

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 10, 2001

**MEMORANDUM FOR:** J. Kent Fortenberry, Technical Director  
**FROM:** C. H. Keilers, Jr.  
**SUBJECT:** Los Alamos Report for Week Ending August 10, 2001

This is the first DNFSB site rep report from Los Alamos. I reported aboard on Monday, August 6<sup>th</sup>. Also, DNFSB staff members Nichols and Von Holle were on site this week to attend the LANL energetics materials research review. The review, sponsored by LANL and several other organizations, provided useful insights for evaluating the conservatism that exists when using results of weapons response calculations.

**TA-55 Emergency Exercise:** On Tuesday, the site rep observed the annual emergency evacuation exercise in the Plutonium Handling and Processing Facility (TA-55). The exercise was also observed by LANL senior management at the Division and the Deputy Associate Laboratory Director levels and by two DOE facility reps. The scenario involved a recurring criticality due to simulated SNM rearrangement and sprinkler activation (controls exist to prevent this accident). The scenario also included (simulated) an unconscious, heart-attack victim and two contaminated individuals. For safety reasons, there were some artificialities. For example, PF-4 workers began to secure glovebox activities, frisk, and exit to the corridors 30 minutes before the alarm. This placed work in a safe condition and minimized the chance of contamination being carried outside the building.

Overall, the facility was proficient in their response, the exercise was well-controlled, and LANL self-identified several opportunities for improvement, such as: (1) issue tracking at the incident command post; (2) maintaining status and priority on the injured; and (3) minimizing cross contamination from PF-4 personnel. The site rep believes that higher priority should have been placed on evacuating the simulated victim. This was not a straight-forward decision because of the simulated radiation levels. Another area for improvement would be the presence of DOE subject matter experts at annual drills, such as this, that provide an opportunity to observe the facility making decisions in a high stress environment that affect safety, security, and the time it would take to restore facility operations if such an accident were to occur.

**Weapons Engineering Tritium Facility (WETF):** The staff continues to closely monitor DOE and LANL progress in improving the safety posture and the Authorization Basis for LANL tritium facilities, including resolution of issues raised in the Board's letter to DOE (3/29/01). This week, the staff (Bamdad, Jordan, Keilers, Nichols) discussed with DOE the current status of the recently submitted WETF Safety Analysis Report and Technical Safety Requirements. DOE plans to complete their review and provide comments to LANL by mid-September.

Accident prevention and mitigation in WETF is dependent on the building structure and several programs - particularly, the inventory control program, the combustible loading program, and the storage container program. Progress is being made. The roof has been seismically upgraded (PC-3). The vault racks will be upgraded to meet PC-3 requirements during the next 6 weeks. DOE and LANL also plan to upgrade the vault walls to meet a 2 hour fire rating and to transition to improved storage containers capable of withstanding higher temperatures. The staff has questions on the high reliance on administrative controls (e.g., programs) and the level of defense in depth for fires, especially in the interim before these upgrades are completed. The staff will continue to work with DOE and LANL to ensure an appropriate set of controls are identified and implemented.