DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 17, 2006

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: B. Broderick and C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending November 17, 2006

Authorization Basis (AB): Within the last two weeks, LANL has proposed to NNSA updated safety bases for TA-55, the transuranic waste repackaging facility (WCRR), and the transuranic waste shipping facility (RANT). Resolution of several of LANL's most significant nuclear safety issues are linked to these submittals (e.g., site rep weeklies 9/1/06, 8/11/06, 6/16/05, 12/9/05, 8/5/05).

Chemistry and Metallurgy Research Building (CMR): NNSA has approved a justification for continued operation (JCO) for potential wing-to-wing flash-over across the spinal corridor during a fire; CMR has secured roving fire watches; LANL has ordered fire doors for affected rooms. Also, on Tuesday, a CMR worker discovered contamination on his right palm, measured at ~11k dpm alpha and believed to be legacy Pu-238; nasal smears were negative; the worker has been decontaminated.

Weapons Engineering Tritium Facility (WETF): This week, NNSA concurred with LANL removing compensatory measures for safety-class fire wall discrepancies; LANL asserts that all fire walls credited in the safety basis have been repaired to a 1 hour rating and meet code requirements.

WETF continues ventilation upgrades and discovered this week that a mis-communication led workers to partially impair the safety-class lightning protection system before low lightning conditions were confirmed, a safety basis requirement. While questions persist on WETF lightning protection's effectiveness as a safety-class defense, adequate control of the human element is still needed to ensure functionality of any safety-class system intended to protect the public. WETF is overdue for a safety basis update and a re-examination of its safety system functional classification, now not expected until late FY-07 (site rep weeklies 11/3/06, 9/22/06: Board letters 8/19/03, 8/6/02).

Plutonium Facility (TA-55): Thursday afternoon (11/16), TA-55 curtailed work in PF-4 and personnel performed an orderly exit after acidic liquid backed up from the closed transuranic acid waste line into two pump rooms and then seeped into three adjacent rooms. As a precaution, LANL emergency response and hazardous material organizations responded. The TA-55 spill response team reentered and determined that the chemical hazard was minimal and the radiological hazard was readily manageable. The spill (estimated at 10 gal) was cleaned up, and normal operations resumed Friday. These small pump rooms are normally controlled as contamination and airborne radioactivity areas; they have a history of radiological and material condition issues that TA-55 is investigating.

Parajito Laboratory (TA-18): LANL has shipped the remaining TA-18 fissile solutions to CMR for disposition. NNSA has also approved a safety basis for storage of Off-site Source Recovery Program (OSRP) sources in a TA-55 transportainer and has approved startup of 3 more trailers (4 total) at the TA-55 secure trailer pad; these actions open the pathway for removing the remaining TA-18 nuclear materials and provide relief to the TA-55 vault, which has been storing TA-18 materials.

The TA-55 transportainer is limited to ~250 Ci, consisting of OSRP sealed sources in pipe-overpack containers meeting WIPP requirements. The trailers are limited to ~3,100 Ci and rely on the trailers, the pads, and external anchorage as safety-class features; containers, shelving, internal anchorage, and the pad slope are safety-significant; material-at-risk and combustible inventory limits are the key admin controls; dispersible Pu (e.g., powders, liquids) is prohibited. Both the transportainer and the trailers will likely be in use for several years (site rep weeklies 10/13/06, 9/22/06, 8/11/06, 7/7/06).