

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 19, 2013

MEMORANDUM FOR: S. A. Stokes, Acting Technical Director
FROM: R.T. Davis and R.K. Verhaagen
SUBJECT: Los Alamos Report for Week Ending April 19, 2013

Criticality Safety: LANL paused activities associated with 17 fissile material operations (FMOs) this week at the Plutonium Facility, Area G and within the Packaging and Transportation Division because outstanding field office comments and issues have not been appropriately resolved. A Criticality Safety Support Group assessment completed in April 2012 concluded that LANL demonstrated an inability to close outstanding criticality issues in a timely manner. As part of the corrective action plan for the assessment, LANL performed an extent of condition review to identify if there are legacy issues identified in the criticality safety database. The extent of condition review revealed 17 FMOs where the field office had identified high-level (the most significant) issues with the associated criticality safety evaluations (CSEs), some dating back to 2007, that have not been resolved. A critique on the issue identified that no formal, documented process previously existed to manage field office comments on CSEs. LANL is working to formalize the process and to determine the path forward for each of the 17 paused FMOs.

LANL also completed their evaluation of all FMOs across the site (approximately 500) to determine the confidence level ranking based on the technical basis for the CSE and other factors. In addition to the 17 FMOs identified above, LANL concluded that another 17 FMOs had low confidence (“red”) technical basis that needs to be addressed.

Weapons Engineering Tritium Facility (WETF): This week, LANL commenced a Management Self Assessment to support the restart of tritium transfer, function test and processing activities. The assessment team identified that a two-year re-qualification examination for operators may have been compromised because the examinations were available through the WETF online document management system for nearly a month prior to being administered. Most of the operators had taken a written examination within the required two year time frame and remain qualified. However, an operator that had performed surveillances within the past week had not taken an examination within the past two years and as such could not be considered qualified. As a result, WETF management declared a technical safety requirement non-compliance. Plutonium Facility and Area G management declared TSR non-compliances for similar qualification issues within the last four months (see the 11/23/12 and 3/1/13 weekly reports).

Plutonium Facility: Operators identified two General Purpose Heat Source (GPHS) items contained in a Plutonium Facility glovebox that were bulging due to an apparent internal pressure build-up. The encapsulated GPHS is credited in the safety basis with providing safety-class confinement (damage ratio of zero) for heat source-plutonium (HS-Pu). When discovered, facility management declared the bulging heat source items inoperable, entered a limiting condition for operation based on the potential for exceeding glovebox material limits, and recalculated the inventory in the glovebox using a damage ratio of one (accounting for all of the HS-Pu). The recalculation showed that no material limits were violated. Facility and program personnel are evaluating the history of the bulging items and have entered the new information process as they develop their plan to resolve the over-pressure condition.