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September 28, 2017

The Honourable Marc Garneau, Minister of Transport

cc: Aaron McCrorie - Director General, Civil Aviation

cc: Marie-Anne Dromaguet - Chief, Regulatory Affairs

Civil Aviation, Safety and Security Group, Department of Transport

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Dear Minister Garneau,

Reference: *Canada Gazette*, Part I, June 19, 2017 , Regulations Amending the Canadian Aviation Regulations (Unmanned Aircraft Systems)

The Model Aeronautics Association of Canada (MAAC) represents the interests of more than 11,000 Canadian recreational model enthusiasts from coast to coast. MAAC has a history of over 65 years ensuring the safety of model aircraft flying. There has never been a recorded in-flight collision between a model aircraft and any manned aircraft in Canada. Traditional Model Aviation, advocated through MAAC, has an outstanding safety record operating under the current legislation and MAAC's comprehensive safety code, which is a living document maintained to current standards.

MAAC provides members with excellent liability insurance coverage and our premium reflects that insurers see model flying by MAAC members as low risk.

Our partnership with Transport Canada is a long-standing demonstration of cooperative management of recreational model aircraft. Our website promotes safety not only to our membership, but also to all who access it. MAAC representatives have been directly involved in the CARAC process and have enjoyed an endorsement from all stakeholders that recreational model aircraft, operated under the MAAC Safety Code, were a strong example of safe and self-regulated practices.

MAAC appreciates Transport Canada's recognition noted within the text of the Gazette 1 publication and is pleased that our membership will receive an exemption from the pending regulations. We understand the exemption is intended

to be a temporary measure until appropriate standards can be embedded that would allow new/emerging organizations to develop and earn similar recognition. MAAC is prepared to offer our resources in order to assist Transport Canada in developing those standards.
In the meantime, our organization will continue to work on ways to promote safe and acceptable standards of operation beyond our own membership through all forms of community and media engagement.

MAAC has a long and demonstrated history of cooperation with government agencies at the Federal, Provincial and local levels in promoting safe and responsible operation of model aircraft while also introducing young Canadians to aviation. We share common objectives and this drives our preference for working cooperatively with all stakeholders to resolve issues and develop required solutions.

MAAC is submitting comments on the proposed regulation in this spirit of partnership so that regulatory changes can be introduced that encourage the development of a healthy and safe unmanned aircraft industry, while preserving the ability of model flyers to continue to enjoy their traditional recreational activities.

The details of specific comment are as follows:

1. Recognized Model Aircraft Organizations

As detailed in our NPA comment, MAAC did not favor a mechanism that would bestow exclusive recognition on a single organization. We applaud Transport Canada for their intent to work towards the development of a standard that would allow any compliant association to be recognized.

MAAC is fully committed to working with Transport Canada in cooperatively developing the detailed structure that would allow such a standard to be successfully implemented.

2. Terminology and Definitions

MAAC supports the stated intent to harmonize terminology and definitions with ICAO practices, however we believe removal of "**model aircraft**" as a defined term, along with the removal of "**recreational**" vs "**commercial**" applications leaves a gap that will subject some recreational modelers outside of MAAC to unreasonable regulatory burden and create an unnecessary burden to law enforcement.

Recommended:

"**model aircraft**" - ***means an unmanned aircraft having a maximum take-off weight of more than 250 g (0.55 pounds) but not more than 35 kg (77.2 pounds) and operated for recreational purposes.***

Rationale: It must be remembered that the intent of the entire CARAC process, and the resultant regulatory changes was to provide Canadian commercial operators with predictable standards on which to build successful business practices. It was never meant to inhibit recreational aero modelers who have been the traditional foundation of much of world's aeronautical advancement. From gliders to space travel, most innovators in the aviation industry can trace their roots back to early interest and involvement in model aviation.

MAAC understands that recent technological advancements in automation within camera carrying aircraft have led to incidents that require enforceable limitations. However, the removal of "model aircraft" from the regulations will inadvertently capture a large segment of responsible recreational aero modelers who cannot fly within the structure of an organization such as MAAC. A potential unintended consequence may be discouraging up-and-coming innovators of the future. These yet untapped resources will have the answers to technological challenges and drive the potential sleeping giant of industry in Unmanned Aircraft.

Maintaining "model aircraft" as a defined term distinguished by established limitations of "recreational purposes" provides the lawmakers and drafters with a simple method to exclude this segment of unmanned aircraft from specific sections of the CARs that were never intended to capture them. It also provides some needed division and flexibility as Transport Canada moves forward with drafting permanent standards for "recognized organizations" such as MAAC.

