



200 Promenade du Portage
Gatineau, QC, K1A 1K8

13 June 2019

Re: Occurrence Reporting Guidelines for Remotely Piloted Aircraft Systems

Dear colleagues,

The following guidelines are intended for Air Branch employees at the Transportation Safety Board of Canada (TSB). These guidelines seek to clarify the reporting requirements for occurrences involving Remotely Piloted Aircraft Systems (RPAS).

Background

Transport Canada has enacted new rules in the [Canadian Aviation Regulations](#) (CARs) regarding RPAS. These rules came into force on 01 June 2019 and now regulate three separate categories of RPAS:

- **Basic RPAS:** this category includes RPAS that weigh 250 grams (g) up to and including 25 kilograms (kg), which are not intended to conduct any of the advanced operations referred to in paragraphs 901.62(a) to (d) of the CARs;¹
- **Advanced RPAS:** this category includes RPAS that weigh 250 g up to and including 25 kg, which are operated in the circumstances listed in paragraphs 901.62(a) to (d) of the CARs; and

¹ CARs 901.62 - This Division applies in respect of remotely piloted aircraft systems that include small remotely piloted aircraft and that are intended for operation

(a) in controlled airspace, in accordance with paragraph 901.69(1)(a) and sections 901.71 and 901.72;

(b) at a distance of less than 100 feet (30 m) but not less than 16.4 feet (5 m) from another person except from a crew member or other person involved in the operation, measured horizontally and at any altitude, in accordance with paragraph 901.69(1)(b);

(c) at a distance of less than 16.4 feet (5 m) from another person, measured horizontally and at any altitude, in accordance with paragraph 901.69(1)(c); or

(d) within three nautical miles from the centre of an airport, or within one nautical mile from the centre of a heliport, in accordance with section 901.73.

- **Special Flight Operations - RPAS:** this category includes RPAS that weigh 250 g or more, which are operated in the circumstances listed in CARs 903.01.² These RPAS operations require the issuance and compliance with the conditions of a special flight operations certificate (SFOC).

Aviation Occurrence Reporting – Current Requirements

The *TSB Regulations*³ currently prescribe mandatory reporting requirements for aviation occurrences, defined by the *CTAISB Act*⁴ as any “accident or incident associated with the operation of an aircraft and any situation or condition that the Board has reasonable grounds to believe could, if left unattended, induce an accident or incident.” Since the *CTAISB Act*’s definition of aircraft⁵ encompasses RPAS, aviation occurrence reporting

² CARs 903.01 - No person shall conduct any of the following operations using a remotely piloted aircraft system that includes a remotely piloted aircraft having a maximum take-off weight of 250 g (0.55 pounds) or more unless the person complies with the provisions of a special flight operations certificate – RPAS issued by the Minister under section 903.03:

- (a) the operation of a system that includes a remotely piloted aircraft having a maximum take-off weight of more than 25 kg (55 pounds);
- (b) the operation of a system beyond visual line-of-sight, as referred to in subsection 901.11(2);
- (c) the operation of a system by a foreign operator or pilot who has been authorized to operate remotely piloted aircraft systems by the foreign state;
- (d) the operation of a remotely piloted aircraft at an altitude greater than those referred to in subsection 901.25(1), unless the operation at a greater altitude is authorized under subsection 901.71(2);
- (e) the operation of more than five remotely piloted aircraft at a time from a single control station, as referred to in subsection 901.40(2);
- (f) the operation of a system at a special aviation event or at an advertised event, as referred to in section 901.41;
- (g) the operation of a system when the aircraft is transporting any of the payloads referred to in subsection 901.43(1);
- (h) the operation of a remotely piloted aircraft within three nautical miles of an aerodrome operated under the authority of the Minister of National Defence, as referred to in subsection 901.47(3); and
- (i) any other operation of a system for which the Minister determines that a special flight operations certificate – RPAS is necessary to ensure aviation safety or the safety of any person.

³ *Transportation Safety Board Regulations, SOR/2014-37.*

⁴ The *Canadian Transportation Accident Investigation and Safety Board Act, S.C. 1989, c. 3*, “applies to aviation occurrences in or over Canada, in or over any place that is under Canadian air traffic control and in or over any other place if Canada is requested to investigate the aviation occurrence or the aviation occurrence involves an aircraft in respect of which, or that is operated by a person to whom a Canadian aviation document has been issued under Part I of the *Aeronautics Act*.”

⁵ Aircraft “means any machine, including a rocket, capable of deriving support in the atmosphere from reactions of the air, other than a machine designed to derive support in the atmosphere from reactions against the earth’s surface of air expelled from the machine.”

requirements under the *TSB Regulations* can therefore apply to a broad range of circumstances involving an RPAS,⁶


TSB Guidelines on Occurrence Reporting for RPAS

Current TSB regulations do not, as of yet, take into account the existence and particular nature of RPAS operations. With the view of advancing transportation safety, the TSB's Air Branch is therefore taking the position that RPAS occurrences are reportable to the TSB whenever the following circumstances occur:

1. An RPAS weighing more than 25 kg is involved in an accident, as defined by paragraph 2(1)(a) of the *TSB Regulations*;
2. A person is killed or sustains a serious injury as a result of coming into direct contact with any part of a *small remotely piloted aircraft* (as defined by the CARs), including parts that have become detached from the *small remotely piloted aircraft*; and
3. A collision occurs between an RPAS of any size or weight and another manned aircraft.

Until the *TSB Regulations* are amended to include specific reporting requirements for RPAS, please refer to the above guidelines in the context of occurrences involving RPAS.

Sincerely,



Natacha Van Themsche
Director - Air Investigations
Transportation Safety Board of Canada
Telephone: 819-994-3813
Email: natacha.vanthemsche@bst-tsb.gc.ca

⁶ See paragraph 2(1)(a) of the *TSB Regulations*:

- (i) a person is killed or sustains a serious injury as a result of [...]
 - (B) coming into direct contact with any part of the aircraft, including parts that have become detached from the aircraft [...]
- (ii) the aircraft sustains structural failure or damage that adversely affects the aircraft's structural strength, performance or flight characteristics and would normally require major repair or replacement of any affected component, except for
 - (A) engine failure or damage, when the damage is limited to the engine, its cowlings or accessories, or
 - (B) damage limited to propellers, wing tips, antennae, tires, brakes, fairings or small dents or puncture holes in the aircraft's skin, or
- (iii) the aircraft is missing or inaccessible.