

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 7, 2012

MEMORANDUM FOR: T. J. Dwyer, Technical Director
FROM: R.T. Davis and R.K. Verhaagen
SUBJECT: Los Alamos Report for Week Ending December 7, 2012

Criticality Safety: As a part of LANL compensatory measures to help mitigate the risks associated with the reduction of qualified criticality safety staff (see 11/16/12 weekly), the Associate Director for Nuclear and High Hazard Operations recently communicated guidance and criticality safety priorities to LANL Responsible Associate Directors. The priorities for criticality safety resources are (in order of importance): 1) emergency response; 2) event response (infractions); 3) field support (requests for clarification from floor personnel); 4) procedure reviews; 5) annual process walk-downs; and 6) requests for new criticality safety evaluations. Facility operation supervisors and criticality safety officers are directed to emphasize with operators the need to follow criticality safety limit approvals and that if questions arise, response from criticality safety personnel will be a high priority.

Plutonium Facility – Criticality Safety: Two criticality safety related issues were identified at the Plutonium Facility this week. On Monday, workers identified liquid in a glovebox used to stage plutonium metal and oxide. Appropriate immediate actions to back-off and contact the operations center were taken. Operations personnel with criticality safety staff input developed a path forward to remove the materials from the glovebox and address the liquid. Subsequent investigation indicates that the liquid came from a legacy liquid cooling system associated with a furnace. The furnace and cooling system have not been used in over a decade; however, the system was not removed or placed out-of-service such that a limited amount of liquid remained in the system. Other similar legacy furnaces are being evaluated as a part of the extent of condition review for this issue.

Also this week, Plutonium Facility personnel identified approximately 450 grams of plutonium oxide holdup that was released into two gloveboxes during replacement of glovebox HEPA filters. These HEPA filters are used as housekeeping filters (i.e. not credited as a safety component) in the glovebox ventilation system. The filters are replaced as needed but the replacement periodicity varies depending on the operation in the glovebox and is not rigorously controlled. For the gloveboxes in question, there is a significant amount of plutonium oxide processing that has been performed for several years, however, the informal installation dates identified for one of the filters was 1991. Currently, the criticality safety evaluation for operations in these gloveboxes excludes evaluation of the filter because only limited contamination is expected. As part of the corrective actions, criticality safety will determine if additional evaluation is required. Plutonium Facility management is also pursuing an extent of condition review for other housekeeping filters, re-evaluating the program for filter replacement, and will determine if periodic non-destructive assay is appropriate for these type filters.

Plutonium Facility - Certification Requirements Assessment: The site office presented to LANL the preliminary results of the assessment of certification requirements for operators and supervisors (see 11/23/12 weekly). The assessment team concluded that the Plutonium Facility “does not have a compliant certification program for Operations Center Operators and Supervisors in accordance with DOE Order 426.2, *Personal Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities.*” This conclusion was based on a number of failures of the certification program to meet the requirements of the order. In response to these assessment results, facility management declared a Technical Safety Requirement violation for failure to ensure adequate manning by certified personnel and suspended operations in the Plutonium Facility.