Specific Proposed Sections where above should be implemented:

BLUE = Existing rule
RED= Recommended changes

3. **Recommend adding "model aircraft" as per proposed definition:**

7. 202.01 (1) **Subject to subsection (2), no person shall operate an aircraft in Canada, other than a model aircraft, a very small unmanned aircraft or a small unmanned aircraft operated under Division II of Subpart 2 of Part IX, unless its marks are visible and are displayed**

Rationale: **Same reasons very small and small are to be excluded.**

4. **Recommend NOT changing 602.45 under proposed definition:**

20. Section 602.45 of the Regulations and the heading before it are replaced by the following:

Proposed→ Kites and Model Rockets

602.45 No person shall fly a kite or launch a model rocket or a rocket of a type used in a fireworks display into cloud or in a manner that is or is likely to be hazardous to aviation safety

Current→ Model Aircraft, Kites and Model Rockets

602.45 No person shall fly a model aircraft or a kite or launch a model rocket or a rocket of a type used in a fireworks display into cloud or in a manner that is or is likely to be hazardous to aviation safety.

NOTE: "model aircraft could also be added to 602.01 for added responsibility measures:

Reckless or Negligent Operation of Aircraft

602.01 No person shall operate an aircraft or model aircraft in such a reckless or negligent manner as to endanger or be likely to endanger the life or property of any person

Rationale: **By retaining "model aircraft" as a defined term there is no need to change 602.45 and adds a further layer of enforceable responsibility to recreational pilots with a possible added measure of protection to persons and property by modifying 602.01.**

5. **Recommend adding "model aircraft" as per proposed definition**:

21. Paragraph 602.96(3)(b) of the Regulations is replaced by the following:

(b) conform to or avoid the pattern of traffic formed by other aircraft in operation or, in the case of **a model aircraft** or a small or very small unmanned aircraft, avoid the pattern of traffic formed by manned aircraft in operation;

Rationale: **Same reasons very small and small unmanned aircraft.**

Part IX — Unmanned Aircraft Systems

Division II — General Operating and Flight Rules

6. **Recommend modified wording to allow a choice of where personal information is placed:**

Contact Information Unmanned Aircraft Operator

900.06 No person shall operate an unmanned aircraft system unless the name, address and telephone number of the operator is clearly ~~visible~~ **marked** on **or within** the aircraft.

Rationale: **With an infinite number of configurations and sizes of unmanned aircraft, along with considerations for design and issues such as scale appearance of a model aircraft, it is unreasonable to place private personal information only on the outside of the aircraft.**

7. Recommend exemption of proposed model aircraft from (b),(c) and (d)

Fitness for Flight

900.07 Subject to subsection (e) no person shall conduct the take-off or launch of an unmanned aircraft, or permit the take-off or launch of an unmanned aircraft to be conducted, unless

(a) the pilot-in-command determines that the aircraft is serviceable;

(b) the unmanned aircraft system has been maintained in accordance with the manufacturer's instructions;

(c) all mandatory actions have been completed in accordance with the manufacturer's instructions; and

(d) all equipment required by these Regulations or the manufacturer's instructions are installed and serviceable.

(e) subsections (b),(c) and (d) are not applicable to model aircraft.

Rationale: **While it is reasonable that all unmanned aircraft, including model aircraft should be serviceable, it is clear that (b),(c) and (d) were constructed based on a commercially produced ready to fly "drone". The fact that many "model aircraft" are one of a kind designs, or built from a kit, partial kit etc., makes those 3 sections impossible to identify and/or enforce. These sections make it virtually impossible for an innovator to design, produce and prove a concept legally.**

8. **Recommended that model aircraft as proposed be removed from these requirements**:

Pre-flight Information

900.20 A pilot of an unmanned aircraft **other than a model aircraft** shall, before commencing a flight, be familiar with the available information that is relevant to the intended flight, including

(a) the appropriate aeronautical charts;

(b) the *Canada Flight Supplement* and the *Designated Airspace Handbook*; and

(c) the NOTAM for the proposed area of operation.

