

**EXEMPTION FROM SECTIONS 602.41 AND 603.66 OF THE
CANADIAN AVIATION REGULATIONS**

Pursuant to Subsection 5.9(2) of the *Aeronautics Act*, and after having determined that the exemption is in the public interest and is not likely to adversely affect aviation safety, I hereby exempt persons conducting flight operations utilizing unmanned air vehicles (UAVs), with a maximum take-off weight of 1 kilogram or less, operated within visual line-of-sight, from the requirements of sections 602.41 and 603.66 of the *Canadian Aviation Regulations (CARs)*, subject to the conditions set out below.

Excerpts from the CARs are included in **Appendix A** to this exemption.

INTERPRETATION

For the purpose of this exemption:

Autonomous UAV- means a UAV system able to execute processes or missions using onboard decision-making capabilities. An autonomous UAV system is not designed to permit crew member intervention.

Command and Control (C2) Link – means the data link between the UAV and the control station for the purposes of managing the flight.

Control Station – means the facilities and/or equipment remote from the UAV from which the aircraft is controlled and/or monitored.

First Person View (FPV) Device – means a device that generates and transmits a streaming video image to a control station display or monitor giving the pilot who is viewing this video, the illusion of actually flying the UAV from an onboard pilot's perspective.

Lost Link - means the loss of command and control link contact with the UAV such that the pilot can no longer manage the aircraft's flight.

UAV Operator - means the person that has possession of the UAV system, as owner, lessee or otherwise.

UAV System – means a set of configurable elements consisting of an UAV, its associated control station(s), the required command and control links and any other elements as may be required, at any point during flight operation

Visual line-of-sight (VLOS) - means unaided (corrective lenses and/or sunglasses exempted) visual contact with the UAV sufficient to be able to maintain operational control of the aircraft, know its location, and be able to scan the airspace in which it is operating to decisively see and avoid other air traffic or objects.

Visual Observer - means a trained crew member, in visual line-of-sight of the UAV, who assists the pilot in the duties associated with collision avoidance and complying with the applicable rules of flight.

PURPOSE

This exemption relieves persons conducting UAV system operations utilizing a UAV with a maximum take-off weight of 1 kilogram or less, operated within visual line-of-sight from the requirement to obtain a Special Flight Operations Certificate (SFOC) as required by section 602.41 and the requirement to comply with the conditions of an SFOC as required by section 603.66 of the *CARs*.

The exemption will permit UAVs with a maximum take-off weight of 1 kilogram or less to be operated away from built-up areas, controlled airspace, aerodromes, forest fire areas and other restricted locations.

UAV operations conducted outside the terms and conditions of this exemption are subject to the requirements for an SFOC, regardless of the weight of the UAV.

APPLICATION

This exemption applies to any person conducting UAV system operations within Canadian Domestic Airspace utilizing UAVs with a maximum take-off weight of 1 kilogram or less within visual line-of-sight.

This exemption does not apply to:

- a) Operations of model aircraft;
- b) Operations of an Autonomous UAV; or
- c) Operations by a foreign UAV operator.

This exemption ceases to apply to the person who breaches a condition of the exemption.

CONDITIONS

General Conditions

- (1) Any person conducting operations under this exemption shall conduct a safe operation and shall not pose a risk to aviation safety.
- (2) Any person operating under this exemption shall not operate a UAV system in such a reckless or negligent manner so as to endanger or be likely to endanger the life or property of any person.
- (3) Any person operating under this exemption shall be a minimum of 18 years of age, or be at least 16 years of age and conducting research under the supervision of an academic institution.
- (4) Any person conducting operations under this exemption shall subscribe for liability insurance covering risks of public liability at the levels described in subsection 606.02 (8) of the *Canadian Aviation Regulations* and in any case shall have no less than \$100,000 in liability insurance coverage pertaining to the operation of the UAV system.

