

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 7, 2013

MEMORANDUM FOR: S.A. Stokes, Acting Technical Director
FROM: R.T. Davis and R.K. Verhaagen
SUBJECT: Los Alamos Report for Week Ending June 7, 2013

Plutonium Facility – Criticality Safety: LANL continues to evaluate fissile material procedures and operations in the room where operations were recently paused (see 5/24/13 and 5/31/13 weeklies). As part of the review this week, Plutonium Facility workers identified two containers stored in a safe that do not comply with criticality safety limits. Appropriate actions were taken to secure the room, inform criticality safety personnel, and conduct a critique. The criticality safety limit approval includes an operational requirement that container outside diameter be greater than 6.5-inches to protect spacing assumptions in the criticality safety evaluation. This requirement is also identified on the posting. During the critique, operators noted that they were focused on the mass limits when storing items in the safe. A criticality safety infraction was declared for two containers that were identified with an outer diameter of less than 6.5-inches.

In addition to the ongoing review of activities for this specific laboratory room, LANL management is also developing a corrective plan that includes an extent of condition review for other areas of the Plutonium Facility. On Friday, the field office provided direction to LANL on improving the criticality safety program implementation and operational performance. The memorandum forwards the Criticality Safety Support Group report from their March 2013 assessment and a summary of issues from the recent Board staff review in May 2013. LANL is requested to review this information along with the results of the extent of condition review at the Plutonium Facility and provide a path forward on improving criticality safety.

Plutonium Facility – Conduct of Operations: During the conduct of a surveillance test procedure plutonium facility personnel recognized that performance of the procedure was not being accomplished as written. The affected operation has been paused until the procedure can be walked down and revised by operators and supervisors to ensure it can be performed as written and accurately describes the work activity.

Weapons Engineering Tritium Facility (WETF): Recently, the WETF function tester glovebox unexpectedly experienced a sharp increase in tritium levels. Levels in the glovebox peaked at approximately 3000 millicuries per cubic meter. The glovebox system functioned as required to purge the glovebox and the tritium was recovered by the Tritium Waste Treatment System (TWTS). There was no release of tritium to the environment. However, tritium levels in the glovebox remained elevated indicating a continuing release. Subsequent investigation identified that a previously tested item that was being stored in the glovebox was the source of the tritium release. WETF personnel plan to overpack the item in the near future; however, the oxygen monitoring system associated with the low pressure receiver in the TWTS is required to be operational to support introducing the overpack into the glovebox. These repairs are on-going.

Area G – Dome 375 Box Repackaging Line: The field office has approved the corrective action plan from the Dome 375 Sort, Segregate, Size Reduction and Repackaging (SSSR) Contractor Readiness Assessment (CRA). LANL has closed all of the pre-start findings from the CRA. Following these actions, the field office approved the startup of Hazard Category 3 SSSR operations in the Dome 375 box repackaging line.