

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 20, 2012

**MEMORANDUM FOR:** T. J. Dwyer, Technical Director  
**FROM:** B.P. Broderick and R.T. Davis  
**SUBJECT:** Los Alamos Report for Week Ending April 20, 2012

**Plutonium Facility:** The Plutonium Facility safety basis credits a TSR-level material at risk (MAR) limit of 7500 g Weapons-Grade Pu (WG-Pu) equivalent for individual containers outside of gloveboxes. Plutonium Facility personnel use a software program called MAR Tracker to perform this and other required MAR limit surveillances in the facility. This week, a system engineer discovered an error in MAR Tracker that caused only a small subset of applicable facility containers (roughly 1700 out of 13000 containers) to be checked during the required annual MAR surveillance. This week, facility management declared a TSR violation based on this discovery.

In response to this TSR violation, normal operations have been terminated and the Plutonium Facility has been placed in Standby Mode. Facility personnel have revised the surveillance procedure to allow compliance with container MAR limits to be verified manually, rather than automatically using MAR Tracker, and teams of individuals are working to perform surveillances on all 13000 applicable containers. To date, fifteen containers, all housed in the facility's vault, have been identified with contents that exceed the MAR limit of 7500 g WG-Pu equivalent.

The MAR Tracker error was introduced during software development. To perform surveillances, MAR Tracker imports data from the laboratory's Material Control and Accountability (MC&A) inventory database. The MAR Tracker error resulted from a miscommunication between software developers and security personnel over how to recognize inventory data that corresponded to containers in the MC&A database.

**Transuranic Waste Operations:** Area G management identified a concern this week with the completion of a TSR surveillance requirement for receipt and placement of low level waste in disposal shafts. The surveillance requires verification that exposed waste inventory is less than 1200 plutonium equivalent curies prior to placement of new waste in a shaft. This surveillance is implemented by a procedure that requires documentation of completion in the waste inventory log book. Although Area G operators noted that the surveillance was completed prior to placement of waste, no log book entries have been made for the surveillance since 2010. As an immediate action, Area G personnel confirmed that all shafts contained less than the inventory limit. The inventory procedure is being revised to address this issue and another low level waste inventory issue identified earlier this.

This week, LANL completed the "red team" review for drum venting operations in Dome 33 of Area G. Red team reviews, which include a senior team of subject matter experts, have been successfully used recently at Area G to assess and improve the state of readiness for startup and restart of activities prior to moving forward with contractor and federal readiness assessments. LANL plans to resume drum venting at Area G later this year in a remote configuration using a containment structure and operator standoff requirements during key venting operations. Drum venting at Area G has not been performed since 2008. The red team completed a thorough review and identified a number of concerns and recommendations in the areas of nuclear safety, operations, maintenance, training and qualification, emergency management, engineering and other areas. Contractor and NNSA readiness assessments are scheduled for May and July, respectively.