

# Tables

**Table I Engineering Control Measures for Lasers<sup>1</sup>**

CONTROL MEASURES Engineering Controls	CLASSIFICATION <sup>2</sup>					
	I	IIA	II	IIIA	IIIB	IV
Protective Housing (4.3.1) <sup>3</sup>	X	X	X	X	X	X
Without Protective Housing (4.3.1.1)	LSO shall establish alternate control					
Interlocks on Protective Housing (4.3.2)	∇	∇	∇	∇	X	X
Service Access Panel (4.3.3)	∇	∇	∇	∇	X	X
Key Control (4.3.4)	—	—	—	—	•	X
Viewing Portals (4.3.5.1)	—	—	MPE	MPE	MPE	MPE
Collecting Optics (4.3.5.2)	MPE	—	MPE	MPE	MPE	MPE
Totally Open Beam Path (4.3.6.1)	—	—	—	—	X/NHZ	X/NHZ
Limited Open Beam Path (4.3.6.2)	—	—	—	—	X/NHZ	X/NHZ
Enclosed Beam Path (4.3.6.3)	None is required if 4.3.1. and 4.3.2. fulfilled					
Remote Interlock Connector (4.3.7)	—	—	—	—	•	X
Beam Stop or Attenuator (4.3.8)	—	—	—	—	•	X
Activation Warning Systems (4.3.9)	—	—	—	—	•	X
Emission Delay (4.3.9.1)	—	—	—	—	—	X
Indoor Laser Controlled Area (4.3.10)	—	—	—	—	X/NHZ	X/NHZ
Class IIIB Laser Controlled. Area (4.3.10.1)	—	—	—	—	X	-
Class IV Laser Controlled. Area	—	—	—	—	—	X
Laser Outdoor Controls (4.3.11)	—	—	—	—	X	X
Laser in Navigable Airspace (4.3.11.2)	—	—	—	•	•	•
Temp. Laser Controlled Area (4.3.12)	∇	∇	∇	∇	—	—
Remote Firing and Monitoring (4.3.13)	—	—	—	—	—	•
Labels (4.3.14 and 4.7)	—	X	X	X	X	X
Area Posting (4.3.15)	—	—	•	•	X/NHZ	X/NHZ

<sup>1</sup>The information in this table is taken from ANSI Z136.1.

<sup>2</sup>Legend: “X” - Shall; “•” - Should; “—” - No requirement; “∇” - Shall if enclosed Class IIIB or Class IV; “MPE” - Shall if “MPE” is exceeded; “NHZ” - Nominal Hazard Zone analysis required.

<sup>3</sup>Numbers in parentheses refer to location of topic in the ANSI standard.