

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 19, 2011

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: B.P. Broderick and R.T. Davis
SUBJECT: Los Alamos Report for Week Ending August 19, 2011

This week, Board members Peter Winokur, Jessie Roberson, Joseph Bader and John Mansfield were onsite along with staff members Timothy Dwyer, Matthew Moury and John Pasko to meet with NNSA site office and LANL personnel. The Board members also toured transuranic waste operations at Area G and seismic upgrades at the Plutonium Facility.

Plutonium Facility – Criticality Safety: A criticality safety infraction was declared last Thursday when a plutonium overmass condition was identified in a facility glovebox. In order to take pictures of several cast plutonium items in a glovebox, a plutonium worker removed the items from two separate slip lid containers in two different mass locations. The worker then collocated all of the items to take a picture. This resulted in a total mass that exceeded the criticality safety limit. An angle iron spacing delimiter that is a criticality safety engineered feature was also moved from its required location and used to prop up the items for the photographs.

A second plutonium worker entered the area and recognized the overmass condition. The first worker then moved the items back to their original location. This action is not consistent with criticality safety expectations and procedures, which require workers to back off and contact criticality safety personnel. Workers in the lab room were notified of the issue and the room was evacuated and facility management was notified. Subsequent evaluation by criticality safety personnel concluded that the current position of the items (i.e. after the worker returned the items to the separate locations inside slip lid containers) was safe and consistent with criticality safety requirements.

During the subsequent critique, additional issues with regard to the process for authorizing work (the glovebox owner was not aware of the activity) and timely and complete notifications were identified. Recognizing the significance of this event, Plutonium Science and Manufacturing Directorate management plan to pause work on Monday morning to conduct an all-hands briefing followed by breakout sessions at the group level to discuss the briefing and lessons learned. The brief will focus on conduct of operations, criticality safety requirements, work authorization and lessons learned from this and other criticality safety issues. Management will authorize individual group activities to resume after this training is complete. All Plutonium Facility personnel will be required to complete this training prior to being authorized to perform work.

Transuranic Waste Operations: In late July, an institutional Facility Centered Assessment (FCA) team issued a final report documenting their review of facility and programmatic operations at Waste Disposition Project (WDP) nuclear facilities – Area G, RANT, and WCRR. This independent assessment covered a broad range of functional areas and safety management programs and was conducted by representatives from LANL, NNSA's Los Alamos Site Office, and DOE's Office of Health, Safety and Security. The FCA report concludes that WDP nuclear operations are significantly non-compliant with requirements in the following functional areas: safety basis, engineering (particularly configuration management), fire protection, criticality safety, emergency preparedness, quality assurance, and management systems. LANL line management organizations have accepted the findings and are developing corrective actions.