



WORKING PAPER

ASSEMBLY — 41ST SESSION

TECHNICAL COMMISSION

Agenda Item 31: Aviation Safety and Air Navigation Standardization

**PROPOSED MEDICAL REQUIREMENTS FOR
REMOTELY PILOTED AIRCRAFT SYSTEMS (RPAS)**

(Presented by Canada)

EXECUTIVE SUMMARY

Canada is expanding the framework for Remotely Piloted Aircraft System (RPAS) operations to include larger RPAS and a framework for lower-risk beyond-visual line of sight operations. To accompany this new operator certificate, Canada has proposed a Medical Standard which applicants must meet and receive endorsement from a physician via signed declaration form.

Due to the operational and environmental differences between RPAS and traditional aviation, a new medical standard has been proposed to mitigate the safety risks unique to RPAS.

Action: The Assembly is invited to:

- a) provide feedback on the proposed approach to medical standards for RPAS; and
- b) request ICAO to pursue the development for a recognized framework for medical certification of RPAS.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objectives: Safety, Security and Facilitation, and Economic Development of Air Transport
<i>Financial implications:</i>	No financial implication anticipated.
<i>References:</i>	Notice of Proposed Amendment and Consultation Paper

1. INTRODUCTION

1.1 Transport Canada (TC) is developing a proposal for Medical Standards for Remotely Piloted Aircraft Systems (RPAS) operators, as the size and complexity of RPAS operations in Canada increases. The proposed standard is based on the minimum standard to prevent reckless and negligent operations.

1.2 In April 2020, TC published a [Notice of Proposed Amendment](#) to expand the visual line-of-sight (VLOS) framework in the *Canadian Aviation Regulations* (CARs) to allow certain operations with RPAS above 25 kg and introduce a framework for lower-risk beyond visual line-of-sight (BVLOS) operations, within Canada.

1.3 It was identified that with the increased privileges accorded to operators within the new framework, the increased level of risk should be mitigated with the introduction of an RPAS-specific Medical Standard. As part of this proposal, TC introduced an outline for medical requirements using a self-declaration process with physician endorsement.

1.4 TC is unaware of any similar standard within other Member States, specifically for RPAS operators (also commonly called unmanned aerial vehicles (UAVs), unmanned aircraft systems (UAS), or drones).

2. PROPOSED MEDICAL STANDARD

2.1 The proposed RPAS Medical Standards were developed considering the operational and environmental differences between traditional aviation and RPAS operations. The type of RPAS operations that would fall within this regulatory project do not include the carriage of passengers. Further, the design of an RPAS includes technical features to mitigate system and communication failures, making the risk of human medical incapacitation less safety-critical in comparison with traditional aviation. The risk is further mitigated by imposing operational restrictions, for instance, based on the type of airspace and population density on the ground.

2.2 The goal of the proposed RPAS Medical Standard is to prevent reckless and negligent flying. The Standard therefore focuses on the following key areas:

- a) general fitness;
- b) cognitive impairment;
- c) psychiatric disorders;
- d) medication use; and
- e) other substance use (including drugs, alcohol, and cannabis).

2.3 The process of application for medical endorsement to perform RPAS operations would leverage the concept of the “medical home”¹, where applicants seek a physician endorsement from their family physician or a physician in their community that knows their medical history. Eligible applicants

¹ [The Patient's Medical Home | The College of Family Physicians of Canada \(cfpc.ca\)](https://www.cfpc.ca/en/patient-medical-home)

will not be required to be examined by a Civil Aviation Medical Examiner (CAME); however, a CAME examination may be required for complex cases.

2.4 RPAS operators will be required to renew their medical endorsement based on a defined renewal period, unless TC specifies a shorter renewal period is required. This is similar to TC’s existing framework for [Category 4](#) medical certificate (non-ICAO compliant).

3. IMPLEMENTATION FRAMEWORK

3.1 The proposed RPAS Medical Standards will blend into the existing framework for traditional aviation medical certification. Higher orders of aviation medical certificates, which require applicants meet more rigorous medical standards, will be valid for lower order certificates. Therefore, holders of Canadian aviation medical certificates for traditional aviation will, by definition, meet the medical requirements for RPAS. **Figure 1** displays the proposed continuum of medical certification in Canada.

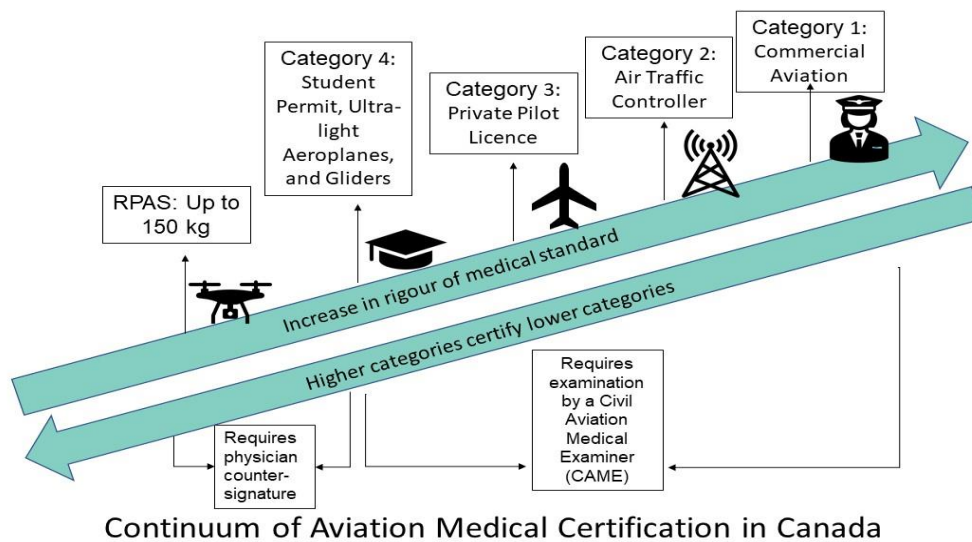


Figure 1: Proposed Continuum of Aviation Medical Certification in Canada

3.2 As mentioned above, eligible applicants may visit either their family physician to receive a physician endorsement for their RPAS medical certificate or may be required to visit a CAME. This is a two-stream process to assure a sufficient level of regulatory oversight for the relatively low-level of risk for these RPAS operations. The following is a breakdown of each stream:

3.2.1 Stream 1: Eligible applicants will first visit their family physician or community physician to receive a countersignature on a medical declaration. This declaration contains statements about the applicant’s health, based on the proposed Medical Standard. Should the physician deem the applicant eligible and provide the countersignature, this information will be entered into an online TC portal and the applicant will retain a copy of the signed declaration when performing RPAS operations. Should the physician not provide the applicant with a countersignature, the applicant will be required to seek certification through Stream 2.

3.2.2 Stream 2: Applicant's ineligible to use the medical declaration (Stream 1) will be required to visit a CAME to seek certification. The purpose of this stream is to ensure TC retains regulatory oversight in the management of complex cases. If an applicant is approved by TC, they will receive a Canadian aviation medical certificate valid for RPAS operations.

4. **CONCLUSION**

4.1 As RPAS operations become increasingly complex and widespread within the aviation industry, it is important to impose the appropriate regulatory framework, including medical standards, to ensure an acceptable level of aviation safety, while supporting the growth of the industry.

4.2 The proposed RPAS Medical Standards focus on the prevention of reckless and negligent RPAS operations, in the context of lower-risk scenarios. As the privileges of RPAS certificates expand to include larger RPAS and higher-risk operations, RPAS Medical Standards will evolve to blend into the continuum of existing traditional aviation Medical Standards.

— END —