DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 25, 2003

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending April 25, 2003

Radiochemistry Laboratory (TA-48): NNSA has agreed with LANL that TA-48 can operate under the approved Hazard Category 3 safety basis with specific constraints until May 15th or until NNSA has verified the inventory (site rep weekly 2/7/03). Two pertinent questions now involve the facility's residual inventory (i.e., holdup) and the adequacy of the facility's inventory control practices. Pending resolution, LANL would like to downgrade TA-48 to a radiological facility; however, both the path forward to address the above questions and the details of whatever is to replace the current safety basis appear open at this time. While, it may be possible to downgrade TA-48, the remaining worker hazards are significant enough to warrant LANL and NNSA attention.

Dual Axis Radiographic Hydrodynamic Test Facility (DAHRT): LANL is celebrating its 60th anniversary, and ceremonies this week included dedication of DAHRT. DAHRT consists of two flash x-ray machines at right angles to a high explosive firing site. It can be used to capture time-resolved stereo images of weapon component mockups at the moment of implosion. The first axis began operation in Fall 2000 and has been used for 6 major experiments. In March, NNSA approved closeout of the construction phase, which includes the second axis. LANL expects to complete second axis commissioning in late 2004. DOE and LANL have categorized DARHT as a moderate hazard non-nuclear facility that may occasionally be required to perform a nuclear activity.

Plutonium Facility (TA-55): This week, LANL submitted documentation to NNSA to demonstrate that TA-55 has manufactured a nuclear weapons pit, QUAL-1, using fully qualified processes. NNSA is reviewing the package. If accepted, this culminates a 6 year LANL-wide effort to restore the nation's ability to manufacture certifiable pits that meet all quality requirements. The last such pit was made at Rocky Flats 14 years ago. Since February 1998, LANL has made 18 pits in the development leading up to QUAL-1. LANL now plans to make about 6 pits per year to support certification efforts and plans to develop capability to make about 10 stockpile pits a year by 2007.

Radiography Facility (TA-8-23): NNSA has agreed with LANL that TA-8-23 can operate under its current Justification for Continued Operation (JCO) until September 2nd or until NNSA approves the new safety basis proposed by LANL to comply with 10 CFR 830. TA-8-23 is a Hazard Category 2 nuclear facility. It is more than 50 years old, is heated by natural gas, and lacks seismic, confinement, and engineered fire suppression features. TA-8-23 also has radiographic inspection capabilities that are unique at LANL and support national security missions. To address some hazard scenarios, LANL has committed to remove the natural gas from the facility by May 15th and to shutoff the natural gas at the supply valve in the interim. This is positive.

Critical Experiments Facility (TA-18): Similar to TA-8-23, TA-18 also has Hazard Category 2 nuclear operations in buildings heated by natural gas. To address this, the TA-18 safety basis includes automatic gas shutoff valves as controls to prevent a follow-on explosion after a seismic event. The site rep understands that TA-18 is now also considering removing natural gas.

Recommendation 2000-2: The one remaining LANL Phase II assessment will be focused on the site-wide fire alarm system and is scheduled to begin May 12th. It assumes completion of the partial site-wide system upgrade, which is in preliminary design (site rep weekly 3/14/03).