- (5) The pilot operating under this exemption shall not operate the controls of a UAV if they have any reason to believe that they are suffering or are likely to suffer from fatigue, or suffering from any other condition which would render them unfit to perform their duties.
- (6) The pilot operating under this exemption shall not operate a UAV system within eight (8) hours after consuming an alcoholic beverage or while under the influence of alcohol or while using any drug that impairs the person faculties to the extent that the safety of the operation is endangered in any way.
- (7) Any person conducting operations under this exemption shall be familiar with the relevant aeronautical information that is appropriate to the intended flight, before commencing a flight.
- (8) Any person operating under this exemption shall not operate a UAV in any special aviation event requiring an SFOC under Part VI, Subpart 3, Division 1 of the *Canadian Aviation Regulations*.
- (9) Any person conducting operations under this exemption shall obtain permission from the owner(s) of the property on which a UAV intends to take-off/launch from and/or land/recover on.
- (10) Any person conducting operations under this exemption shall, prior to commencing operations, perform a site survey to assess the suitability of each location and confirm that safe operations can be conducted.
- (11) Any person conducting operations under this exemption shall cease operations if at any time the safety of other airspace users or persons or property on the ground is in jeopardy, or if the person conducting operations is unable to comply with the conditions of this exemption.
- (12) A copy of the following documents shall be accessible to any person conducting operations under this exemption:
 - (a) The exemption;
 - (b) Proof of liability insurance coverage;
 - (c) Name, address and telephone number of the UAV operator;
 - (d) A copy of the UAV system operating limitations; and
 - (e) Evidence that the training required in condition 40 has been completed.
- (13) A person conducting operations under this exemption shall immediately produce any of the documents and/or information listed in condition 12 to a peace officer, police officer, or Transport Canada inspector upon request.
- (14) No person operating under this exemption is relieved from complying with the provisions of any other relevant Acts, Regulations or laws or from any level of government.

Flight Conditions

- (15) The pilot operating under this exemption shall maintain continuous unaided visual contact with the UAV sufficient to be able to maintain operational control of the UAV, know its location and be able to scan the airspace in which it is operating to decisively see and avoid other air traffic or objects.

- (16) The pilot operating under this exemption shall not operate the UAV further than one-quarter ($\frac{1}{4}$) nautical mile from the location from which the pilot is operating the UAV.
- (17) The pilot operating under this exemption shall not use a first person view device.
- (18) The pilot operating under this exemption shall only operate a UAV from a single control station and control relays or visual observers to extend the operational area are prohibited.
- (19) The pilot shall operate no more than one UAV at any one time.
- (20) The pilot operating a UAV shall give way to manned aircraft at all times.
- (21) The pilot conducting operations under this exemption shall only operate a UAV during daylight hours.
- (22) The pilot operating under this exemption shall operate a UAV at or below 300 feet above ground level (AGL).
- (23) The pilot conducting operations under this exemption shall only operate a UAV in Class G airspace.
- (24) The pilot operating under this exemption shall not operate a UAV within or over a forest fire area, or over any area that is located within five nautical miles of a forest fire area.
- (25) The pilot operating under this exemption shall not operate a UAV in airspace that has been restricted by the Minister under Section 5.1 of the *Aeronautics Act*.
- (26) The pilot operating under this exemption shall only operate a UAV at least five (5) nautical miles away from the centre of any aerodrome listed in the Canada Flight Supplement or the Water Aerodrome Supplement, excluding heliports.
- (27) The pilot operating under this exemption shall only operate a UAV at least three (3) nautical miles away from the centre of any heliport listed in the Canada Flight Supplement or Water Aerodrome Supplement or any aerodrome not listed in the Canada Flight Supplement or Water Aerodrome Supplement.
- (28) The pilot operating under this exemption shall not operate a UAV in any control zone.
- (29) The pilot operating under this exemption shall not operate a UAV over or within a built up area.
- (30) While complying with condition 29 above, the pilot operating under this exemption shall operate a UAV at a lateral distance of at least 100 feet away from any building, structure, vehicle, vessel, animal or persons unless:
 - (a) The building, structure, vehicle, vessel or animal is the subject of the aerial work; and
 - (b) Only persons inherent to the operation are present.
- (31) The pilot operating under this exemption shall operate a UAV at a lateral distance of at least 100 feet from the general public, spectators, bystanders or any person not associated with the operation.
- (32) The pilot operating under this exemption shall not operate a UAV over or within an open-air assembly of persons.

