

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 19, 2001

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending October 19, 2001

DNFSB staff members Blackman, Jordan, Rosen, and Shackelford were on site this week reviewing design, procurement, configuration management, and maintenance of safety-related systems.

TA-55 Fire Protection Yard Main Replacement (FPYMR) Project: The FPYMR Project had its ground-breaking this week, marking the start of construction. The project is intended to replace the leaking fire water loop and improve system reliability (site rep weekly 8/31/01). Looking forward, construction will increase risk during periods when the building is penetrated and when firewater is not available to sprinklers. Last month, LANL proposed and DOE approved with comment additional controls to mitigate these risks. Some of these controls are as follows:

- ? Construct a temporary confinement structure in the basement around the new north-side building penetrations until confinement is reestablished, not to exceed 12 days
- ? Place operations in standby while the south and west side laterals are installed through building penetrations, not to exceed 8 days
- ? Establish a fire watch during subsystem tie-in and upon loss of the in-service firewater tank
- ? Place operations in standby if the fire suppression system cannot be returned to operability, and within 2 hours if the single, in-service firewater tank goes out of service

Because of the complexity of the modifications, DOE also prohibited simultaneous work involving confinement breach, flow path interruption, and tank or fire pump modification. LANL is developing an integrated construction schedule to meet the time and sequencing restrictions.

Quality Assurance (QA): The staff was briefed on recent activities to improve laboratory QA. During the last 2 years, numerous internal and external reviews have identified institutional QA issues at LANL. Currently, individual facilities and projects have QA programs that were developed more or less in isolation. They are inconsistent, of varied pedigree, frequently expert-based instead of standards-based, and generally not well implemented. QA oversight and accountability also need improvement. DOE appears committed to developing their local QA expertise and increasing oversight. Earlier this year, DOE contracted a nuclear QA expert to assess the program, in response to a Board letter (1/22/01). The subsequent review focused on QA elements involving design control and procurement for the CMR upgrades and the TA-55 FPYMR project. A report is expected shortly. This effort has provided the foundation for future improvements on the DOE side.

LANL management also understands the issues and considers making improvements a high priority. LANL is close to completing an updated, internal assessment and developing a corrective action plan to move forward. LANL is also planning to strengthen QA management by appointing a Senior Quality Officer, and establishing a Quality Assurance Council made up of senior line management. Key organization changes are expected within the next 3 months. Similar to the initiative to improve conduct of operations (site rep weekly 8/31/01), improving institutional QA is expected to be a long process, requiring continuous management emphasis and attention. One key to success may be for the institutional program to evolve from the best features of several well-developed facility and project programs that are now in place. Success will clearly require frequent and close interaction between the facility/project level and the institutional level throughout the improvement process.