DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 4, 2008

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: B. Broderick and C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending April 4, 2008

Keilers was off-site this week.

Plutonium Facility (TA-55): Last week, operators were conducting normal plutonium operations in two furnaces and post-modification function-testing on a third furnace that was in an abnormal configuration that heated the glove-box more than normal. In this condition, rising ambient glove-box temperature exceeded the thermal detector setpoint of 190° F, prompting an alarm. Personnel exited to the corridor and upon assessment of the situation made a conscious decision to re-enter the room to de-energize the 3 operating furnaces in the alarmed box. There was no damage or material release. The Fire Department responded.

Follow-up investigation identified issues with the configuration management of over-temperature controls for furnace operations: some interlocked over-temperature alarms were found to be disabled; over-temperature set-points were higher than necessary; and the abnormally-configured furnace was operating without one of its normally-installed temperature sensors. In response to this event, facility management has suspended all furnace operations. Identified corrective actions include evaluating, baselining, and formalizing configuration control for alarm status and set-points for all furnace controllers; and establishing formal pre-operational checks to ensure proper equipment configuration and system line-ups. Operating groups must present corrective actions to a board that will evaluate their adequacy and approve resumption (site rep weekly 3/28/08).

This week, NNSA also formally sent comments on the proposed TA-55 DSA; these require resolution before the document can be approved. NNSA noted that the current control strategy is overly-focused on minimizing the building leak path factor and raised the prospect of a condition of approval that mandates the identification of safety system upgrades and a commitment to their implementation.

Chemistry and Metallurgy Research Building (CMR): NNSA has approved a revision to the CMR interim Technical Safety Requirements (iTSR) that addresses discrepancies between the 1998 Basis for Interim Operations (BIO) and the previous set of iTSRs. The revised iTSRs credit new limiting conditions of operation and surveillance requirements for Wing 9 ventilation and a suite of hot cell controls that includes manipulator boot seals, interlocks, door enclosures, shielding, and confinement features. With the exception of one control that is not currently applicable, NNSA expects the new iTSRs to be implemented within eight months (site rep weekly 10/12/07).

Transuranic Waste Operations: Waste remediation in a Permacon at Area G is currently limited to very low activity (about 0.5 PE-Ci) operations involving solidified waste forms. LANL is proposing future activities in this Permacon that would entail prohibited item disposition for debris waste. Currently, this kind of activity would have to be performed in a glovebox at the WCRR repackaging facility. NNSA initially questioned the adequacy of proposed controls for worker protection. LANL is developing engineered confinement features that will reduce reliance on operator personnel protective equipment, such as respirators and anti-contamination clothing.