

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 7, 2016

TO: Steven A. Stokes, Technical Director
FROM: Matthew P. Duncan, Cognizant Engineer
SUBJECT: Lawrence Livermore National Laboratory Report for September 2016

DNFSB Staff Activity: M. Duncan performed routine oversight at Lawrence Livermore National Laboratory on September 12–16.

Facility Representatives: There are currently only three facility representatives for the entire laboratory. Two of the three facility representatives are assigned to cover the hazard category 2 and 3 nuclear facilities while the third has been covering Site 300. The Livermore Field Office is currently hiring three additional facility representatives. The vacancy announcements closed in early August.

Plutonium Facility: As discussed in the May and June reports, the Livermore Field Office had been evaluating a proposal by Lawrence Livermore National Laboratory to perform unattended off-hours furnace and ion milling operations in the Plutonium Facility, Building 332. The laboratory recently responded to comments and questions from field office personnel and submitted a new version of the Documented Safety Analysis and Technical Safety Requirements to the field office for approval.

Headquarters Oversight: The review team for the National Nuclear Security Administration's Chief of Defense Nuclear Safety completed the biennial review of the Livermore Field Office. The review team leader presented the team's results on September 16. The review team graded every functional area reviewed as "meets expectations" with the exception of criticality safety, which was graded as "exceeds expectations." All 11 objectives were met. There were 1 management concern, 13 findings, 9 weaknesses, 34 opportunities for improvement, and 1 noteworthy practice. This was the third review performed at a field office recently. The review team lead noted that some common issues have been identified in the areas of technical qualification of oversight personnel and issues management.

The Department of Energy's Office of Emergency Management Assessments conducted a limited scope performance test of Lawrence Livermore National Laboratory's Emergency Programs Organization. The cognizant engineer observed all four exercises that tested the effectiveness of the emergency response organization in accordance with the site's emergency plan and procedures and Department of Energy Order 151.1C, *Comprehensive Emergency Management System*. The review team's report will be posted publicly on the internet when completed.

Tritium Facility: As discussed in the May 2016 report, laboratory personnel planned to restart industrial grinder and tritium gas collection system operations in Building 331 after two modifications had been made to the system. The checklist readiness assessment is now projected to occur in February 2017. While the Startup Notification Report states that the activity involves no more than 600 Ci of tritium at any one time, the system can have up to 1100 Ci of tritium per batch, and up to 2 grams of tritium in the entire system per the Technical Safety Requirements.