DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 25, 2002

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending October 25, 2002

Authorization Basis (AB): DOE and LANL are updating numerous ABs this year. Implementation and verification appear to warrant more management attention, as well as more rigorous planning, coordination, and resource-loading (site rep weeklies 7/12/02, 8/9/02).

The Weapons Engineering Tritium Facility (WETF) is the first LANL facility with an updated AB. This week, WETF temporarily secured operations because of overdue commitments for implementing new Technical Safety Requirements (TSRs). In July, DOE and LANL agreed upon the implementation schedule. About half the commitments were due this week. Last week, WETF proposed slipping about half of the commitments, based on recent operational and programmatic demands, as well as on a slip in the contractor operational readiness review (ORR) – intended, in part, to verify AB implementation. This ORR is now scheduled to start Nov 12th. DOE has informed LANL the proposed schedule changes are unacceptable. LANL has requested clarification.

The Critical Experiments Facility (TA-18) is the second LANL facility with a major updated AB. While implementation is well planned (site rep weekly 9/13/02), it remains to be seen whether it will be successful. Longer term, LANL has plans to establish an Operations Support Group to assist nuclear facilities in formality of operations and AB implementation. That initiative appears to be lagging due to funding issues.

Integrated Safety Management (ISM): The site rep understands that LANL has an independent team reviewing the event, reported last week, involving crafts personnel accessing a radiography facility roof while intermittent operations were being conducted. This is positive.

On October 10th, DOE concurred with the LANL corrective action plans for the January liquid chlorine dioxide explosion in a non-nuclear facility (site rep weekly 9/27/02). The affected LANL division has completed about half of their corrective actions. Also, LANL is forming a team to review hazard analyses processes, to identify best industry practices (based on a study of outside organizations), and to recommend improvements. If fully pursued, this should lead to institutional improvements to both LANL hazard analysis tools and safe work practices. The latter is LANL's mechanism to implement ISM into programmatic work for both nuclear and non-nuclear operations.

Critical Experiments Facility (TA-18): Last week, LANL announced that a criticality experiment had been completed in the Planet assembly involving a 6 kg nickel-clad neptunium-237 (Np-237) sphere and about 60 kg of highly enriched uranium. Preliminary data reportedly shows that the critical mass for Np-237 is less than expected based on computer models. Future experiments will determine the Np-237 critical mass with various reflectors. This series of experiments was 12 years in preparation and was done in support of DOE programs for criticality safety, non-proliferation, and emergency response. TA-18 has the only operational general-purpose machines in the United States capable of these types of experiments.