

LESSONS TO BE LEARNED

Generated from Actual Incidents-Written by EHSO

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Type of Incident: Laser Eye Injury / Laser Radiation Exposure

What Happened: A Researcher was placing a neutral density filter in an active laser beam line to try to reduce the illumination on a detector used for laser beam profiling. The Researcher was using a piece of scotch tape to mount the filter to the mirror apparatus. While attaching the filter to the mirror, the filter moved and the laser beam flashed in the right eye of the Researcher. The Researcher saw a “red flash” and moved his head away from the beam.

Immediate Cause: The active laser beam line was not placed in “standby mode” and did not have an appropriate beam stop inserted into the beam path while the filter was attached to the mirror. The current beam stop that was used was a piece of paper.

Root Causes: Lack of “laser-specific” standard operating procedures. (appropriate alignment, calibration, and safe operating limit, and emergency procedures)

Lack of proper operating equipment. (appropriate beam stop and filter “holder” apparatus)

Lack of appropriate personal protective equipment (PPE). (laser safety goggles)

Lack of training on laser safety and “laser-specific” operations.

Corrective Actions:

1. Develop and implement appropriate written laser safety operating procedures. Include appropriate alignment procedures, calibration procedures, emergency procedures, safe operating limits, and personal protective equipment (PPE).
2. Ensure training on the newly developed written laser safety operating procedures for all personnel who would operate the laser.
3. Purchase appropriate laser equipment to safely implement the newly developed written laser safety operating procedures. (e.g. appropriate beam stop, filter holders, etc.)
4. Purchase appropriate laser safety goggles for use with the laser. Ensure goggles protect against the laser operating frequency and have the appropriate optical density.

If you have any questions regarding laser safety, contact the Environmental Health and Safety Office Hotline at 6 – SAFE (6-7233) and ask for the UIC Laser Safety Officer.

