

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 2, 2016

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

Plutonium Facility: As discussed in last month's report, the laboratory intended to let the justification for continued operations expire related to curtailing hydrogen operations. However, this justification for continued operations included two other compensatory measures: chlorination activities are suspended and will not resume without field office approval, and the types of plutonium compounds allowed in a storage vault are restricted. The compensatory measure that restricted chlorination operations is no longer required as the Documented Safety Analysis has been revised to require field office approval prior to startup. The cognizant engineer reviewed the plan and questioned how the restriction on the types of plutonium compounds allowed in a storage vault had been addressed as the plan did not discuss that particular compensatory measure. The Livermore Field Office completed its review of the laboratory's plan and has decided to extend the justification for continued operations for two of the three compensatory measures: curtailing hydrogen operations and restricting the types of plutonium compounds allowed in a storage vault. The field office directed that the "compensatory measures shall be treated as Technical Safety Requirements controls and documented by the Facility Manager in Timely Orders."

Waste Storage Facilities: In August, the Livermore Field Office approved the annual update to the Waste Storage Facilities Documented Safety Analysis and Technical Safety Requirements. Notably, the field office's Safety Evaluation Report had a condition of approval that stated:

No later than the submittal of the next annual update, LLNL shall clarify the definition of de minimis for all forms of flammable and combustible materials and revise the related specific administrative controls accordingly. Until DOE approves this definition and specific administrative control set, LLNL shall retain the following key element in Section 5.4.5 of the Technical Safety Requirements and elsewhere in the Documented Safety Analyses where appropriate: Use and storage of flammable liquids in B696R or B625 is restricted.

A Board's staff review team had presented a concern to the Livermore Field Office regarding the flammable liquids restriction in June 2015 as "restricted" was not defined and the Documented Safety Analysis had allowed "the use of limited quantities of lubricants, solvents, and other combustible/flammable materials in the facility." Resolution of the actions in the condition of approval should better protect the assumption in the Documented Safety Analysis that a large fuel pool fire is not credible.

Radiography Facility: The Livermore Field Office approved an extension to the November 15, 2016, due date for resubmittal of the revised Consolidated Model of Fire and Smoke Transport calculations. The new due date is December 13, 2016. For additional information, see the August 2016 report.