Rationale: **Again, this is clearly aimed at commercial operations. Recreational modelers, both inside and outside MAAC share the fact that no mid-air collisions with manned aviation have ever been recorded. It is unreasonable to expect every recreational modeler to both maintain and understand these requirements. If imposed, it guarantees that traditionally law-abiding community members will inadvertently come in conflict with the law.**

9. Recommended that model aircraft as proposed be removed from this requirement:

Availability of Unmanned Aircraft System Operating Manual

900.38 No person shall conduct the take-off or launch of an unmanned aircraft **other than a model aircraft** for which the manufacturer has provided an unmanned aircraft system operating manual unless the manual is immediately available to crew members at their duty stations.

Rationale: **Again, this is clearly aimed at commercial operations and creates a very real potential enforcement problem as assembly instructions in model aircraft kits vary in detail and quality with some providing setup and flying tips that may or may not qualify as an "operating manual". Again, if imposed, it guarantees that traditionally law-abiding community members will inadvertently come in conflict with the law.**

10. **Recommend that a model aircraft as proposed be removed from this requirement:**

900.39 No person who operates an unmanned aircraft system **other than a model aircraft** shall permit the use of a flight control lock in respect of the unmanned aircraft unless

(a) the flight control lock is incapable of becoming engaged when the aircraft is being operated; and

(b) an unmistakable warning is provided to the person operating the aircraft whenever the flight control lock is engaged.

Rationale: **Again, this is clearly aimed at commercial operations and simply not applicable to the vast majority of traditional model aircraft.**

11. **Recommend that model aircraft as proposed be removed from this requirement:**

Liability Insurance

900.42 No person shall operate an unmanned aircraft system **other than a model aircraft** unless, in respect of every incident related to the operation of the aircraft, liability insurance covering risks of public liability has been taken out in an amount that is not less than $100,000 for each person involved in the operation of the aircraft.

Rationale: **We understand the premise to impose liability coverage, but an example of an individual hobbyist operating an 3 kg model aircraft of his own design, from his own rural property will most certainly not seek specific liability coverage. Again, this will only serve to unnecessary put generally law-abiding citizens at odds with the law.**

Subpart 1 — Very Small Unmanned Aircraft

Although many of the proposed rules in Subpart 1 may be appropriate for the recreational hobbyist outside of a recognized organisation such as MAAC, the following are recommendations where a "model aircraft" should be excluded. *(Rationale attached to each recommendation.)*

12. **Recommend that model aircraft as proposed be removed from this requirement**:

Minimum Age

901.02 No person shall operate an unmanned aircraft system, **other than a model aircraft,** under this Subpart unless they are at least 14 years of age.

Rationale**: The model aviation community has always encouraged persons much younger than 14 to participate and enjoy this hobby. There are many examples of extremely competent model aircraft**

pilots under the age of 14. A father and son who work together to design and build a model aircraft and proceed to competently pilot said aircraft on their private rural property will unnecessarily be placed in conflict of the law.

13. Recommend that model aircraft as proposed be removed from this requirement:

901.03 No pilot shall operate an unmanned aircraft system **other than a model aircraft** under this Subpart unless they hold a pilot permit — small unmanned aircraft (VLOS) or both of the following conditions are met:

Rationale: **Again, model aircraft hobbyists operating from compliant private property or rural locations will not know of this requirement and likely will not seek to comply with such a requirement. Transport Canada does not require private property equipment owners to pass a knowledge test to operate and maintain various homeowners equipment where there is personal injury data to support such a requirement. Again, this requirement will ensure previously law-abiding citizens will be in conflict with the law if imposed on hobbyists**.

14. Recommend that model aircraft as proposed be removed from this requirement:

Speed Limitation

901.06 No pilot shall operate a very small unmanned aircraft other than a model aircraft at a ground speed of more than 25 knots (29 mph).

Rationale: **Almost every traditional model aircraft is capable of exceeding 25 knots. Besides the difficulty in accurately determining the speed of any unmanned aircraft, this section guarantees all hobbyists will likely come in conflict with the law.**

Subpart 2 — Small Unmanned Aircraft

Again, although many of the proposed rules in Subpart 2 may be appropriate for the recreational hobbyist outside of a recognized organisation such as MAAC, the following recommendations where a "model aircraft" should be excluded. *(Rationale attached to each recommendation)*

15. Recommend that model aircraft as proposed be removed from this requirement:

Division II — Limited Operations — Operating and Flight Rules

Minimum Age

902.06 No person shall operate an unmanned aircraft system, **other than a model aircraft**, under this Subpart unless they are at least 16 years of age.

