

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 24, 2009

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending April 24, 2009

Galaska, Gerlach, Pasko, and Plaue were onsite to review the proposed Documented Safety Analysis for post-2010 operations at the Chemistry and Metallurgy Research Building. Pasko and Plaue also reviewed the safety strategy for seismically-induced fire scenarios at the Plutonium Facility.

Conduct of Engineering: Last week, LANL issued revised procedures governing system health reporting and vital safety system assessments (VSSA). These revisions are intended to incorporate lessons learned from prior experience and comments from LANL, NNSA and DNFSB reviewers.

VSSAs are a critically important tool for identifying issues that could impact the operability of credited safety systems. To assess the quality and effectiveness of the VSSA process, LANL management chartered a team of highly experienced personnel engaged through corporate reach-back to perform an independent review of VSSAs performed in FY08. This review assessed 31 VSSAs (many of which evaluated safety class systems) and determined that the operability of 18 (58%) of the assessed systems was indeterminate based on the information documented in the VSSA. Inadequate VSSAs will be re-performed using the revised procedure and review teams that are augmented with experienced personnel to provide assistance and mentoring. In the interim, lab senior management has directed Facility Operations Directors to review any potential operability issues identified by the independent team to determine if immediate actions or compensatory measures are warranted.

Chemistry and Metallurgy Research (CMR) Building: During a facility walkdown associated with this week's staff review of CMR, fixed and transient combustibles were observed in an area posted "No Combustible Storage Permitted." This area was posted because sprinkler heads associated with the safety class fire suppression system were obstructed by a large duct and had been declared inoperable. A follow-up critique concluded that TSR requirements related to sprinkler inoperability had been satisfied by removing material-at-risk from the affected areas. The critique also concluded the posting was erroneous because combustibles were allowed to be stored in these areas based on an undocumented assessment performed by a fire protection engineer. This event appears to highlight an opportunity to improve the robustness of management and control of 'affected areas' that do not meet TSR-mandated limiting conditions of operation due to inoperable safety systems or components.

Plutonium Facility: This week, LANL presented their plans for restart of the Plutonium Facility's Isotope Fuel Impact Test (IFIT) Facility to the Joint Evaluation Team (JET), which determines the LANL recommendation for level of startup review. The IFIT is used to impact (using an inert gas launcher) heat source plutonium objects to obtain data that support engineering, quality assurance and mission safety analysis. LANL began IFIT operations in 1996 following a DOE operational readiness review, but the last IFIT evolution occurred in 2001. Based on a customer need, LANL plans to restart this activity and conduct impact testing in FY10. Although subject to site office approval, the JET recommends a laboratory readiness assessment for restart of this activity. This decision is predicated on an assertion that gas launcher activities involving similar hazards and controls are currently conducted at the Plutonium Facility. Ongoing gas launcher activities are performed in a separate laboratory room using a different launcher assembly that involves different TSR-level design features.