

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 5, 2004

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending March 5, 2004

Martin was on site this week reviewing the status of dynamic experimentation.

Integrated Safety Management (ISM): Last Thursday (2/26), two workers escaped serious injury when the mobile crane they were transporting struck a 13.2-kV overhead power distribution line, separating all 3 cables of the 3-phase distribution line. This was a near-miss to fatalities. Power was lost to a large area for 3.5 hours. The crane was being transported to DARHT to replace another crane that had been damaged by misuse. While this was a non-nuclear operation, the sequence of events and the potential consequences are disturbing. NNSA has expressed concerns about the formality of DARHT operations leading up to this event and requested LANL to develop a lessons-learned report. LANL is investigating to identify improvements in the integrated work management process and in lab-wide maintenance and operation of heavy equipment, including operator qualification.

Critical Experiments Facility (TA-18): NNSA owes the Board a response on the ability of new TA-18 safety-class temperature scram systems to perform their safety function (Board letter 7/9/03). The NNSA Site Office (LASO) has expressed serious concerns about safety, design, and procurement issues raised by recent assessments of these systems. LASO is directing LANL to address the issues and submit a comprehensive corrective action plan. LANL has suspended all work on the systems, and plans to complete an independent design review and to fully resolve the issues raised in the Board's letter. In the interim, the site rep believes that it would be prudent for NNSA and LANL to confirm that the admin controls and interim compensatory measures in place now to prevent the accident are effective. These are equivalent to safety-class controls (site rep weekly 2/13/04).

Weapons Engineering Tritium Facility (WETF): NNSA is overdue in its response to the Board on the functionality of the WETF NFPA 780 lightning protection system, which NNSA has designated as safety-class (Board letter 8/19/03; site rep weeklies 1/23/04, 12/26/03). LASO has provided input to headquarters. LASO recently made clear to LANL that WETF should reevaluate all accident scenarios, including lightning, in the next safety basis update. LASO is also pursuing an independent NNSA-led review by subject matter experts of WETF lightning protection effectiveness.

Last week, LASO also directed LANL to upgrade the tritium storeroom fire barrier, which is also safety-class, from 1-hour to 2-hour fire rating; to aggressively pursue transferring inventory to safety-class containers with ASME pedigree; and to create, for all LANL nuclear facilities, clear and enforceable Technical Safety Requirement (TSR) implementing procedures that specify operability requirements and time limits. Actions are to be completed by September 2004.

Chemistry and Metallurgy Research Building (CMR): NNSA is overdue in its response to the Board on safety system functional classification issues at CMR – particularly, whether that portion of the electrical distribution system that supplies power to supply and exhaust fans warrant functional classification as safety-significant (Board letter 8/19/03; site rep weekly 1/2/04). LASO has provided input to headquarters. LANL is currently reviewing all CMR safety systems as part of a safety basis upgrade to be submitted in April. The site rep observes that confusion persists on the significance of the questions here. The current CMR safety basis, a BIO, credits ventilation as the safety-significant backup to the safety-class fire suppression system to protect not only the workers but also the public.