

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 23, 2012

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: R.T. Davis and R.K. Verhaagen
SUBJECT: Los Alamos Report for Week Ending November 23, 2012

Plutonium Facility – Seismic Safety: LANL recently submitted a safety basis addendum to the site office that addresses the Unreviewed Safety Question associated with facility structural performance (see 10/19/12 weekly). Static non-linear seismic analysis performed by LANL earlier this year indicates that the probability of failure for multiple structural components exceeds the performance goal identified in the safety basis. The safety basis addendum identifies a worst case offsite consequence of approximately 900 rem for a seismic collapse scenario that includes spill, impact and fire release mechanisms. The addendum does not identify new controls or compensatory measures that mitigate the potential consequences for this accident scenario.

LANL has developed conceptual design upgrades for two vulnerable structural components, the basement captured columns and facility roof girders. The addendum indicates that upgrades for these components will be complete in FY 13 and FY 14, respectively. The LANL submittal provides responses to the steps identified under Exigent Circumstances in the DOE memorandum dated September 17, 2012 on Adequate Protection. Consistent with the DOE memorandum, NNSA will “specify a senior level of DOE approval authority for these circumstances, including a Program Secretarial Officer or higher (when appropriate) in consultation with its Central Technical Authority and the Office of Health, Safety and Security.”

Weapons Engineering Tritium Facility (WETF): WETF engineers continue to identify pressure safety issues as a result of extent of condition reviews. Most recently, the following four noncompliances with pressure safety Technical Safety Requirements (TSRs) were identified: 1) compensatory measures for some pressure safety variances do not meet requirements; 2) some system components do not have adequately sized pressure relief devices installed; 3) some system components do not have any pressure relief device installed; and 4) preventative maintenance for some system pressure relief devices is not performed. Facility engineers noted during the critique that extent of condition reviews were almost complete and that all WETF systems will have been fully evaluated to ensure they meet pressure safety requirements in the very near future.

Area G Drum Venting System (DVS): LANL submitted, and the site office approved a Corrective Action Plan supporting the Federal Readiness Assessment (FRA) of DVS operations at Area G (see 10/26/12 weekly). In response, the site office developed and approved a plan of action for a limited scope FRA to evaluate closure of the initial prestart findings. This limited scope FRA will evaluate a select number of core functions based on performance during the original FRA and is scheduled to commence on December 10, 2012.

Certification Requirements Assessment: Earlier this month the Technical Area 55 (TA-55) Facility Operations Director declared a TSR noncompliance based on the failure of control room operators to meet all requirements for their two year re-qualification. In response, the site office has informed LANL that they will be conducting an assessment of certification requirements for operators and supervisors at TA-55. The assessment is scheduled to commence on December 3, 2012, with the overall objective of ensuring the respective Nuclear Facility Training Programs are effectively implemented.