DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 25, 2008

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: B. Broderick
SUBJECT: Los Alamos Report for Week Ending April 25, 2008

The staff held a teleconference on the Radioactive Liquid Waste Treatment Facility Replacement.

Plutonium Facility: On Thursday, an inadequately controlled furnace operation caused a glove-box window to crack during post-maintenance testing on two clamshell-type furnaces. After testing the first furnace, an operator opened the clamshell to allow the unit to cool. Then, intending to test the second furnace, the operator inadvertently re-energized the first furnace that remained in an open configuration. This furnace, which is not interlocked to preclude operation when the clamshell is open, ran unattended for a period of time causing the glove-box window to crack due to thermal insult. Personnel de-energized the furnace when they returned to the area and observed the damage. No nuclear material was present and ambient glove-box temperature did not exceed the alarm threshold.

The facility recently underwent a deliberate review and resumption process for furnace operations in response to another inadequately controlled furnace event. Operating procedures were reviewed to ensure that robust pre-operational checks are executed prior to conducting furnace operations. Maintenance personnel typically use these operating procedures to perform post-maintenance tests, however, the maintenance group involved in Thursday's event use dedicated procedures that had not been reviewed and validated during resumption. Facility management suspended furnace operations by this maintenance group until their procedures are revised to include appropriate pre-operational checks and verifications. This event also illustrated opportunities to improve furnace interlocks and to make relationships between controller units and furnaces clearer to operators (site rep weekly 4/4/08).

Safety Basis: LANL has submitted a strategy document defining a path forward for revising the proposed Plutonium Facility DSA and TSRs based on NNSA comments. The goal is to resubmit, before July 2008, a package that includes a clear and consistently applied control selection methodology; validation of inputs and assumptions from key supporting documents (e.g. the leak path factor analysis); and incorporation of planned improvements, including any compensatory measures required until these improvements and upgrades can be implemented (site rep weekly 4/4/08).

Radioactive Liquid Waste Treatment Facility (RLWTF): LANL has proposed downgrading the RLWTF to a hazard category 3 nuclear facility based on limiting aggregate material at risk to less than the hazard category 2 threshold specified by DOE Standard 1027. LANL intended to scale this threshold value for cemented waste drums that can be staged at the facility based on their low release fraction. The standard allows this scaling approach provided that the release fraction used is bounding. NNSA recently challenged the conservatism of the value used by LANL. As a result, the laboratory has decided to forego any scaling for the cemented waste. Revised interim TSRs that reflect this change have been resubmitted for NNSA review and approval (site rep weekly 3/28/07).

Emergency Response: Laboratory personnel held a workshop with members of the Los Alamos Fire Department (LAFD) this week to update and expand pre-response plans for a fire at the Plutonium Facility. This workshop is the latest in a series of positive steps taken by Plutonium Facility management and the LAFD to improve facility familiarization for first responders and to strengthen overall coordination between the facility and the fire department (site rep weekly 4/11/08).