Laser Safety Protocol # 014

TO: Laser users

FROM: Laser Safety Program

SUBJECT: **Hazard Calculations**

VERSION DATE: July 2009

Goal

Documentation of the LBNL standard protocol for utilizing the most recent Maximum Permissive Exposure (MPE) data to determine optical density for laser protective eyewear.

Protocol

The Laser Safety Program at LBNL will evaluate each new addition of ANSI Z136.1 Safe Use of Laser for changes in MPE values. Upon completion of this review, the LSO will update laser hazard calculations table per AHD as applicable.

Applicable Standard and Policies

ANSI Z136.1 / CDRH Specification

The ANSI Z136.1 standard for the safe use of lasers is the Laser Safety Program's general guidance document.

LBNL PUB-3000, Chapter 16 (Lasers), also guides laser use at LBNL.

Rationale

MPE is defined as the level of laser radiation to which a person may be exposed without hazardous effect or adverse biological changes in the eye or skin. The criteria of MPE for the eye and skin are detailed in Section 8 of the ANSI Z136.1 Safe Use of Lasers standard. Each new edition contains the latest determination of MPE from the experimental work and the literature. This information is reviewed by an ANSI Z136 technical subcommittee prior to being placed in the standard.

As an example in the 1993 version no MPE values existed for femtosecond pulses. That is no longer the case in the 2007 version.

Laser protective eyewear is one of the cornerstones of laser safety. Hence as new MPE values are accepted into the ANSI Z136.1 standard it is only good diligence that the LBNL Laser Safety Program review that data to see if changes in user eyewear are required.

Contact Information

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