

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 9, 2008

MEMORANDUM FOR: J. Kent Fortenberry, Technical Director

FROM: B. Broderick

SUBJECT: Los Alamos Report for Week Ending May 9, 2008

Transuranic Waste Operations: TSR implementation at Area G is being validated as part of the ongoing Deliberate Operations Project Execution Plan. This effort has identified issues with the safety-significant lightning protection systems (LPS) that service waste storage domes. Issues include poorly defined inspection requirements to verify system function, failure to take necessary action when required measurements could not be taken or did not meet acceptance criteria, and use of inspection procedures that had not been properly evaluated against the facility safety basis.

Subsequent evaluation of the LPS also identified a condition that could compromise the system's ability to perform its safety function. Metal bodies within a certain distance of the LPS are required to be electrically bonded to the system to prevent uncontrolled arcing. Unbonded metallic waste drums are staged in proximity to LPS components in some domes. A follow-up critique will be held next week to determine whether proximate metal drums impact LPS function, how to respond if they do, and whether discovery of this situation constitutes a Potential Inadequacy of the Safety Analysis.

Radioactive Liquid Waste Treatment Facility (RLWTF): NNSA has approved downgrading the RLWTF to hazard category 3. This downgrade is based on controlling the material-at-risk such that aggregate facility inventory remains less than 55 americium-equivalent curies.

Work continues to complete the campaign to upgrade process equipment to restore the transuranic liquid waste processing capability that has been down since 2006. Physical modifications are largely complete. Limited startup testing using clean water will likely begin next week, although a leaking tank connection must be addressed before full system testing can be performed. Given the downgrade to hazard category 3, the proposed level of review to authorize restart of transuranic liquid waste processing will be a laboratory readiness assessment (site rep weeklies 4/25/08, 3/28/08, 1/25/08).

Chemistry and Metallurgy Research Building (CMR): A criticality safety infraction was declared this week when about 40g of uranium in solution was identified in a Wing 4 location that did not have explicit limits for solutions. This infraction was discovered as part of the extent of condition review prompted by the neptunium posting concern reported last week. The infraction was graded as the lowest severity level (i.e. Level 5) meaning that although criticality safety controls were not implemented as intended, there was no actual impact to the safety margin (site rep weekly 5/2/08).

Emergency Management: The NNSA site office recently issued a letter communicating concerns with the laboratory's progress in improving its Emergency Management Program. Noted concerns include an inadequate number of trained and qualified Emergency Managers and a lack of up-to-date Emergency Preparedness Hazards Assessments for hazardous material facilities. The letter directs LANL to provide a formal response with details on how these issues will be addressed within 15 days.

Weapons Engineering Tritium Facility (WETF): LANL has proposed conducting a series of experiments using gram-quantity samples of plutonium at WETF. The current WETF DSA does not allow weapons-grade plutonium in the facility. LANL has submitted a set of DSA page changes that analyze the new hazards and credit additional controls for the proposed activities.