DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 27, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending August 27, 2010

Waste Operations: This week, LANL identified that waste retrieved and stored in a container inside enclosure 1 at Material Disposition Area-B (MDA-B) exceeds the material-at-risk (MAR) limits for a radiological facility. The container (20 cubic yard capacity) is estimated to contain approximately 3 Ci Pu-239 equivalent, which is above the hazard category 3 threshold of 0.52 Ci for Pu-239. Facility personnel suspended waste operations at MDA-B and placed the facility in a safe and stable condition. LANL is performing waste retrieval and disposition operations at MDA-B as part of the American Recovery and Reinvestment Act activities at the laboratory. MDA-B was used to bury process waste from nuclear weapon and science activities in the mid to late-1940s. Previous characterization data indicated that the activity could be performed under the MAR limits for a radiological facility.

On Tuesday, MDA-B personnel completed the loading of the waste container in enclosure 1. Items retrieved during this operation included a pipe component (approximately 8" diameter, 2.5' length) that was noted to be highly contaminated. Field sample analysis of the waste in the container performed at that time indicated that the material retrieved had significantly higher MAR than expected. Subsequent sample analysis confirmed that approximately 3 Ci Pu-239 is present in the container. LANL is currently evaluating options to address the material. MDA-B retrieval operations remain suspended pending resolution of this issue.

Chemistry and Metallurgy Research Building (CMR): The site office directed LANL this week to move 10 curium-244 items (approximately 40 grams) from CMR to Area G for storage in a secured transportainer. These items had been stored in the Wing 9 floor wells but were recently repackaged into Type A shielded pipe overpack containers. LANL plans to store these items in Area G pending determination of whether a programmatic need exists. Removal of the curium-244 results in approximately 40 kg Pu-239 equivalent reduction in material-at-risk at CMR.

As part of the implementation plans for the recently approved Documented Safety Analysis (DSA) at CMR, LANL has been conducting in-service inspections of safety design features. While conducting these inspections this week, LANL noted deficiencies in several gloveboxes and in one hot cell that could prevent these design features from performing their safety function. The facility gloveboxes and the hot cells are credited as safety design features in both the current safety basis and the new DSA. LANL concluded that these issues represent a Potential Inadequacy in the Safety Analysis.

Weapons Engineering Tritium Facility (WETF): The contractor readiness assessment team completed their evaluation of function test operations at WETF this week and provided feedback to LANL and LASO management. The team identified six pre-start and four post-start findings. The review team recommends that the startup authority approve restart of this operation following satisfactory closure of the pre-start findings.

Transuranic Waste Operations: This week, LANL completed the contractor readiness assessment for open drum debris waste sorting operations at Area G. Two pre-start findings, both associated with training, and four post-start findings were identified by the review team. This team recommends

approval to start operations following closure of the identified pre-start findings.