

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 1, 2008

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director
FROM: B. Broderick and C. H. Keilers, Jr.
SUBJECT: Los Alamos Report for Week Ending February 1, 2008

Gerlach was on site attending Safety Basis Academy training.

Chemistry and Metallurgy Research Building (CMR): Next week, an NNSA team will perform a detailed review of CMR processes and special nuclear material storage locations to better understand the quantity of material at risk (MAR) required to perform CMR's mission. Results of this review will inform decisions related to the acceptability of the current MAR limit for the facility.

This week, NNSA also approved a safety basis strategy for a life extension DSA that would support CMR operations beyond 2010. This DSA, scheduled for submission in FY09, is intended to be compliant with the nuclear safety management rule (10 CFR 830) and will cover enduring CMR mission activities and reflect efforts to consolidate the facility's operational and hazard footprint via wing closures, process changes, and MAR reductions. To achieve compliance, DSA development will involve a new hazard identification process and include new hazard and accident analyses. The strategy document also recognizes that most engineered controls available to be credited have known vulnerabilities and do not meet current standards. NNSA expects that all vulnerabilities will be clearly identified and analyzed and exemption requests prepared, as appropriate. The strategy document postulates a worst case unmitigated dose of less than 150 rem for the bounding accident.

In parallel with CMR life extension planning, NNSA headquarters has tasked LANL to lead an evaluation of alternatives to using CMR to support programmatic activities past 2010. Facility support options required to be evaluated include Lawrence Livermore National Laboratory's Superblock, the Nevada Test Site's Device Assembly Facility, and some combination of LANL's Plutonium Facility and the CMR Replacement Radiological Laboratory Utility Office Building.

Radiochemistry Facility (TA-48-1): On Jan. 23rd, three continuous air monitors alarmed during routine operations being performed in TA-48-1 hot cells in support of medical isotope production. Personnel evacuated appropriately, and nasals smears of affected individuals were negative.

An air compressor failure caused inlet air dampers on two exhaust fans to close, securing ventilation air flow to the hot cells. With hot cell ventilation isolated, exhaust flow from an adjacent fume hood caused the required differential pressure between the hot cells and occupied gallery area to be lost. The change in differential pressure created conditions for an air-flow reversal where contaminated air was drawn from the hot cells into the area where personnel were performing work. No alarms are installed to alert personnel of ventilation failure. Hot cell operations are suspended pending equipment repair and installation of personnel warning devices.

Radioactive Liquid Waste Treatment Facility (RLWTF): In a January 17th letter, the New Mexico Environmental Department challenged the RLWTF's exemption from the Resource Conservation and Recovery Act (RCRA) and directed NNSA and the laboratory to submit a RCRA permit application by April 30, 2008. The implications for radioactive liquid waste treatment operations are unclear.