

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 19, 2010

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending February 19, 2010

Weapons Engineering Tritium Facility (WETF): On Thursday, WETF management declared a potential inadequacy in the safety analysis (PISA) based on issues with a facility fire wall. In 2006, LANL identified that the fire wall in question was degraded due to an inadequately sealed penetration. At that time, WETF personnel decided to eliminate credit for the fire wall vice pursuing corrective actions. During a recent NNSA site office safety system oversight review of the fire suppression system, assessors noted that the hydraulic calculations assume this fire wall is present and compliant. LANL fire protection initial evaluation of the situation indicates that the fire suppression system will not meet National Fire Protection Association requirements for water flow density without taking credit for this fire wall.

The NNSA site office currently has three full time engineers evaluating safety systems at LANL nuclear facilities. Over the last year, this group has identified a number of safety system deficiencies that resulted in the declaration of PISAs.

Transuranic Waste Operations: At an integrated nuclear planning workshop this week, LANL described plans for increasing processing capability and throughput to accelerate shipments to WIPP. In addition, LANL discussed Area G closure plans and planning to support an interim waste capability (i.e., how to accommodate waste generated after Area G stops accepting new receipts and before an enduring waste facility is operational). For the long term, LANL is pursuing a Consolidated Waste Capability concept that will address newly generated transuranic, mixed, and low level wastes and hazardous chemicals. The concept for the new transuranic project has been revised to include only capability for transuranic waste storage and characterization (i.e., no open-drum waste processing or size reduction). Transuranic waste generators will be required to have qualified processes to package only WIPP compliant containers. The line item project to establish a long term transuranic waste storage and characterization facility is nearing completion of a Safety Design Strategy and is aggressively pursuing a critical decision-1 in May 2010.

Also this week, operators using a glovebag inside the Dome 231 Permacon at Area G observed a flash of light while processing a transuranic waste drum to remove WIPP prohibited items. The flash occurred while operators were crushing small glass vials in a metal tray inside the glovebag. When the flash occurred, operators suspended operations and notified the Operations Center. No singeing or charring was evident as a result of the flash; however, operators did observe a brown powder released from a recently crushed vial. Information about the event became confused in the notification chain resulting in Operations Center and supervisory personnel authorizing processing operations to resume to address the few remaining contents of the affected drum.

The critique of this event identified a number of areas requiring corrective action. First, the procedure governing Permacon drum remediation activities did not address whether or how to process small glass vials and did not analyze the hazards that could result from crushing vials containing potentially pyrophoric or reactive materials. Also, a similar event occurred at the WCRR processing facility and the lessons learned associated with handling small glass vials were not incorporated into Permacon operations. Glovebag operations in the Dome 231 Permacon have been suspended until the procedure is

revised and operators trained to address proper handling of small glass vials.