

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 12, 2013

MEMORANDUM FOR: Steven Stokes, Acting Technical Director
FROM: Jonathan Plaue, DNFSB Site Representative
SUBJECT: LLNL Activity Report for Week Ending July 12, 2013

Plutonium Facility: In a letter to the laboratory contractor dated July 9, 2013, the Livermore Field Office (LFO) provided criteria for evaluating when to consider upgrading wood-enclosed housekeeping filters. This letter completes an action taken by LFO in response to a letter from the Board dated December 13, 2011. Currently, the contractor does not replace housekeeping filters on plutonium-contaminated gloveboxes based on age or a firm level of accumulated radioactive material—elevated pressure drop is the only firm replacement criterion. Historically, the contractor replaced wood-enclosed filters with like-for-like units. LFO's letter directs the contractor to consider upgrading at a minimum to metal-enclosed filters when a glovebox "modification" is otherwise planned. The criteria include: (1) conflicting descriptions of the types of modifications to be considered, (2) examples of "more than minor" radiological controls, and (3) cost-effectiveness defined as an expected cost of less than 20 percent of the modification without upgrading the filter.

As a planning exercise, LFO and the contractor applied the criteria against the most substantial recent modification to a glovebox. The modification involved the installation of new analytical chemistry equipment, which required installing modified top plates and feed-through ports on the glovebox ceiling. LFO and the contractor determined that this modification would not trigger a full evaluation to upgrade the filter based on cost effectiveness. However, in conducting the screening, both parties concluded that the level of rigor in practices currently applied for conduct of engineering and project management is insufficient to implement the criteria effectively. As a result, LFO also requested the contractor provide any document(s) used to implement the evaluation process.

Tritium Facility: On June 28, 2013, the contractor submitted to LFO the annual update of the safety basis. As part of the update, the contractor removed the operation of the carbon dioxide decontamination equipment and the associated credited controls. LFO completed its review of glovebox leak testing data from the previous year (see weekly report dated June 14, 2013) and agreed with the contractor's recommendation to continue use of a method and criterion that are less conservative than the applicable national consensus guidance. LFO is scheduled to complete their overall review and approval of the annual update by December 20, 2013.

Programmatic Operations: On Monday, senior contractor program managers briefed LFO on the potential need for certain engineering environmental and surety tests to be performed in the Superblock in support of upcoming Life Extension Programs. The contractor noted that while National Nuclear Security Administration Headquarters has not decided on the need for the tests or where to perform them, the capabilities to perform them ought to be maintained in the safety bases at LLNL. The LFO Manager emphasized that security considerations and National Environmental Policy Act coverage were greater impediments to re-establishing the capabilities at LLNL.