

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 4, 2016

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

Plutonium Facility: LLNL submitted an updated aircraft crash analysis for the Plutonium Facility that is intended to resolve historical inconsistencies from mixing source term calculation guidance from DOE-STD-3009-94, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses* and DOE-STD-3014-96, *Accident Analysis for Aircraft Crash into Hazardous Facilities*. While the calculated unmitigated dose increased for one scenario, no changes to the existing suite of credited controls are deemed necessary. LFO is evaluating this change to the Documented Safety Analysis.

Waste Storage Facilities: The Documented Safety Analysis and Technical Safety Requirements for the Waste Storage Facilities contain requirements for the fire protection program. The program has several key elements, including a restriction on the use and storage of flammable liquids in the facilities. This helps to protect an assumption in the hazard and accident analyses that transuranic waste is not stored near flammable liquids.

LLNL recently wrote a letter to LFO requesting one-time authorization to apply epoxy to the floor of one of the buildings. The existing epoxy is past its design life and has started to peel. The proposed epoxy resin and hardener are both Class IIIB liquids per the National Fire Protection Association, meaning they have a flash point greater than or equal to 200 degrees Fahrenheit. LLNL predicts approximately 64 gallons will be needed to cover the entire floor of the building.

LLNL is proposing several compensatory measures during the application process:

- All transuranic waste containers will be placed into one side of the building (a berm separates the two sides).
- The components of the epoxy primer and overlays will be mixed outside of the building.
- Epoxy will be brought into the facility in containers of five gallons or less.
- The primer/overlay will be applied to the floor of the cleared portion of the building.
- The door will remain open during the application and until the epoxy has cured to the point of no longer being a liquid.

A LLNL fire protection engineer has reviewed and approved this project. LFO is evaluating the request.

Plutonium Facility: LLNL personnel continue their efforts to close the prestart findings from the recent contractor readiness assessment of the new Centralized Waste Processing Line.