

APPENDIX 3
ENGINEERING CONTROL MEASURES FOR LASER CLASSES
(References cited for the control measure are from ANSI Z136.1-2014)

CONTROL MEASURES	CLASSIFICATION						
	1	1M	2	2M	3R	3B	4
Protective Housing (4.4.2.1)	X	X	X	X	X	X	X
Without Protective Housing (4.4.2.1.1)	LSO shall establish Alternative Controls						
Interlocks on Removable Protective Housings (4.4.2.1.3)	▼	▼	▼	▼	▼	X	X
Service Access Panel (4.4.2.1.4)	▼	▼	▼	▼	▼	X	X
Key Control (4.4.2.2)	-	-	-	-	-	●	●
Viewing Windows, Display Screens and Diffuse Display Screens (4.4.2.3)	Ensure viewing limited <MPE						
Collecting Optics (4.4.2.6)	X	X	X	X	X	X	X
Fully Open Beam Path (4.4.2.7.1)	-	-	-	-	-	X NHZ	X NHZ
Limited Open Beam Path (4.4.2.7.2)	-	-	-	-	-	X NHZ	X NHZ
Enclosed Beam Path (4.4.2.7.3)	Further controls not required if 4.4.2.1.and 4.4.2.1.3 fulfilled						
Area Warning Device (4.4.2.8)	-	-	-	-	-	●	X
Laser Radiation Emission Warning (4.4.2.9)	-	-	-	-	-	●	X
Class 4 Laser Controlled Area (4.4.2.10 and 4.4.3.5)	-	-	-	-	-	-	X
Entryway Controls (4.4.2.10.3)	-	-	-	-	-	-	X
Protective Barriers and Curtains (4.4.2.5)	-	-	-	-	-	●	●

LEGEND: X Shall
● Should
▼ Shall if enclosed Class 3B or Class 4
NHZ Nominal Hazard Zone analysis required