

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 23, 2005

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending September 23, 2005

Von Holle was on site this week attending the LANL energetic materials review.

Plutonium Facility (TA-55): The NNSA Site Office (LASO) has endorsed the LANL plan to refine accident analyses and try to justify a passive confinement strategy by January 2006 (site rep weekly 9/16/05); NNSA emphasized LANL continuing plans to reduce material-at-risk limits, to seismically upgrade the 60 % of glove-box supports that have not already been upgraded to safety-class, and to provide safety-class containers capable of withstanding fire, explosion, puncture, and crushing. The challenges, besides the analyses, are significant; for example, the widely used TA-55 standard container (i.e., the Hagan can) has elastomer seals that will likely fail and leak during a major fire.

Waste Operations: LANL's transuranic waste shipments to WIPP are the principal means for LANL to reduce risks associated with the lab's highest consequence nuclear accident postulated in approved safety analyses. Since April when shipments resumed, LANL has made 36 shipments for a total of about 800 drums – of which 362 (45%) are from the higher-activity Quick-to-WIPP set. LANL has also increased emphasis on conduct of operations and on management walk-downs and reviews as a start for long-term improvements (site rep weekly 8/19/05).

Last Wednesday (9/14/05), LANL provided LASO a roughly 2-year \$20M integrated plan to move nuclear waste operations from its current ad-hoc mode to an efficient, unified, disciplined operation. Key elements include improving organizational management and worker culture and training by December, improving infrastructure and safety basis implementation by September 2006, and revitalizing operations by early 2007. This Wednesday (9/21/05), LASO provided LANL its recent "for-cause" assessment of safety systems supporting waste operations. It concludes that safety basis requirements generally are inadequately identified, implemented, and fulfilled; specific findings are sweeping and involve safety bases, USQ process, requirement flow-down, fire protection, configuration management, and safety system surveillance, testing, and maintenance.

Many of the issues from the LASO assessment were previously recognized (e.g., site rep weekly 8/5/05) and could be addressed within the LANL plan. One course would be for LANL to evolve the plan based on review of specific LASO findings, establish clear metrics and milestones, and, with full LASO support, expeditiously execute the plan and reduce risk in a timely and balanced manner.

NNSA Oversight: LASO has nearly completed its verification of the TA-55 safeguarded trailer pad startup readiness (site rep weekly 9/2/05); the verification process so far has been ad-hoc but thorough. However, last Friday (9/16), LASO proposed to NNSA headquarters (NA-10) a pad fire protection exemption without obtaining concurrence from LASO staff responsible for safety basis and for fire protection. The exemption request is on hold; LANL is working with LASO to resolve remaining technical issues, which involve new hazards and controls not recognized when the exemption request was generated. LASO's weak concurrence process is a recurring issue (site rep weekly 8/26/05). Furthermore, 5 of 10 LASO technical managers have not completed the Senior Technical Safety Manager (STSM) qualification, nor are compensatory measures apparent (ref: DOE response to Board Recommendation 93-3, *Improving DOE Technical Capability*). This aspect, coupled with the last year's turnover of LASO technical managers, may be further weakening local federal oversight.

Sigma Complex (TA-3-66): On Monday (9/19/05), Sigma reimplemented personnel exit surveys and other controls, based on Am-241 contamination found in uncontrolled areas (site rep weekly 8/5/05).