DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 30, 2002

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending August 30, 2002

Wildfires: Two major wildfires broke out Monday west of Los Alamos in the Jemez mountains. The fires were slowed by rain on Wednesday and should be fully contained this weekend.

Plutonium Facility (TA-55): The Fire Protection Yard Main Replacement Project is progressing and is receiving increased management attention because of the previously reported cost/schedule issues. DOE and LANL anticipate rebaselining the project next month with no reduction in final system capabilities (site rep weekly 8/16/02).

Critical Experiments Facility (TA-18): Last week, DOE approved the seismic analysis to support the material relocation project that was authorized in March (site rep weeklies 3/8/02, 7/12/02). LANL sized the anchorage based on an equivalent static analysis and peak acceleration assuming 5% damping. DOE has concluded that the storage system is capable of withstanding a Performance Category 3 (PC-3) seismic event, given that the anchorage is installed as designed to prevent tipping. LANL has installed and confirmed the anchorage is as designed. As-built drawings are being prepared. One remaining question is the need for a dynamic analysis to confirm assumptions made in the static analysis. Longer-term, LANL is considering other storage enhancements that, if implemented, might reduce or eliminate the need for this storage system.

Waste Management: Operators manned the Radioactive Liquid Waste (RLW) Treatment Facility (TA-50) during the 2000 Cerro Grande fire to manage storage and prevent an untreated release. As part of the rehabilitation project, DOE and LANL are now considering upgrades to provide remote monitoring and control capabilities, new influent storage tanks, and a new pump station, to be housed in a separate 10,000 ft^2 addition.

The preliminary safety analysis indicates that this would be a Hazard Category 3 (HC-3) nuclear operation. A number of controls are described, but no safety-significant systems are identified. The actual inventory relies on generator facilities meeting a restrictive waste acceptance criterion. The existing RLW Treatment Facility is now a HC-3 operation, although the potential exists that DOE and LANL will categorize it as HC-2 after the new Authorization Basis is submitted next month. This might impact design requirements for the new addition.

The new addition would consist of a metal building above grade and a concrete vault structure below grade (26 feet), permitting gravity flow. Six horizontal storage tanks (300,000 gal total) and a multi-level pump room would be housed in the below-grade vault. New double-wall piping would tie the addition into the existing facility. Design criteria are based on PC-2 seismic/wind hazards. The design is nearly complete and underwent an external independent review this week. DOE and LANL intend to pursue awarding a design-build contract in November, and to complete the project and authorize operations in FY-03. Overall, this appears to be a well-run project that should improve the facility's safety, as well as the robustness of LANL's RLW complex to upset conditions.

Quality Assurance: Slow progress is being made in improving institutional quality assurance at LANL. The Board's staff is planning a review of this area, as it affects safety, in October.