

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 12, 2014

MEMORANDUM FOR: S.A. Stokes, Technical Director
FROM: R.K. Verhaagen and J.W. Plaue
SUBJECT: Los Alamos Report for Week Ending December 12, 2014

Emergency Management: During the past weekend, LANL and field office personnel conducted a multi-day full-scale emergency response exercise involving several hundred people. While the scenario focused on a security event, the Site Representatives note a number of positive elements associated with the exercise conduct that could benefit future drills and exercises. In particular, exercise designers chose a scenario unique from those previously exercised and attempted to minimize simulation in several areas. For example, operators physically deployed unmanned aerial systems to provide video surveillance of the event and support personnel physically moved security barriers around the lab site. In addition, assurance personnel utilized about 30 video cameras, including some mounted to response personnel and controllers, to record interactions with the intent of ascertaining factual evidence for after-action analysis, as well as generating training materials. Finally, the exercise designers included greater emphasis on typically underplayed elements of the response, including a full mock press conference and about a day of recovery planning.

Plutonium Facility–Emergency Management: Last Thursday, the Nuclear Criticality Safety Division issued a memo providing a revised calculation for the Immediate Evacuation Zone for the facility. The results indicate the zone extends into the Operations Center necessitating its evacuation. However, the memo concludes that personnel may remain in the Operation Center provided that: (1) they acknowledge and accept the associated risk, (2) the radiation levels are acceptable, and (3) the presence is made with continuous radiation monitoring equipment. Facility personnel will need to implement the revised conclusion through updates to alarm and emergency response procedures, training, and drills/exercises. The Site Representatives note that an ideal solution would be to ensure facility indications are repeated to the Facility Incident Command center in the Radiological Utility Office Building. The Criticality Alarm System upgrade as part of the TA-55 Reinvestment Project includes some of this scope; however, recent efforts to reduce costs may put this functionality in jeopardy.

Weapons Engineering Tritium Facility (WETF)–Configuration Management: Last week, during performance of an integrated work document to replace relief valves on the WETF high and low pressure nitrogen systems, facility operators secured a facility ventilation fan due to an unexpected system response. Upon investigation, WETF personnel observed that the ventilation system inlet and outlet dampers for a WETF process room were inadvertently shut. The resultant pressure drop actuated a ventilation system differential pressure alarm causing operators to respond appropriately by securing the supply fan. During a critique of the event, WETF personnel identified that the ventilation system had been modified in 2006 to use the high-pressure nitrogen system to provide a motive force to pneumatically hold open the dampers. When the nitrogen system was tagged out for maintenance the motive force was lost and the dampers closed. The use of the nitrogen system to provide this function was an unauthorized modification made when decommissioning the Emergency Tritium Cleanup System and associated compressed air system. This modification was made prior to WETF personnel implementing a conduct of engineering program so there was no configuration control of the alteration. As a result, nitrogen and ventilation system drawings do not reflect the actual system configurations, associated procedures are not developed with this configuration in mind, and operators have not been trained on the modifications or the operational interfaces between these systems.