

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 22, 2012

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending June 22, 2012

Staff members Dunlevy, Futrell, Johnson, Pasko and Sharpless were onsite this week to review the Area G Basis for Interim Operation that is scheduled to be implemented by September 30, 2012.

Transuranic Waste Operations: This week, facility management discovered a significant breakdown in inventory control and material at risk (MAR) tracking for several locations in Area G. The facility uses a software database to track the physical location of transuranic waste inventory and to protect TSR-level MAR limits for defined areas and facilities inside Area G. When moving transuranic waste from one location to another, Area G operators use hand-held barcode scanners to update the location of inventory in the software database to ensure that applicable MAR limits will not be exceeded. A recent inquiry by an NNSA facility representative prompted the discovery of significant discrepancies between inventory information in the database and the actual inventory present in several locations including Pad 10 characterization facilities and the waste storage dome used to house material awaiting characterization on Pad 10. Facility management also discovered that historical inventory records extracted from the database indicate that a TSR-level MAR limit for a characterization facility had been violated on multiple occasions within the past several months. This information led Area G management to declare a TSR violation.

In response, facility management suspended MAR movements within Area G and initiated walkdowns to re-establish an accurate physical inventory of transuranic material in all affected areas. The walkdowns did not identify any instances where the actual MAR in a location exceeded TSR limits. Area G management has allowed MAR movement to resume under a modified inventory tracking and control system that requires positive confirmation that the database was successfully updated after every barcode scanner transaction, as well as, the use of a redundant paper-based tracking system. Using this modified approach, issues have been identified where a barcode scanner indicates that information has been sent, but the inventory database is not updated. Area G personnel continue to investigate the root causes of the inventory control breakdown.

Quality Assurance: The Area G inventory control issue discussed above is the seventh TSR violation in the past 10 months that involve issues with software databases used to implement TSR-level controls in LANL nuclear facilities. The following is a summary of the recent database-related TSR violations: • August 2011 - WETF containerization program pressure limit, • September 2011 – Area G low level waste MAR limit, • December 2011 – Area G tritium MAR limit, • December 2011 – WETF combustible loading limit, • April 2012 – Area G low level waste MAR limit, • April 2012 – Plutonium Facility MAR limit, • June 2012 Area G transuranic waste MAR limit.

Weapons Engineering Tritium Facility (WETF): This week, LANL submitted a Justification for Continued Operation (JCO) to address non-conservative oxygen readings for the Oxygen Monitoring System (OMS) at WETF. In late-May, WETF identified that the OMS readings are dependent on the pressure at the oxygen sensor and declared a Potential Inadequacy of the Safety Analysis. The JCO includes a weekly surveillance to verify that the pressure at affected OMS sensors is within the required range and an annual surveillance to calibrate the pressure instrumentation.