

Occurrence Report

After 2003 Redesign

Lawrence Livermore Nat. Lab. (BOP)

(Name of Facility)

Laboratory - Analytical

(Facility Function)

Lawrence Livermore National Lab.

Lawrence Livermore National Lab.

(Site)

(Contractor)

Name: Dave Boercker

Title: Dep Director for Operations - PLS Directorate

Telephone No.: (925) 422-4817

(Facility Manager/Designee)

Name: FREEMAN, JEFFREY W

Title: OCCURRENCE REPORTING

Telephone No.: (925) 424-6787

(Originator/Transmitter)

Name:

Date:

(Authorized Classifier (AC))

1. Occurrence Report Number: NA--LSO-LLNL-LLNL-2009-0015

Arcing Tabletop Laser in Building 179

2. Report Type and Date: NOTIFICATION/FINAL

	Date	Time
Notification:	03/17/2009	12:51 (ETZ)
Initial Update:	03/17/2009	12:51 (ETZ)
Latest Update:	03/17/2009	12:51 (ETZ)
Final:	03/17/2009	12:51 (ETZ)

3. Significance Category: 4

4. Division or Project: S&T P&LS

5. Secretarial Office: NA - National Nuclear Security Administration

6. System, Bldg., or Equipment: Building 179 Melles Griot Class IIIA Laser - 632.8 nm

7. UCNI?: No

8. Plant Area: Site 200

9. Date and Time Discovered: 03/13/2009 10:45 (PTZ)

10. Date and Time Categorized: 03/13/2009 11:15 (PTZ)

11. DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

12. Other Notifications:

Date	Time	Person Notified	Organization
03/13/2009	11:45 (PTZ)	Gordon Krauter	LEDO
03/13/2009	11:40 (PTZ)	Sarah Hartson	NNSA/LSO
03/13/2009	13:15 (PTZ)	Kurt Dreger	ESH TL

13. Subject or Title of Occurrence:

Arcing Tabletop Laser in Building 179

14. Reporting Criteria:

10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)

15. Description of Occurrence:

On March 12, 2009, a researcher discovered an arcing tabletop laser in use at Building 179. The laser was not functioning correctly and the researcher opened the panels enclosing the laser operation (using the appropriate PPE) and noticed arcing occurring between the metal casing of the laser and the bracket which holds the laser to the support stand (which is, in turn, connected to the grounded laser optical table).

Preliminary information reveals that the maximum current output of the laser power supply is 6.5mA and an operating voltage of between 1700 and 2850 Volts (DC).

The employee immediately shut down the laser and reported the event to his management and safety professionals. This incident did not result in any exposure or injury to the employee (no shock was received).

The model number of the HeNe laser was 05-LHP-111 (Melles Griot, class IIIA, 632.8 nm, 1997 Manufactured date) and its power supply model number was 05-LPL-340-065 (Melles Griot, 1997 Manufactured date).

16. Is Subcontractor Involved? No

17. Operating Conditions of Facility at Time of Occurrence:

Does not apply

18. Activity Category:

03 - Normal Operations (other than Activities specifically listed in this Category)

19. Immediate Actions Taken and Results:

Upon noticing the arcing tabletop laser, the employee immediately shut down power to the laser and notified his management and safety professionals. After the power was cut, the power supply and laser was labeled as defective and removed from service. Subsequently, photographs of the unit and the evidence of arcing (i.e., electrical burn marks on the casing and bracket) were taken. The program will arrange for qualified electricians to perform troubleshooting to find out the reason for the arcing and to confirm the potential electrical exposure which may have been present.

Based on the results of the troubleshooting, it is expected that the Physical and Life Sciences will share the findings with the LLNL Lessons Learned Office.

20. ISM:

6) N/A (Not applicable to ISM Core Functions as determined by management review.)

21. Cause Code(s):

22. Description of Cause:

There were no injuries or illnesses associated with this event. While there was a potential for an employee to receive an electrical shock, the exact quantification of this potential exposure is not known. Qualified electricians will perform testing to determine the actual potential for electrical shock.

23. Evaluation (by Facility Manager/Designee):

The responsible manager(s) within the Physical and Life Sciences Directorate will evaluate the results of the troubleshooting (to be performed by qualified electricians) and, as necessary, share findings with other LLNL directorates and the LLNL Lessons Learned Office for possible DOE complex-wide sharing.

24. Is Further Evaluation Required?: No

25. Corrective Actions

(* = Date added/revised since final report was approved.)

26. Lessons Learned:

The responsible manager(s) within the Physical and Life Sciences Directorate will evaluate the results of the troubleshooting (to be performed by qualified electricians) and, as necessary, share findings with other LLNL directorates and the LLNL Lessons Learned Office for possible DOE complex-wide sharing.

27. Similar Occurrence Report Numbers:**28. User-defined Field #1:**

No Injury, Minor Property Damage

29. User-defined Field #2:

S&T P&LS

30. HQ Keyword(s):

05D--Mechanical/Structural - Mechanical Equipment Failure/Damage
07E--Electrical Systems - Electrical Equipment Failure
12E--EH Categories - Equipment Degradation/Failure
14L--Quality Assurance - No QA Deficiency

31. HQ Summary:

On March 12, 2009, a researcher discovered an arcing tabletop laser in use at Building 179. The laser was not functioning properly so, using appropriate PPE, the researcher opened the panels enclosing the laser and saw arcing between the metal casing of the laser and the bracket that holds the laser to a support stand, which is connected to the grounded laser optical table. The 6.5mA He-Ne laser has an operating voltage of between 1700 and 2850 VDC. The researcher immediately shut down the laser and reported the event to management. The power supply and laser were labeled as defective and removed from service.