- (33) The pilot conducting operations under this exemption shall only operate a UAV under visual meteorological conditions, clear of cloud with not less than two (2) statute miles ground visibility.
- (34) The pilot conducting operations under this exemption shall be able to take immediate active control of a UAV at all times.
- (35) The pilot conducting operations under this exemption shall establish and follow normal, lost link and emergency procedures, including those established by the manufacturer.
- (36) Any person conducting operations under this exemption shall confirm that no unacceptable radio frequency interference to the UAV system is present prior to flight, nor is likely to be present during flight.
- (37) The pilot operating under this exemption shall not operate a UAV system unless it is operated in accordance with the operating limitations specified by the manufacturer.
- (38) The pilot operating under this exemption shall not conduct a take-off/launch of a UAV if explosive, corrosive, flammable, bio-hazard or bright light emitting (laser) payloads are carried onboard.
- (39) Any person conducting operations under this exemption shall ensure that the appropriate air traffic service unit(s) is advised immediately anytime the flight of a UAV inadvertently enters into controlled airspace.

Pilot Training Condition

- (40) The pilot conducting operations under this exemption shall have the appropriate knowledge, training on the UAV system and qualifications for the area and type of operation, as referred to in Transport Canada Advisory Circular 600-004.

Reporting Conditions

- (41) Any person operating under this exemption shall, prior to the commencement of operations, notify the Minister, in writing, of:
 - (a) Their name, address, telephone number and e-mail;
 - (b) The model of UAV(s) being operated including serial number(s), where appropriate;
 - (c) The type of work being conducted;
 - (d) The geographic boundaries or area(s) where the operation will be conducted; and
 - (e) Confirmation that:
 - (i) the exemption has been read and understood;
 - (ii) flights will only be conducted in Class G airspace;
 - (iii) flights will only be conducted at the applicable distance from the centre of any aerodrome as specified in conditions 26 and 27; and

- (iv) flights will only be conducted at the applicable distance from built-up areas specified in condition 29 of this exemption.
- (42) Any person operating under this exemption shall notify the Minister within 10 working days of any change to the information provided in the above condition or upon the permanent cessation of UAV system operations.

UAV System Condition

- (43) Any person conducting operations under this exemption shall ensure that a UAV system is in a fit and safe state for flight prior to take-off/launch.

VALIDITY

This exemption is in effect from December 22, 2016 until the earliest of the following:

- a) December 31, 2019 at 23:59 (EST);
- b) the date on which this exemption is cancelled in writing by the Minister, where he is of the opinion that the exemption is no longer in the public interest, or that it is likely to adversely affect aviation safety.
- c) the date on which an amendment to the appropriate provisions of the *Canadian Aviation Regulations* or related standards, modifying the subject-matter specifically addressed in this exemption, comes into force.

Dated at Ottawa, Ontario, Canada this 09th day of December, 2016, on behalf of the Minister of Transport.



Denis Guindon
Director General, Aviation Safety Oversight and Transformation
Civil Aviation

APPENDIX A: EXCERPTS FROM THE CANADIAN AVIATION REGULATIONS

101.01

“model aircraft”

“model aircraft” means an aircraft, the total weight of which does not exceed 35 kg (77.2 pounds), that is mechanically driven or launched into flight for recreational purposes and that is not designed to carry persons or other living creatures; (modèle réduit d’aéronef)

[...]

“unmanned air vehicle”

“unmanned air vehicle” means a power-driven aircraft, other than a model aircraft, that is designed to fly without a human operator on board; (véhicule aérien non habité)

[...]

602.41 No person shall operate an unmanned air vehicle in flight except in accordance with a special flight operations certificate or an air operator certificate.

[...]

603.65 This Division applies in respect of the following flight operations when not conducted under Part VII:

[...]

(d) the operation of an unmanned air vehicle;

[...]

603.66 No person shall conduct a flight operation referred to in section 603.65 unless the person complies with the provisions of a special flight operations certificate issued by the Minister pursuant to section 603.67.

603.67 Subject to section 6.71 of the Act, the Minister shall, on receipt of an application submitted in the form and manner required by the *Special Flight Operations Standards*, issue a special flight operations certificate to an applicant who demonstrates to the Minister the ability to conduct the flight operation in accordance with the *Special Flight Operations Standards*.