

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 19, 2008

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending December 19, 2008

Davis was offsite this week. The staff held teleconferences on the Chemistry and Metallurgy Research Building and Radioactive Liquid Waste Treatment Facility Replacement projects.

Weapons Engineering Tritium Facility (WETF): Hot operations in WETF have remained suspended since October when a TSR violation was declared based on a programmatic breakdown of the Pressure Safety Program. In response to these issues, facility management initiated a comprehensive review of the implementation of pressure safety requirements for all pressurized tritium systems credited at WETF (e.g. tritium gas handling system and tritium containment vessels). A separate, but related effort is evaluating the implementation of other important credited safety management programs such as the Containerization Program and the Hazardous Material Protection Program. When these evaluations are complete, WETF management intends to use established criteria to bin resulting issues and non-compliances into those that must be addressed prior to resuming hot operations and those that can be dealt with post-resumption.

Resumption of hot operations is needed to allow the processing of over-pressurized legacy tritium-bearing components that are currently stored in credited containment vessels whose maximum allowable working pressures could be exceeded under worst-case accident conditions. These containers were the subject of a potential inadequacy of the safety analysis that resulted in a positive unreviewed safety question. A justification for continued operations (JCO) was submitted to the NNSA site office on December 2nd to define and authorize the conditions under which the affected containers could continue to be safely stored since their current configuration is outside the approved WETF safety envelope. The site office has yet to act on this JCO. WETF personnel are developing a second JCO intended to scope, analyze, and define controls for ultimate processing of the pressurized legacy components to eliminate the existing hazard (site rep weeklies 11/28/08, 11/21/08, 10/17/08).

Chemistry and Metallurgy Research Building (CMR): Last week, CMR management declared that the facility had achieved 'core' implementation of Conduct of Operations. CMR is the first nuclear facility to declare implementation of Conduct of Operations since LANL established formal criteria defining requirements for 'core' and 'mature' implementation of the conduct of operations, maintenance, engineering and training elements of the Formality of Operations initiative. For the operations element, core implementation requires a facility to achieve compliance with all 18 chapters of the LANL Conduct of Operations manual that is modeled on DOE Order 5480.19, *Conduct of Operations*. The review to independently verify adequate implementation is scheduled for January.

Transuranic Waste Operations: Investigation continues into the November remote drum venting deflagration event at Area G. The investigation team is evaluating a number of potential causes of the event including a hydrogen deflagration (possibly initiated by electrostatic discharge between the venting tool and electrically isolated metallic objects inside the drum) and the in-drum formation of shock sensitive energetic materials that could have been impacted during venting. In an effort to gather additional data to help determine the cause of the event, preparations are being made to analyze combustion residue collected from the scene and to allow the lid of the 55-gallon 'event drum' to be removed to perform visual and forensic examination (site rep weekly 11/28/08).