

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 22, 2009

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending May 22, 2009

Plutonium Facility: To improve the safety posture of Pu-238 enriched heat source plutonium (HS-Pu) stored at the Plutonium Facility, LANL management intends to demonstrate, by June 2010, that all HS-Pu storage containers can perform a safety class containment function without requiring heat removal from the vault water bath. Achieving this end state will require repackaging a fraction of the HS-Pu material into safety class containers, overpacking some existing non-safety class containers, and analytically demonstrating that others can meet safety class functional requirements. In the interim, actions are being taken to improve the level of protection for non-safety class containers that continue to require cooling from the vault water bath. One such action is the development of an emergency operating procedure to deal with hardware failures that could result in water loss from the system. This procedure is expected to formalize response actions to isolable system leaks, non-isolable but patchable system leaks, and catastrophic breaches where the baths cannot maintain required water levels (site rep weekly 3/27/09).

This week, the site office approved the implementation plan for the Documented Safety Analysis that was approved in December 2008. The plan divides the control set implementation into four groups with the first Implementation Validation Review scheduled to begin this month. Overall control implementation is scheduled to be complete in March 2010.

Transuranic Waste Operations: In April, a panel of subject matter experts reviewed a draft of the new Area G Basis for Interim Operations (BIO) and provided recommendations to improve document quality and DOE Order compliance. The panel recommended modifying the hazard analysis methodology, applying DOE-Standard-5506, *Preparation of Safety Basis Documents for Transuranic Waste Facilities*, and revising dispersion calculations. This week, LANL management delivered to the NNSA site office a resource loaded schedule for implementing these recommendations. The schedule shows the revised BIO being delivered to NNSA for final review on September 30, 2009.

Last week at the WCRR repackaging facility, an operator observed sparks during an evolution that involved opening and repackaging small vials containing poorly characterized radioactive solids and powders. The operator stopped work and after consultation with facility management, deliberate actions were taken to establish a safe and stable condition. While the cause of the sparks is not yet known, markings on some containers involved in the evolution suggest that the vials may contain pyrophoric material. The WCRR BIO does analyze hazards associated with pyrophoric materials and specific administrative controls are identified to furnish the glovebox with a fire blanket and carbon spheroids and to ensure operators are trained in their use to extinguish small fires. However, the WCRR glovebox is not inerted and although future upgrades are planned, it is not currently equipped with automatic fire suppression. WCRR management has suspended the movement and processing of drums with similar contents pending the results of additional investigation.

Fire Protection: This week, the site office approved the recently completed baseline needs assessment that addresses fire department emergency response services. The site office requested an implementation plan to address the 15 recommendations identified in the assessment by August 2009.