

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 10, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director

FROM: C. H. Keilers, Jr.

SUBJECT: Los Alamos Report for Week Ending March 10, 2006

On Thursday, LANL, NNSA, and the Board's staff had a video-teleconference on the design effort for the CMR Replacement Project's radiological lab/utility/office building (RLUOB).

Authorization Basis (AB): The NNSA Site Office (LASO) has chosen to allow the nuclear facility authorization agreements (AAs) to expire and has directed LANL to come up with another system. The AAs list the AB documents that support NNSA allowing a nuclear or high hazard facility to operate; they were updated more than a year ago as a pre-start requirement for LANL resuming such operations; they are a key compensatory measure for several LANL nuclear facilities (e.g., TA-55) that are operating with safety bases that are 7 to 10 years old (Board ltr 5/27/04, site rep weekly 3/25/05). Maintaining these old ABs typically requires 3 to 5 LANL proposals and NNSA actions per week; this pace makes it difficult keeping AAs current, but they seem essential to AB configuration management.

Criticality Safety: On Wednesday (3/8), LANL submitted results of its documentation review of 564 fissile material operations, as well as its criticality safety improvement plan that is intended to address issues from a recent NNSA NA-117 assessment (site rep weekly 2/17/06). During its review, LANL identified 64 operations (i.e., 11 %) that warranted a high-priority walk-down; of these, LANL considered 24 (4 %) warranted immediate action: 19 involved TA-55 transfer (i.e., drop) boxes where the justification for limits was not immediately apparent; 4 involved machining or sample-prep boxes where the operation had been slightly altered without a criticality review; 1 involved ensuring back-flow prevention in an acid feed line. While the remaining operations were considered acceptable, LANL raised lower-tier issues with more than half the contractor evaluations and approval actions; nearly all these cases were from documentation generated prior to mid-2003. LANL's improvement plan includes detailed walk-downs of the remaining 500 operations this year; the plan is under formal change control, and any changes are subject to concurrence of the LASO senior safety advisor.

Federal Oversight: LASO has exited its 14-week stand-down preparing for contract transition (site rep weeklies 2/17/06, 11/25/05). While some improvements were made, such as establishing a records control center, many prior problems persist, such as ineffective processes to address differing opinions, to find balanced perspective, and to achieve unity-of-purpose before decisions are made; the problems are particularly acute at the organizational interface between safety-basis and operations.

Based on its own staffing analyses, LASO suffers from an insufficient number of technically-qualified staff to perform nuclear safety oversight: only 4 of 8 LASO managers in senior technical safety manager (STSM) positions have STSM qualification; 3 of the 5 safety analysts are fully qualified, compared to about 15 needed per responsible LASO management; 3 of 16 facility reps (FRs) are fully qualified – they are deployed at 3 of the 27 LANL nuclear facilities (TA-55, CMR, and LANSCE) – it is not apparent when and how LASO plans to establish qualified FR coverage for the remainder; 6 of 7 safety and health experts appear fully qualified for their positions, compared to about 30 needed to support nuclear and non-nuclear oversight. LASO has no full-time criticality safety expertise on site, which seems inconsistent with the scale of LANL fissile material operations. LASO has essentially no funding available this year for hiring or training staff and thereby beginning to alleviate this condition.