December site office direction on improving seismic safety at the Plutonium Facility (site rep weekly 1/8/10). LANL proposes completion of several improvements this fiscal year including the following: 1) complete 100% design of seismic electrical interlocks (August) 2) implementation of ignition source control (March) 3) installation of 6 robust safes (August) 4) testing of existing containers to establish a defensible damage ratio during a fire (September) 5) seismic evaluation of fire suppression and ventilation systems (September) and 6) fire-barrier assessment (July). LANL also identified material-at-risk reduction goals for the Plutonium Facility. For weapons grade plutonium, the laboratory plans to repackage into robust containers or ship off-site 200 kg (Pu-239 equivalent) of material. For heat source plutonium, LANL plans to overpack the roughly 100 remaining non-safety class Russian Product Containers by the end of June.

To accomplish these objectives, LANL proposes to modify or defer other activities that were planned for this fiscal year including a delay in fully implementing the 2008 safety basis from March to May, a delay in hiring additional cognizant system engineers to offset attrition and a delay in implementing the criticality safety program improvement plan from September 2010 to April 2011.

Transuranic Solid Waste Operations: This week, the site office approved a short duration (less than 5 months) transuranic solid waste sorting operation in the Dome 231 Permacon. LANL plans to use this processing line to remove WIPP-prohibited items from transuranic waste drums. The operation will be limited to 0.52 PE-Ci. During evaluation of this activity, the site office expressed concerns about the flammability of a strippable wall coating on the Permacon structure. To address this issue, the site office included conditions of approval that require removal of this coating within 3 weeks and additional controls pending removal of the coating. The site office also directed LANL to control ignition source proximity to the Permacon and establish a combustible control program. In addition to startup of this debris line operation, LANL is also pursuing installation of a second processing line at the Decontamination and Volume Reduction System Facility (Building 412).

Work Control: This week, the NNSA site office issued a letter to the laboratory contractor expressing concern over a series of recent events related to research and development and programmatic work that exhibit common weaknesses in work planning and control. The site office notes that similarities between the recent events and prior events (examples are cited dating back to 2002), indicate that previous corrective actions have not been effective or have degraded over time. Based on these observations, the site office asserts that achieving mature, sustainable work control implementation has lagged in the areas of research and development and other programmatic work. The NNSA letter also notes that similar observations related to work control deficiencies were identified in a December 2, 2009, letter from the DNFSB. To address these concerns, the letter directs the contractor to evaluate recent safety incidents and to provide to the site office by February 5th the actions that will be taken to improve institutional safety in programmatic and research environments (site rep weeklies 1/15/10, 12/18/09, 8/7/09, 7/24/09, 7/10/09).