

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 1, 2002

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending February 1, 2002

Bamdad, Jordan, and Martin were on site this week reviewing TA-18 activities.

Critical Experiments Facility (TA-18): TA-18 has unique capabilities and personnel with unique expertise to support criticality safety training, emergency response, nuclear non-proliferation, arms control, and stockpile stewardship. DOE is pursuing relocating TA-18 capabilities, because its facilities are 30 to 50 years old and are increasingly expensive to maintain and operate (e.g., annual security and operating costs have escalated at a rate of 16 % per year during the last five years).

In a letter to the NNSA Administrator this week, the LANL Director expressed strong support to relocate the TA-18 mission to a new facility designed to meet today's requirements. The letter emphasized that many of these activities have grown significantly since September 11th. The letter states that both CMR replacement and TA-18 mission relocation are urgently needed in the near-term, and construction should start as soon as possible since neither facility can be safely and securely operated beyond 2010. A final environmental impact statement for TA-18 mission relocation is expected imminently, leading to a record of decision in March. LANL is developing a transition plan and has a conceptual design effort underway to facilitate comparison of alternatives. To date, LANL has been thorough in close-coupling preliminary safety analyses with the design activities. If the preferred alternative is chosen (TA-55), preliminary design would start in late Spring.

While the emphasis now is encouraging, TA-18 mission relocation is years away, and recent events indicate that current TA-18 operational and safety infrastructure needs to be improved. For example, three of five critical assemblies are now shutdown, hindering operations. PLANET was shut down last month and will require a 2 to 4 month unanticipated outage to replace antiquated control equipment (site rep weekly 1/11/02). SHEBA has been shut down since September 2000 because of an unacceptable potential for flammable gas buildup in the vessel head space (DOE does not currently plan to relocate SHEBA). Facility management has observed that a carefully planned path forward exists to restart two assemblies (FLATTOP and SHEBA) and has expressed confidence in the two currently operating machines (GODIVA and COMET).

TA-18 also has had several Technical Safety Requirement (TSR) violations in the last year, due in part to operator inattention and to a diffuse authorization basis that is scheduled to be upgraded within months (site rep weekly 11/30/01). Last week, the facility reported a Technical Safety Requirement (TSR) violation involving plutonium oxide material brought on site for a limited term project in June 2001. The material was still on site past November 2001, exceeding the period authorized by DOE.

Collectively, these and other issues may indicate a potential need for an operational assessment, leading to a prioritized list of improvements that need to be made to support TA-18 safely and efficiently performing its National Security mission until the replacement project is completed. LANL has implemented a similar limited-upgrade program at CMR that has increased short-term confidence in the safe operations of that facility.