DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 12, 2005

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending August 12, 2005

DOE Independent Oversight Review: This week, the DOE Office of Independent Oversight and Performance Assurance (DOE-OA) had a team on site preparing for an in-depth review in October; based on anticipated scope, this review should provide a good indicator of the status of corrective actions that were developed in response to last year's resumption reviews.

NNSA Type B Accident Investigations: Next week, NNSA will start two Type B investigations per DOE Order 225.1A into (a) the loss of contamination control in TA-3-66 (Sigma) involving TA-55 items, and (b) the acid inhalation injuries in TA-48 RC-1, discussed below. LANL investigative efforts will shift to assisting the federal teams. Both Type B investigations are to be done by Sep 30th.

Radiochemistry Laboratory (TA-48 RC-1): On June 16th, two RC-1 post-docs received potential chemical overexposures when mixing acids without appropriate ventilation. Both exhibited immediate symptoms. One recovered shortly while the other had continuing symptoms and was hospitalized for six days in late July. The LANL Medical Director and LANL management were informed of the event on August 3rd, nearly seven weeks after the event, and LANL reported it to NNSA. Both RC-1 and the LANL division that runs RC-1 have a history of operational issues, often involving students or post-docs (e.g. site rep weeklies 1 /28/05, 9/17/04, 8/1/03, 1/10/03, 6/28/02). The LANL Director has reemphasized to the work force that employees have the right and responsibility to stop work for unsafe conditions. This event is the subject of one of the Type B investigations.

Integrated Safety Management (ISM): Both the TA-55/Sigma and RC-1 events illustrate that LANL has not fully and consistently implemented the Integrated Work Management initiative. As discussed in the Board's letter of July 21st, this initiative has the greatest potential of those within the Operational Efficiency Project to directly improve worker safety. The RC-1 event particularly indicates issues with stopping work when presented with unsafe conditions, prompt reporting of problems, and focusing on learning from events. Overcoming such issues is key to LANL evolving to a high-reliability organization as described in DNFSB TECH-35, Dec 2004.

Until LANL achieves that state, NNSA and LANL have to rely on assessments and oversight to detect and correct problems. The majority of NNSA and LANL institutional oversight now focuses on nuclear and high-hazard facilities and their implementation of NNSA approved safety bases, which is important; line management at the group, division, and associate-director levels is held responsible for oversight of low-to-moderate hazard facilities, like Sigma and RC-1, and that oversight is inconsistent in effectiveness at best. Within the latter class of facilities, the site rep observes that oversight drops precipitously for facilities that are downgraded from Hazard Category 2 or 3 to radiological status (site rep weekly 7/29/05). Sigma was downgraded in March 2001. RC-1 was downgraded in June 2003.

Decommissioned Facilities: This week, the site rep toured part of the TA-21 plutonium facility, which has been in surveillance and maintenance status since the early 1980's. With the exception of a few lab benches, the rooms are empty. Essential services are maintained, including fire suppression, and combustible content is low. Residual contamination is fixed under the floor cement covering and under wall and ceiling paint; there is extensive paint peeling in some areas. Water intrusion is evident both from spots in the ceiling and around many concrete support columns; the water intrusion is extensive enough that it could be an indicator of incipient structural issues. LANL has prepared budget estimates and, subject to funding approval, intends to begin removing the TA-21 plutonium and tritium facility structures starting in FY-07.