

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 16, 2011

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending December 16, 2011

Staff members J. Pasko and C. Shuffler were onsite this week to review the design and safety basis for the Transuranic Waste Facility Project. In addition, staff members A. Hadjian, J. Kimball and Z. McCabe were onsite Thursday to discuss the status and results of ongoing seismic-structural analyses of the Plutonium Facility. LANL presented the results from a sensitivity analysis that re-evaluated the performance of key facility roof features and discussed the path forward for performing an important static non-linear analysis of the Plutonium Facility.

Plutonium Facility: The NNSA site office has approved an implementation plan for the 2011 Plutonium Facility Documented Safety Analysis (DSA) and associated Technical Safety Requirements (TSR). The approved plan calls for an Independent Verification Review to confirm implementation of the 2011 DSA and TSRs by May 25, 2012. Notably, the 2011 DSA and TSRs cannot take effect as a stand-alone safety basis (i.e. they must be accompanied by a Justification for Continued Operation that covers seismic issues) until Plutonium Facility structural upgrades have been completed to prevent seismically-induced collapse or loss of confinement integrity.

Transuranic Waste Operations: Area G currently stores about 300 Fiberglass Reinforced Plywood (FRP) boxes that contain transuranic waste. These FRP boxes house contaminated gloveboxes, equipment, and debris removed from the TA-21 Plutonium Facility (predecessor to the current TA-55 Plutonium Facility) when it was decommissioned in the mid-1970's. Area G FRP boxes vary widely in both size and material-at-risk content. LANL personnel are establishing multiple processing lines to open FRP boxes, remove their contents, size reduce large items, and repackage the resulting waste in Standard Waste Boxes for shipment to WIPP.

In July, LANL personnel began processing FRP boxes that contained less than 0.52 ²³⁹Pu-equivalent Ci (i.e. less than the Hazard Category 3 threshold) inside a confinement tent in Area G's Building 412. After a campaign to process low activity FRP boxes in Building 412, LANL personnel successfully completed a recent NNSA readiness assessment to begin remediating FRP boxes that contain Hazard Category 3 quantities of transuranic waste. This week, the NNSA site office formally authorized Hazard Category 3 FRP box processing in the Building 412 confinement tent.

LANL transuranic waste personnel also intend to establish FRP box processing lines in Area G's Dome 231 and Dome 375. The existing Dome 231 Permacon will be reconfigured with upgraded fire suppression, ventilation, and electrical systems to support Hazard Category 3 FRP box processing. Dome 375 will be outfitted with a new Permacon structure to process large FRP boxes and boxes that contain a larger quantity of material-at-risk, including the roughly 10 boxes containing inventory that exceeds the Hazard Category 2 threshold of 56 ²³⁹Pu-equivalent Ci.

Federal Oversight: This year, NNSA established a Performance Based Incentive (PBI) for LANL to develop and use a set of metrics to demonstrate the continuous improvement and maturity of Formality of Operations. Yesterday, the site office rejected the initial LANL deliverable in part because the proposed metrics did not represent leading indicators as required by the NNSA PBI.