DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 15, 2005

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: T. D. Burns Jr. and C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending July 15, 2005

Plutonium Facility (TA-55): In April, NNSA rejected the Interim Technical Safety Requirements (ITSRs) submitted by LANL for TA-55. The intent of the ITSRs is to consolidate the best available control set for TA-55 operations pending completion of the final Documented Safety Analysis upgrade (site rep weekly, 4/22/05). NNSA and LANL also indicated that the ITSRs would capture the safety-class control strategy for addressing passive confinement vulnerabilities identified last December. The Board has clearly stated its position (re: Board letter 5/31/05) that a reasonable upgrade of the existing active confinement ventilation system is the preferred safety-class alternative.

LANL has revised the ITSRs to address previous NNSA comments and resubmitted them for approval. In general, the latest ITSRs represent an improved set of controls, derived from the most recent analyses, and captured in a single document; this is a positive. However, the ITSRs eschew the active confinement ventilation system as a safety-class control and continue to rely on a collection of administrative controls and process specific design features to compensate for the passive confinement vulnerability; this is disappointing. The recently completed LANL cost-benefit analysis for potential TA-55 ventilation system upgrades (site rep weekly, 4/15/05) concludes that a full upgrade of the ventilation system is impractical (i.e. $352 M), and that improvements to either the passive confinement system or select glovebox and fire suppression equipment are preferable, as a long-term solution, to more focused ventilation system upgrades.

The NNSA position regarding the proposed safety-class control strategy and potential upgrades to the active confinement ventilation system remains undeclared pending completion of their on-going review of the ITSRs. NNSA is expected to finish their review before the end of the month.

Unreviewed Safety Questions (USQs): LANL has completed its review of all negative Unreviewed Safety Question (USQ) determinations dating back to April 2001 (3/18/05). The review was performed in response to NNSA concerns about potentially inadequate implementation of the USQ process at the lab. Of the 1,263 negative USQ determinations reviewed, 20 (~1.6%) were found to be mis-characterized that should have been positive. Statistically, the results do not indicate a systemic failure of the USQ process at LANL; however, the specific safety implications of the 20 incorrect determinations are still under review. As an on-going quality control measure, LANL's central safety basis office will continue to review, on a sampling basis, negative USQ determinations from May 2005 forward.

Waste Operations: LANL's transuranic (TRU) 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 (site rep weekly 4/15/05). Unfortunately, several safety basis and operational issues have arisen that call into question the safety envelope supporting waste operations. It is imperative that NNSA and LANL expeditiously correct these deficiencies to ensure the proper controls are being implemented to support safe and efficient execution of these critical risk-reduction activities