



ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY

P R E S S R E L E A S E

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BERKELEY LAB, DOE HALT TREATABILITY STUDY STEP

Officials from Ernest Orlando Lawrence Berkeley National Laboratory and the Department of Energy have suspended operation of a kiln at the National Tritium Labeling Facility after a waste treatability study resulted in an above-normal release of tritium.

"The tritium emissions from the processing were relatively small and posed no danger to personal health or the environment," said Berkeley Lab Director Charles Shank. "Nonetheless, any release that exceeds what is expected in normal operations is unacceptable. Our objectives are to minimize the generation of waste as well as emissions."

Shank and DOE officials in Oakland decided that use of a kiln during a mixed waste treatability study will be suspended pending further investigation. The treatability study is designed to research the removal of hazardous components from waste through oxidation. It is identified in the Laboratory's Site Treatment Plan for mixed waste, approved by the California Department of Toxic Substances Control (DTSC).

The NTLF will continue its contribution to the treatability study, but without the use of a kiln and only in sealed environments.

Laboratory results indicate that about 23 curies of tritium were released to the atmosphere during experimental waste treatment tests on July 24. Neither the radiation dose levels experienced by the facility's employees nor the emission output to the environment reached thresholds that would require a formal report to regulatory agencies. There were no environmental violations or exceedances of regulatory standards.

Estimates from an initial air monitoring analysis showed that the nearest off-site individual in the community who might have had the highest exposure to radiation, at

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the Lab's eastern boundary, would have received a dose of about 0.02 millirem, which is less than 1 percent of the EPA's safe exposure limit of 10 millirem per year.

Also, because of wind conditions and dispersion rates, visitors at the Lawrence Hall of Science, the public facility in closest proximity to the NTLF, received virtually no exposure to the emissions on that day.

The new waste treatability study involves heating silica gel, the substance on which waste products had been collected during a research project, to separate out hazardous components and tritium for further treatment, including destruction of the hazardous parts. What remains can then be sent to an appropriate land disposal site.

In the July 24 test, an unplanned amount of tritium separated from the gel into a kiln during a heating step. Electronic monitors signaled elevated levels inside the laboratory, and the kiln was shut down. An earlier similar test resulted in no measurable tritium.

"This was a minor incident, but we still take it very seriously," Shank said.

"Although a formal report to regulators is not required for an incident at this level, we feel it's important in building trust with the community that we share this information and tell the public what we're doing to avoid future occurrences."

The NTLF typically emits 50 to 100 curies of tritium into the air annually. A health risk analysis has shown that the amounts of tritium emerging from the labeling facility are far below the limits established by federal and state regulators to ensure public health. Since 1995, the annual emissions of tritium at Berkeley Lab translated to a maximum dose (less than 0.2 millirem) that is a fraction of 1 percent of the total radiation exposure a typical Berkeley resident receives from natural background sources.

"Over the past eight years, Berkeley Lab has reduced stack emissions 10-fold through improvements in research techniques, filtering and storage adjustments, improved disposal methods, and redesign of equipment," Shank noted. "And we commit to a continuation of this downward trend."

Berkeley Lab is a U.S. Department of Energy laboratory located in Berkeley, CA. It conducts unclassified scientific research and is managed by the University of California.

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