

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 6, 2012

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending April 6, 2012

Area G – Safety Basis: The Area G safety basis includes a TSR-level control to ensure the inventory of exposed low level waste in active disposal pits does not exceed 500 ²³⁹Pu-equivalent curies (PE-Ci). Surveillances are required to be performed quarterly to verify compliance with this low level waste inventory limit. In September 2011, Area G management declared a TSR violation based on a failure to satisfactorily perform the low level waste inventory surveillance within its required periodicity. The September 2011 violation was based on a discovery that the implementing procedure for the low level waste inventory surveillance directed operators to obtain inventory data from a database that was no longer being updated with real-time low level waste inventory information. The TSR violation resulted from the credited surveillance being performed using inaccurate inventory data. In response to this violation, Area G management identified a corrective action to revise the surveillance procedure to query a different data source that contained accurate low level waste inventory information.

This week, Area G personnel discovered that the key corrective action from the September 2011 TSR violation had not been effectively implemented. Although the low level waste inventory surveillance procedure had been revised, it continued to direct operators to obtain inventory data from the same database that is not updated to reflect accurate low level waste inventory information. As a result, the last two credited quarterly surveillances were again performed using inaccurate inventory data. This discovery prompted Area G management to declare another TSR violation. Based on the repeat nature of this violation, Area G management intends to evaluate its existing corrective actions and issues management process to identify and address weaknesses.

Plutonium Facility - The NNSA site office issued a Condition of Approval for the 2008 Plutonium Facility DSA that required LANL to establish a process to evaluate criticality safety controls for inclusion in the DSA, per DOE-STD-3007. As LANL personnel developed modern and compliant criticality safety evaluations, they have used criteria from the Standard to identify a set of criticality safety controls that will be formally credited in the next annual update of the DSA and TSRs.

This week, LANL personnel performing their annual criticality safety process review discovered a safe storing fissile material that did not appear to comply with the requirements of its Criticality Safety Limit Approval (CSLA) document and associated posting. The CSLA requires the safe to remain upright in a seismic event. Additionally, the safe's ability to remain upright in a seismic event was deemed important enough to be credited as safety significant (per DOE-STD-3007) in the next annual update of the DSA and TSRs. The safe is currently mounted on rolling casters and this configuration has not been analyzed to survive a seismic event without toppling. This discovery led to the declaration of a criticality safety infraction and facility management initiated an extent of condition review to identify any similar situations that may exist in the Plutonium Facility. This issue has also been entered into the New Information process to determine whether a Potential Inadequacy of the Safety Analysis exists. As part of this review, facility personnel will evaluate whether a seismic vulnerability for this safe is covered under existing supplementary safety basis documents that address known Plutonium Facility seismic vulnerabilities.