



REGULATORY GUIDE: How to determine if a Class 1M or Class 2M laser product is a controlled apparatus.

Background

Regulation 4(2)(a)(viii) of the Australian Radiation Protection and Nuclear Safety Regulations 1999 (the Regulations) defines a laser with an accessible emission limit (AEL) greater than the AEL of a Class 3R laser product as a controlled apparatus.

Because the emission level of Class 1M and Class 2M laser products may exceed the AEL for Class 3R, Class 1M and Class 2M lasers are potentially classified as controlled apparatus. However, regulation 4(2)(b) states that a laser product is only controlled if it could lead to people being exposed to emission exceeding the maximum permissible exposure (MPE) mentioned in AS/NZS2211.1:2004.

Class 1M lasers

Since Class 1M is assigned to lasers where the exposure would not normally exceed the AEL of Class 1 (hence the MPE), most Class 1M lasers therefore would not be considered to be controlled apparatus. The two notable exceptions to this would be where it is reasonably foreseeable that the beam may be viewed with magnifying optics or, in the case of some laser products, where the beam may be viewed within 100mm of the source.

Class 2M lasers

Class 2M applies only to visible lasers and assumes that a degree of protection is afforded by the *aversion* or *blink* response. The same conditions given for Class 1M lasers apply to Class 2M lasers with the additional condition that it is not reasonably foreseeable that a person would deliberately view the beam for more than 0.25s.

Hazard Level 1M and 2M optical fibre communications systems

For the purposes of determination whether Hazard Level 1M and 2M optical fibre communications systems, the same rules apply as for Class 1M and 2M lasers.

Summary

Class 1M and Class 2M lasers may be considered to be controlled if their emission level exceeds the AEL for Class 3R and in the course of intended operations or under a reasonably foreseeable abnormal event, may lead to persons being exposed to emission in excess of the MPE mentioned in AS2211.1:2004.

| | | |
|--|-----------------|--|
| Title: REGULATORY GUIDE: How to determine if a Class 1M or Class 2M laser product is a controlled apparatus. | | |
| Document ID: RPB-LA-SUP-240M | | Version 1 |
| Issue Date: February 2010 | Prepared by: GF | Approved by: <i>Tom C. Grahame</i> Page 1 of 1 |