



NOTICE OF PROPOSAL TO CONDUCT OUTDOOR LASER OPERATION(S)

To:	From (applicant)	Date of notice (yyyy-mm-dd)
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SECTION 1 – GENERAL INFORMATION

Event or facility	
Customer	Site Address

GEOGRAPHIC LOCATION / AREA

Latitude _____ degrees (°) _____ minutes (') _____ seconds (")	Longitude _____ degrees (°) _____ minutes (') _____ seconds (")
Area of operation (if required for mobile or airborne configurations such as mounted on Remotely Piloted Aircraft Systems (RPAS), etc)	
Ground elevation at site (above mean sea level)(ft)	Laser elevation above ground (if on buildings, etc.)(ft)

Determined by
 GPS Topographic Map Other (specify): _____

DATE(S) AND TIME(S) OF LASER OPERATION

Testing and alignment	Operation
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SECTION 2 – DESCRIPTION OF OPERATION

SECTION 3 – ON-SITE OPERATION INFORMATION

Operator(s)	
On-site telephone number 1 (999-999-9999)	On-site telephone number 2 (999-999-9999)

SECTION 4 – DESCRIPTION OF CONTROL MEASURES**SECTION 5 – ATTACHMENTS**

Number of laser configurations (fill out one copy of page 3 of this notice ["Laser Configurations Worksheet"] for each configuration)

List any additional attachments needed to evaluate this operation (could include maps, diagrams, and details of control measures)

SECTION 6 – DESIGNATED CONTACT PERSON (if future information is needed)

Name		Position
Telephone number (999-999-9999)	Fax number (999-999-9999)	Email

SECTION 7 – STATEMENT OF ACCURACY

To the best of my knowledge, the information provided in this Notice of Proposal is accurate and correct.

Name (if different from contact person)

Position

Signature

Date (yyyy-mm-dd)

LASER CONFIGURATION WORKSHEET

Fill out one copy of this form for each laser or laser configuration used at the outdoor laser operations site.

SECTION A – CONFIGURATION INFORMATION			
Name of Event or facility	This page is configuration Number _____ of _____	Date (yyyy-mm-dd)	
Brief description of configuration			
SECTION B – BEAM CHARACTERISTICS AND CALCULATIONS (check only one Mode of Operation, and only fill in that column)			
Mode of Operation	Single Pulse <input type="radio"/>	Continuous Wave <input type="radio"/>	Repetitively Pulsed <input type="radio"/>
Laser Type (lasing medium)			
Power <i>Watts (W)</i>	(not applicable)	Maximum power	Average power
Pulse Energy <i>Joules (J)</i>		(not applicable)	
Pulse Width <i>Seconds (s)</i>		(not applicable)	
Pulse Repetition Frequency (PRF) <i>Hertz (Hz)</i>	(not applicable)	(not applicable)	
Beam Diameter at 1/e points <i>Centimetres (cm) (not mm)</i>			
Beam Divergence 1/e at full angle <i>Milliradians (mrad)</i>			
Wavelength(s) <i>Nanometres (nm)</i>			
MAXIMUM PERMISSIBLE EXPOSURE (MPE) CALCULATIONS (will be used to calculate nominal ocular hazard distance (NOHD))			
MPE (<i>W/cm²</i>)	(not applicable)		
MPE per pulse (<i>J/cm²</i>)		(not applicable)	
VISUAL EFFECT CALCULATIONS (will be used only for visible lasers to calculate sensitive zone exposure distance (SZED), critical zone exposure distance (CZED) and laser-free exposure distance (OLFED))			
Pre-Corrected Power (PCP) <i>Watts (W)</i>	Pulse Energy (J) * 4	Maximum Power (from above)	Average Power OR Pulse Energy (J) x PRF (Hz)
Visual Correction Factor (VCF) <i>Enter "1.0" or use Table 5</i>			
Visually Corrected Power <i>PCP x VCF</i>			
SECTION C – BEAM DIRECTION(S)			
Azimuth (degrees) <div style="text-align: right; margin-top: 5px;"><input type="radio"/> True <input type="radio"/> Magnetic</div>	Magnetic variation (degrees)		
Minimum elevation angle (degrees, where horizontal = 0°)	Maximum elevation angle (degrees)		
SECTION D – DISTANCES CALCULATED FROM ABOVE DATA (fill in all three columns for NOHD. If a visible laser, fill in all three columns for SZED, CZED, LFED)			
	Slant Range (ft)	Horizontal Distance (ft)	Vertical Distance (ft)
Nominal Ocular Hazard Distance			
NOHD (based on MPE)			
Visual Effects Distances (If the laser has no wavelengths in the visible range (400-700nm), enter "N/A (non-visible laser)" in all blocks below. For visible lasers, if the calculated SZED, CZED, and/or LFED is less (shorter distance) than the NOHD, you must enter "Less than NOHD".			
SZED (for 100 μ W/cm ² level)			
CZED (for 5 μ W/cm ² level)			
LFED (for 50 nW/cm ² level)			
SECTION E – CALCULATION METHOD			
<input type="radio"/> Commercial Software	Print product name	<input type="radio"/> Other Describe method (spreadsheet, calculator, etc.)	

