

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 3, 2003

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending July 3, 2003

Critical Experiments Facility (TA-18): NNSA has suspended work on the TA-18 mission relocation to the Nevada Test Site because of recent increases in the projected costs to complete the project (site rep weekly 1/3/03). The project has reached the 90 % conceptual design stage (i.e., about 4 % overall design). NNSA has begun several assessments to find the cause of the increases, and plans to complete these assessments and determine a path forward by the end of this month.

Plutonium Facility (TA-55): The LANL and NNSA readiness assessments (RAs) for the Pu-238 scrap recovery line are tentatively scheduled for next week (7/7-11/03) and early August (8/4-8/03), respectively, but this appears optimistic. It's not yet clear to the site rep that the scope for either RA has been fully defined; procedures updated, verified, and validated; personnel trained on the updates; and readiness reviewed by TA-55 management via demonstration. These may be complete or could occur quickly, leading to a declaration of readiness for the LANL RA. The site rep intends to observe portions of the LANL RA when it occurs.

Engineered Controls: As required by 10 CFR 830, LANL has updated LANL nuclear facility authorization bases, including engineered controls. NNSA action on some updates is pending. NNSA and LANL need to apply more attention to ensuring that all the engineered controls selected have clearly defined safety functions, that they will fulfill those functions, and that they constitute a complete set. Some other sites have systematic approaches to engineered controls institutionalized in "Conduct of Engineering" manuals. LANL has a solid effort started to develop a similar approach, but it will take time to implement. Meanwhile, the site rep believes uncertainty exists here on whether some designated engineered controls will fully meet the intent. The staff has identified several examples including: WETF lightning protection and containers, CMR electrical power/ventilation, TA-18 flood retention structure and new temperature scram system, TA-55 fire suppression and Pu-238 safety systems (e.g., site rep weeklies 11/8/02, 12/6/02, 4/4/03, 4/18/03, 6/6/03). To the site rep's knowledge, issues from only one system from this list are resolved or nearly resolved.

Contamination Events: Regarding recent glovebox glove failures, TA-55 completed near-term actions and resumed non-essential glovebox work the week of June 20th (site rep weekly 6/20/03). Longer-term actions continue. Last week, a Pu-238 worker had contamination found and removed from a fingernail. Contamination was then found in two glovebox gloves in use less than a year. In an unrelated event, an airborne release occurred in one room, traced to a glovebox door actuator leak.

Also last week, the Chemistry and Metallurgical Research building (CMR) reported high fixed head air samples for two consecutive weeks in one room in early June (e.g., 67 DAC-hrs, weekly sample). CMR was unable to link these to particular events but did find elevated surface contamination on hood tops and supports (i.e., 20-70 dpm alpha on half the swipes). It appears close management continues to be warranted at CMR to contamination control and tracking fixed head sample results.

Tritium Facilities: NNSA has downgraded the Tritium Systems Test Assembly Facility (TA-21-155) from Hazard Category 2 to a radiological facility, based on less than 0.5 g tritium inventory. This building originally supported the Rover program and, between 1984 and 2000, was used for fusion research. It has been de-inventoried and prepared for surveillance and maintenance mode and later decommissioning. High inventory components have been removed. Remaining components have residual inventory and are vented to the building. Stack effluent averages less than 1 Ci/day released.