

1061.5.b.1. con't.

- a. A wavelength equal to or less than 1510 nm, and having an average or CW output power exceeding 1.5 W; **or**
 - b. A wavelength greater than 1510 nm, and having an average or CW output power exceeding 500 mW
2. Individual, multiple-transverse mode semiconductor "lasers", having all of the following:
- a. A wavelength of less than 950 nm, or more than 2000 nm; **and**
 - b. An average or CW output power exceeding 10 W;
3. Individual arrays of semiconductor "lasers", having any of the following:
- a. A wavelength of less than 950 nm, and having an average or CW output power exceeding 60 W; **or**
 - b. A wavelength equal to or greater than 2000 nm, and having an average or CW output power exceeding 10 W;

Technical Note:

Semiconductor "lasers" are commonly called "laser" diodes.

Note 1:

1061.5.b. includes semi-conductor "lasers" having optical output connectors (e.g. fibre optic pigtails).

Note 2:

The control status of semi-conductor "lasers" specially designed for other equipment is determined by the control status of the other equipment.

- c. Solid state "lasers", as follows:

- 1. "Tunable" "lasers" having any of the following:

Note:

1061.5.c.1. includes titanium - sapphire (Ti: Al₂O₃), thulium - YAG (Tm: YAG), thulium - YSGG (Tm: YSGG), alexandrite (Cr: BeAl₂O₄) and colour centre "lasers".

- a. An output wavelength less than 600 nm and having any of the following:
 - 1. An output energy exceeding 50 mJ per pulse and a pulsed "peak power" exceeding 1 W; **or**
 - 2. An average or CW output power exceeding 1 W;
- b. An output wavelength of 600 nm or more but not exceeding 1,400 nm and having any of the following:
 - 1. An output energy exceeding 1 J per pulse and a pulsed "peak power" exceeding 20 W; **or**
 - 2. An average or CW output power exceeding 20 W; **or**
- c. An output wavelength exceeding 1,400 nm and having any of the following:
 - 1. An output energy exceeding 50 mJ per pulse and a pulsed "peak power" exceeding 1 W; **or**
 - 2. An average or CW output power exceeding 1 W.

- 2. Non-"tunable" "lasers", as follows:

Note:

1061.5.c.2. includes atomic transition solid state "lasers".

- a. Neodymium glass "lasers", as follows:
 - 1. "Q-switched lasers" having any of the following:
 - a. An output energy exceeding 20 J but not exceeding 50 J per pulse and an average output power exceeding 10 W; **or**
 - b. An output energy exceeding 50 J per pulse.
 - 2. Non-"Q-switched lasers" having any of the following:

- a. An output energy exceeding 50 J but not exceeding 100 J per pulse and an average output power exceeding 20 W; **or**
 - b. An output energy exceeding 100 J per pulse.
- b. Neodymium-doped (other than glass) "lasers", having an output wavelength exceeding 1,000 nm but not exceeding 1,100 nm, as follows:

N.B.:

For neodymium-doped (other than glass) "lasers" having an output wavelength not exceeding 1,000 nm or exceeding 1,100 nm, see 1061.5.c.2.c).

- 1. Pulse-excited, mode-locked, "Q-switched lasers" having a "pulse duration" of less than 1 ns and having any of the following:
 - a. A "peak power" exceeding 5 GW;
 - b. An average output power exceeding 10 W; **or**
 - c. A pulsed energy exceeding 0.1 J.
 - 2. Pulse-excited, "Q-switched lasers" having a pulse duration equal to or more than 1 ns, and having any of the following:
 - a. A single-transverse mode output having:
 - 1. A "peak power" exceeding 100 MW;
 - 2. An average output power exceeding 20 W; **or**
 - 3. A pulsed energy exceeding 2 J; **or**
 - b. A multiple-transverse mode output having:
 - 1. A "peak power" exceeding 400 MW;
 - 2. An average output power exceeding 2 kW; **or**
 - 3. A pulsed energy exceeding 2 J;
5. c. 2. b. 3. Pulse-excited, non-"Q-switched lasers", having:
- a. A single-transverse mode output having:
 - 1. A "peak power" exceeding 500 kW; **or**
 - 2. An average output power exceeding 150 W; **or**
 - b. A multiple-transverse mode output having:
 - 1. A "peak power" exceeding 1 MW; **or**
 - 2. An average power exceeding 2 kW;
 - 4. Continuously excited "lasers" having:
 - a. A single-transverse mode output having:
 - 1. A "peak power" exceeding 500 kW; **or**
 - 2. An average or CW output power exceeding 150 W; **or**
 - b. A multiple-transverse mode output having:
 - 1. A "peak power" exceeding 1 MW; **or**
 - 2. An average or CW output power exceeding 2 kW;
5. c. 2. c. Other non-"tunable" "lasers", having any of the following:
- 1. A wavelength less than 150 nm and having any of the following:
 - a. An output energy exceeding 50 mJ per pulse and a pulsed "peak power" exceeding 1 W; **or**
 - b. An average or CW output power exceeding 1 W;
 - 2. A wavelength of 150 nm or more but not exceeding 800 nm and having any of the following:
 - a. An output energy exceeding 1.5 J per pulse and a pulsed "peak power" exceeding 30 W; **or**