

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 19, 2013

**MEMORANDUM FOR:** Steven Stokes, Acting Technical Director  
**FROM:** Jonathan Plaue, DNFSB Site Representative  
**SUBJECT:** LLNL Activity Report for Week Ending April 19, 2013

**Plutonium Facility:** This week, Livermore Field Office (LFO) and laboratory contractor personnel conducted an extent of condition review in response to the Potential Inadequacy of the Safety Analysis (PISA) concerning certain components in the loft (see weekly report dated April 12, 2013). The review identified several additional suspect components, including a programmatic vacuum pump system serving gloveboxes in three different laboratory rooms and connected to the Glovebox Exhaust System (GBES) via a wooden-enclosed housekeeping High Efficiency Particulate Air (HEPA) filter. Altogether, this effort identified 3 wood-enclosed and 12 metal-enclosed housekeeping HEPA filters and their associated connections with questions regarding their designation as Safety Class (SC). Further, the engineering pedigree of the wood-enclosed filters, metal-enclosed filters, and associated gasket materials to meet safety basis requirements is also in question. For example, the Technical Safety Requirements (TSR) includes an operability statement requiring the components of the SC ducting in the loft to maintain their integrity during a 1-hour fire event in a laboratory room. The Site Representative observed that the engineering note containing the fire design basis for safety class ducting does not address any of these types of components.

LFO believes these configurations will be examined as part of resolution on the PISA (OR-LLNL-2013-0012). For the interim, facility management has not entered the applicable TSR Limiting Condition for Operations. However, LFO believes the situation is acceptable because all of the lines to the loft either have been valved off (except for a single ½" line) or contain defense-in-depth duct sprays. LFO expects to utilize the evaluation of safety of the situation to determine a path forward.

**Continuous Improvement:** Next week, the contractor will conduct a nine-day onsite Functional Management Review (FMR) utilizing a team of three individuals from an external corporate partner. The FMR team will examine the safety basis program as part of the response to the Board's letter dated August 30, 2012. The FMR agenda includes five hours of document review, an hour walk-through each in the Plutonium Facility and the Hardened Engineering Test Building and approximately 45 hours of interviews with various contractor and LFO staff. In contrast to common practice for assessments in the nuclear facilities, the contractor has prohibited external observers from the interviews. An observer from the NNSA Headquarters will not oversee the FMR due to priority conflicts and the prohibition on observing interviews. Instead, the FMR team will back brief LFO staff and the Site Representative on the outcomes from the interviews. A draft of the FMR team's report is expected by May 6, 2013.