

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 29, 2011

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending April 29, 2011

Plutonium Facility – Seismic Safety: Last week, LANL submitted an Evaluation of the Safety of the Situation (ESS) to the site office for the Potential Inadequacy of the Safety Analysis (which resulted in an Unreviewed Safety Question) based on preliminary seismic evaluation results that indicate an increased likelihood of structural failure in some locations during postulated seismic events. The ESS concludes that the potential consequences represent an acceptable risk and included one compensatory measure – a standing order to isolate the facility’s exhaust stacks during certain seismic accident conditions to eliminate a potential unfiltered material release path. This week, Plutonium Facility personnel issued the Emergency Operating Procedure that will replace the standing order and strengthen implementation of the compensatory measure. Facility personnel have also removed materials located in gloveboxes beneath mezzanines that were identified as seismically vulnerable. The site office has approved the ESS and the Plutonium Facility continues normal operations. Structural upgrade design efforts for some of the seismic issues have been initiated.

Emergency Preparedness: This week, laboratory management convened a meeting with all LANL Facility Operations Directors to discuss the state of emergency management and response planning and preparedness for challenging scenarios like an extended loss of offsite power and a large seismic event that could severely restrict all offsite utility services, communications and site access. The meeting was useful in indentifying specific areas where additional advance planning, drill activities, or investment in enhanced capabilities and equipment could improve the site’s safety posture and response in emergency conditions. Moving forward, each Facility Operations Director has been tasked to develop an Action Plan detailing areas they plan to pursue to strengthen emergency preparedness for their facilities.

Zero Liquid Discharge (ZLD) Project: Last week, an Energy Systems Acquisition Advisory Board reviewed the critical decision-3 package for the ZLD project and the acquisition authority (site office manager) approved start of construction activities. This project will provide capability to receive discharge from the Radioactive Liquid Waste Treatment Facility (RLWTF) and preclude the need for an evaporator unit operation or purified liquid discharge.

Plutonium Facility – Safety Basis: This week, LANL completed an Implementation Verification Review (IVR) for an additional phase of the Technical Safety Requirements (TSRs) associated with the safety basis approved in 2008. The IVR covered the following areas: Mode Change; criticality alarm system limiting conditions of operation (LCO); fire suppression system LCO; violations of TSRs; maintenance safety management program (SMP); procedures SMP and; the fire water supply and ion exchange resin (weapons grade) design features. Based on observation of activities and review of documentation, the team concluded that TSR controls reviewed were adequately implemented at the Plutonium Facility with the exception of 6 pre-implementation findings related to training, equipment availability to perform one surveillance and procedure issues. The primary remaining TSR control that has not been implemented relates to material-at-risk (MAR) limits. LANL continues to pursue adequate implementation of the MAR tracker software including software validation and verification. The site office recently approved an extension request that allows until

June 3rd for completion of this final phase.