

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 10, 2012

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending February 10, 2012

This week, staff members Hadjian, Kimball, McCabe, and Pasko met with NNSA-Headquarters, site office, and contractor personnel to discuss completed and ongoing analyses of the Plutonium Facility seismic response including plans to perform a static non-linear analysis, which is scheduled to be complete in June and may identify the need for additional structural upgrades.

Plutonium Facility: On Tuesday, Plutonium Facility personnel discovered a leak in the safety class fire suppression system when operators observed water on the floor of a laboratory room used for pit manufacturing. Upon discovery, personnel isolated the affected portion of system piping, entered the applicable TSR Limiting Condition for Operation and instituted a fire watch. The system was repaired, confirmed to be operable and returned to service by the end of Tuesday.

The leak developed at an elbow joint in the fire suppression system piping. The failed joint fitting was installed during system modifications performed in 2005. Preliminary evaluation of the failed fitting suggested a hairline crack may have developed due to over-tightening of the tapered threaded connection during installation. Results of more detailed metallurgical evaluation are pending. In response to this event, facility management has directed engineering personnel to develop a plan to inspect system piping and components as part of an extent of condition review. The extent of condition inspections will focus on other components that were installed during the 2005 system modification, but will also involve a sampling of older components.

Weapons Engineering Tritium Facility (WETF): LANL recently submitted a revised Justification for Continued Operations (JCO) that includes compensatory measures for the Hot Inlet System. As discussed last week, the site office disapproved a proposed WETF safety basis change to downgrade the Hot Inlet System from safety significant noting that the system protects workers from tritium releases and deflagration accidents. The revised JCO includes compensatory measures that establish an engineering and maintenance work package to identify and repair Hot Inlet System leaks. In addition, maintenance and modifications to this system will be performed in accordance with Management Level 2 requirements, which is consistent with expectations for a safety significant system. Programmatic tritium gas handling operations remain suspended pending site office approval and implementation of the revised JCO.

Radioactive Liquid Waste Treatment Facility (RLWTF): In November 2011, the site office disapproved a LANL safety basis strategy for developing a 10 CFR 830 rule compliant Documented Safety Analysis (DSA) over 18 months and requested the safety basis be submitted by September 2012. The disapproval noted that the facility is not complex, hazards are well understood, basic controls to ensure safe operations are established, and much of the required DSA information is contained in the existing Final Safety Analysis Report (FSAR). This week, LANL submitted a plan for upgrading the safety basis consistent with DOE Standard 3009 and for addressing outstanding site office comments. RLWTF is currently operating under a FSAR that was approved in 1995.