

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 15, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending September 15, 2006

Gwal, Layton, March, and Matteucci were on site this week reviewing electrical and fire protection systems and programs, both site-wide and facility-specific for CMRR, TA-55, and WETF.

Infrastructure: The LANL preliminary FY-07 budget for nuclear infrastructure and operations appears, in some cases, to be less than the FY-06 budget and roughly a third of the estimated need; this could propagate longstanding declining trends in infrastructure that affect nuclear safety. The next test is how NNSA and the new LANL management reconcile the budget issues, and specifically, how they evaluate the mission vs infrastructure trade-offs. It is unclear how NNSA and LANL could achieve their long-term nuclear mission objectives without starting in FY-07 to substantively address longstanding issues with infrastructure and safety programs (site rep weeklies 9/1/06, 8/25/06, 8/4/06).

Fire Protection: The postulated highest consequence nuclear accidents at LANL are fire-related. It is unclear that LANL has adequate fire-fighting capability to respond to a nuclear facility fire, based on NNSA's long-term lack of a fire department contract with the county and lack of resolution of issues identified in a 2004 baseline needs assessment. LANL has made some progress in other areas, such as hiring 2 fire protection engineers in FY-06, and intends to hire 2 more in FY-07, subject to funding. LANL has also split the fire marshal and fire engineering functions to provide more independence and is working on fire hazard analysis updates for TA-55 and CMR (site rep weeklies 4/28/06, 6/3/05).

Plutonium Facility (TA-55): In 1996, the Board's staff noted that TA-55 lacked standard electrical analyses that are essential to ensuring personnel safety, as well as safe and reliable power (ref: Board letter and staff report 12/5/96). In 1997, LANL had a subcontractor complete these calculations. However, it seems little was subsequently done with the subcontractor's recommendations. LANL is now updating key analyses and expects them to be done in November; it's advisable for LANL to also fully and expeditiously evaluate the associated vulnerabilities and address the prior recommendations.

Electrical Systems and Safety: LANL has power grid infrastructure upgrades that are underway and that are improving the stability and reliability of site power, which is positive. On the electrical safety program, LANL has demonstrated vision in the last decade and has made major contributions to the DOE program, such as the DOE Electrical Safety Handbook; however, several LANL reviews have indicated that no real improvement has occurred in the last 3 years in the rate and severity of electrical safety mishaps; there also appears to be a strong linkage between electrical safety problems and broad weaknesses in implementation of the integrated work management (IWM) process. Current efforts are focused on improving program requirements (e.g., lock-out tag-out), improving oversight and training for subcontractors and students, and working toward more uniformity in program implementation.

On-Site Transportation: NNSA has disapproved LANL's proposed upgraded transportation safety document (TSD); NNSA asserts that the TSD did not demonstrate equivalence to federal regulations for on-site hazardous material shipments that use non-equivalent containers (site rep weekly 8/11/06).

Management: The LANS Board of Governors has approved the LANL contractor assurance system description, which now goes to NNSA; negotiations on FY-07 performance based incentives continue.