Rationale: **(Same as 901.02) The Vast majority of "trainer" design type model aircraft are greater than 1kg which would place them in the "small" category. The model aviation community has always encouraged persons much younger than 16 to participate and enjoy this hobby. There are many examples of extremely competent model aircraft pilots under the age of 16. Again, a father and son who work together to design and build a model aircraft and proceed to competently pilot said aircraft on their private rural property could come in conflict of the law.**

16. Recommend that model aircraft as proposed be removed from this requirement:

Pilot Knowledge

902.07 No pilot shall operate an unmanned aircraft system, **other than a model aircraft,** under this Subpart unless they hold a pilot permit — small unmanned aircraft (VLOS) or both of the following conditions are met:

(a) they have obtained a minimum of 60% on the written examination "Unmanned Aircraft System — Small Limited (UASSL)" which is based on the standard entitled *Knowledge Requirements for Pilots of Unmanned Aircraft Systems (UAS) 25 kg or Less, Operating within Visual Line of Sight*, TP 15263, published by the Minister of Transport, and which cover the following subjects:

(i) the applicable provisions of the Act and these Regulations,
(ii) air traffic rules and procedures,
(iii) unmanned aircraft airframes, engines and systems,
(iv) human factors, including pilot decision making,
(v) meteorology,
(vi) air navigation,
(vii) flight operations,
(viii) theory of flight, and
(ix) operations carried out by unmanned aircraft systems; and

(b) a certificate issued by the examination administrator, demonstrating that they have successfully completed the examination within the last 60 months, is easily accessible during operation of the unmanned aircraft system

Rationale: **Once again, this requirement was specifically aimed at commercial operations and imposing this requirement on the average recreational modeler outside of an organization such as MAAC will only serve to put generally law-abiding citizens at odds with the law and create an enforcement problem that is not required. Members of the public, operating recreationally off private property outside of MAAC cannot reasonably be expected to meet this level of requirement. We understand it would be "nice" for everyone to hold a permit, but the reality of this expectation needs to be considered with a reminder that a basic beginner trainer type of Radio Controlled model aircraft will tip the scales at 7 to 9 lbs. Again, we cannot expect every piece of personal equipment to require a permit/test for its use.**

17. **Recommend that model aircraft as proposed be removed from this requirement:**

Speed Limitation

902.11 No pilot shall operate a small unmanned aircraft, **other than a model aircraft,** at a ground speed of more than 87 knots (100 mph).

Rationale: **As with 901.06, a large percentage of traditional model aircraft are capable of exceeding 87 knots. Even a standard training aircraft of 8 lbs would be capable of reaching this speed in a dive. Again, besides the difficulty in accurately determining the speed of any unmanned aircraft, this section guarantees all hobbyists will likely come in conflict with the law. The cost associated with using equipment capable of accurately monitoring speed in flight would likely beyond reach of most hobbyists.**

18. **Recommend that model aircraft as proposed be allowed under expressed permission:**

Operations at an Aerodrome

902.14 Subject to subsection (1) No person shall operate an unmanned aircraft system under this Subpart at an aerodrome that is listed in the *Canada Flight Supplement* or the *Water Aerodrome Supplement* unless the operation is conducted under a special flight operations certificate — UAS issued under section 904.03 and the pilot may conduct an operation set out in subsection 902.51(2).

(1) The operator of a model aircraft may be exempt from subsections (1) if expressed consent has been obtained from the appropriate aerodrome's/heliport owner/management.

Note: Similar allowances already exist within the CARS for ultra-light aircraft:

*"**602.29 (2)** A person may operate a hang glider or an ultra-light aeroplane in controlled airspace*

*(**a**) within five nautical miles from the centre of an airport or heliport or within a control zone of an uncontrolled airport where the person has obtained permission from the airport or heliport operator."*

Rationale: **Many MAAC clubs have operated safely, with appropriate permission, from aerodromes for decades. It is known that many other recreational modelers outside of MAAC have also enjoyed a similar safe, harmonious relationship with private aerodromes contained within the supplements. Those aerodrome managers that allow MAAC clubs to operate from their facility believe the risk to be less when operating in this fashion. It is also likely that some private aerodrome owners listed within the supplements are also recreational modelers and use their own facility to enjoy their hobby. It would seem reasonable to allow this historically safe practice of working with aerodrome owners and managers.**

19. **Recommend that model aircraft as proposed be allowed under expressed permission:**

Minimum Distance from Aerodromes

902.15 (1) Subject to subsection (3) No person shall operate an unmanned aircraft system under this Subpart if the aircraft or control station is less than three nautical miles from the centre of an aerodrome, other than a heliport, that is listed in the *Canada Flight Supplement* or the *Water Aerodrome Supplement*.