INSTRUCTIONS FOR COMPLETING NOTICE OF PROPOSAL TO CONDUCT OUTDOOR LASER OPERATION(S) FORM AND LASER CONFIGURATION WORKSHEET

Note: A laser is a high concentrated light beam, which has the potential to cause significant damage to the human eye and skin, depending on its energy and wavelength. A laser does not need to be “visible” to cause damage. Laser operating in the Retinal Hazard Region, namely visible and near-infrared regions of the electro-magnetic spectrum (ie 400nm to 1400 nm), can cause significant damage to the retina. Furthermore, lasers operating beyond the Retinal Hazard Region, such as UV and infrared regions, can cause damage to the skin and to the cornea of the eye.

- (a) Purpose of Form: The purpose of this form is to assess submissions by any person planning to project or to cause to be projected a directed bright light source into navigable airspace in order to determine conformance to **Canadian Aviation Regulations** (CAR) for aviation safety.
- (b) When to Complete the Form: Completed electronic or paper forms are to be submitted at least 30 days prior to an event where lasers are planned to be used outdoors.
- (c) Proponents are requested to ensure the form is complete and as specific as possible in order for the Minister to determine if the lasers constitute a hazard to air navigation in accordance with CAR 601.20 - Projection of Directed Bright Light Source at an Aircraft.
- (d) Supporting Data and Documents, if required, can be submitted as attachments to this form.
- (e) This form neither constitutes nor replaces any approvals, permits or assessments required by other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval/assessment may be required.
- (f) Completed applications are to be forwarded to the applicable Transport Canada (TC) Regional office listed in the dropdown list on the front page of this form. For more contact information about the TC Regional offices, see <https://www.tc.gc.ca/eng/regions.htm>.

1. Notice of Proposal Form

Section 1 – The name of the event or the facility where the laser is going to be used as well as the name and address of the proponent (individual or organization) submitting the Notice of Proposal.

(a) Geographic Location – Latitudes and longitudes must be geographic coordinates, to within the nearest second or to the nearest hundredth of a second if known. Ground elevation is above sea level and laser elevation is above ground in feet. Indicate the method used to determine coordinates. For accuracy measurements, refer to the International Civil Aviation Organization (ICAO) Annex 15 Aeronautical Information Services.

(b) Date and Time of Operation – Enter date and time of any testing and alignment (if required) and of the actual day of planned laser operation.

Section 2 – Provide a detailed narrative description of the proposal.

Section 3 – Provide the name of the individual who will be operating the laser and include a primary and secondary phone number where this individual can be reached at. List any additional attachments needed to evaluate each laser configuration.

Section 4 – Provide a detailed narrative description of any control measure intended to mitigate hazardous emissions.

Section 5 – Indicate how many different laser configurations/ planned to be used during the event and complete a separate *Laser Configuration Worksheet* for each configuration.

Section 6 – Indicate the required contact information for the individual designated to provide any additional information regarding this proposal.

Section 7 – The individual responsible for the planned laser operation(s) is to provide a statement of accuracy by printing his/her name and position and by signing and dating this form.

2. Laser Configuration Worksheet

Section A – The name of the event or the facility where the laser is going to be used as well as a brief description of the Laser configuration. Indicate which configuration of the total number of configurations submitted as well as the date of the submission.

Section B – Complete each data box under the appropriate column for the mode of operation (ie SP, CW or RP), including the calculated MPE and visual effect calculations.

Section C – Indicate the azimuth (or range of azimuth) of the beam in degrees and whether the measurement is in reference to Magnetic or True North. If Magnetic, provide the local variation. Provide the minimum and maximum elevation angles of the beam.

Section D – Complete each box in this section, providing the calculated ocular hazard distances in feet.

Section E – Indicate the method used to determine the calculated data.