DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 26, 2009

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending June 26, 2009

Davis was offsite this week.

Readiness: This week, NNSA Headquarters issued a letter directing the site office to take a number of corrective actions to address readiness issues identified during the recent Chief of Defense Nuclear Safety Biennial Review. One corrective action requires NNSA Headquarters (NA-17) review and comment prior to approval of key readiness-related documents and decisions, including Startup Notification Reports and authorization to startup or restart hazard category 2 nuclear facilities or activities. The site office must also provide documents describing all activities under consideration for possible startup and restart action to NA-17. The need to maintain these corrective actions will be evaluated by NNSA Headquarters personnel in six months (site rep weekly 6/12/09).

Transuranic Waste Operations: A TSR violation was declared this week at the WCRR repackaging facility for failure to perform required actions when a limiting condition of operation for the fire suppression system (FSS) could not be met. The safety significant WCRR FSS relies on water supplied by the laboratory's sitewide water distribution system that feeds domestic water and fire protection systems in nuclear and non-nuclear facilities across the site. Last week, the Los Alamos County Fire Department (LACFD) performed a fire hydrant flow test in the vicinity of the WCRR facility. This test caused water pressure in the system to drop below the level required for the WCRR FSS to be operable. Although LACFD contacted LANL representatives (including the WCRR Operations Center) prior to testing, WCRR facility personnel did not recognize the TSR implications of the hydrant flow evolution and did not perform required actions to mitigate risks resulting from the safety system impairment.

Since a number of LANL nuclear facilities rely on the sitewide water distribution system to support their credited fire suppression systems, weaknesses in test coordination and facility response protocols could cause similar issues elsewhere. LANL management appears to understand the institutional scope of this issue and has initiated steps intended to improve awareness at nuclear facilities of upcoming LACFD tests and the appropriate response actions required when these tests occur.

Plutonium Facility: Three drum-sized containers staged in the Plutonium Facility basement were recently recognized to be unvented. These legacy containers hold plutonium that is in contact with hydrogenous material. This configuration could result in hydrogen gas being produced via radiolysis, which over time could create a flammable environment inside in the unvented container. Facility management declared a potential inadequacy of the safety analysis (PISA) because it is not clear that this type of hydrogen deflagration hazard is analyzed in the facility safety basis. The affected containers have been cordoned off and an isolation area has been established around them.

This situation has parallels to a PISA declared in March involving the discovery of an unvented legacy transuranic waste container that had also been staged in the Plutonium Facility basement for many years. Both situations were identified by the same NNSA Facility Representative. Facility personnel intend to conduct an extent of condition review to find and address any other unvented containers that may reside in the Plutonium Facility basement (site rep weekly 3/6/09).