(2) Subject to subsection (3) No person shall operate an unmanned aircraft system under this Subpart if the aircraft or control station is less than one nautical mile from the centre of a heliport or an aerodrome that is used exclusively by helicopters and that is listed in the *Canada Flight Supplement* or the *Water Aerodrome Supplement*

(3) The operator of a model aircraft may be exempt from subsections (1) and (2) if expressed consent has been obtained from the appropriate aerodrome's/heliport owner/management.

Rationale: **Essentially the same rationale as 902.14. Recreational modelers operating from private property outside an organization such as MAAC should be allowed the opportunity to continue to work with a local private aerodrome to safely enjoy their hobby. It would seem reasonable to allow a recreational modeler and aerodrome authority/owner the opportunity to come to a satisfactory risk management agreement without coming into conflict with federal regulations.**

20. ***Recommend* that model aircraft as proposed be exempt from the requirements of proposed sections 902.21 through 902.34.**

902.35 Sections 902.21 through 902.34 do not apply to model aircraft.

Rationale: **All of these sections were conceived and written specific to commercial operations and were never intended for the recreational hobbyist. It has been noted several times in this document that a large percentage of standard traditional model aircraft would fall into the "small unmanned aircraft" category if there is no "model aircraft" category as recommended in this document. The expectation that a recreational modeler operating from private property, outside an organization such as MAAC, will somehow manage to comply with all the proposed rules contained within 902.21 through 902.34 is unreasonable.**

One of the most glaring examples is found in 902.29 as the much of the basic foundation of model aviation is found in "aerobatic manoeuvres":

902.29 *No person shall conduct aerobatic manœuvres with a small unmanned aircraft unless the manœuvres are conducted under a special flight operations certificate — UAS issued under section 904.03 and the pilot may conduct an operation set out in subsection 902.51(2).*

It is known that there are many times more recreational flyers outside MAAC than within. It is likely that some of those flyers may decide to become members of MAAC as the Regs are enacted, but many more will not. Again, recreational modelers come from diverse backgrounds, but generally law-abiding and contributing members of society. Imposing commercially designed rule sets upon the average hobbyist will only serve to put them at odds with law enforcement along with adding an unwanted burden to those within law enforcement.

For ease of reference, the noted proposed sections that an exemption is requested are copied below:

Normal Procedures

902.21 *No person shall operate an unmanned aircraft system under this Subpart unless the following procedures are established or the following information is made available regarding normal operations are established:*

(a) *the assembly of the system;*
(b) *pre-flight checks and tests;*
(c) *take-off or launch procedures;*
(d) *landing or recovery procedures;*
(e) *performance limitations of the system;*
(f) *refuelling or battery charging and replacement; and*
(g) *the use of checklists.*

Emergency Procedures

902.22 *No person shall operate an unmanned aircraft system under this Subpart unless emergency procedures with respect to the following are established:*

(a) *an engine failure or fire;*
(b) *gliding;*
(c) *an emergency landing or recovery;*
(d) *a structural failure of the unmanned aircraft;*
(e) *a control station failure;*
(f) *an equipment failure;*
(g) *a pilot incapacitation; and*
(h) *a potential conflict with other aircraft.*

Lost Command and Control Link Procedures

902.23 (1) *No pilot shall conduct a take-off or launch of a small unmanned aircraft unless they*

(a) *assess the risk that would arise from a lost command and control link; and*
(b) *determine when auto-recovery manœuvres or flight termination should be initiated.*

(2) *No person shall operate a small unmanned aircraft unless lost command and control link contingency procedures with respect to the following are established:*

(a) *the route of flight during a lost command and control link event;*
(b) *the use of transponders;*
(c) *orbit points in the event of a lost link;*
(d) *communications with the appropriate air traffic service unit if applicable; and*
(e) *contingency planning measures in the event that a lost command and control link cannot be re-established, including*

(i) *pre-programmed flight termination points, and*

(ii) *automatic landing or recovery procedures.*

(3) *No pilot shall conduct a take-off or launch of a small unmanned aircraft unless the lost command and control link contingency procedures are immediately available to the pilot.*

Fly-away Contingency Procedures

902.24 (1) *No person shall operate a small unmanned aircraft unless fly-away contingency procedures with respect to the following are established:*

(a) *how to determine if the aircraft has inadvertently enter controlled airspace; and*

(b) *how to contact the appropriate air traffic service unit when the aircraft inadvertently enters controlled airspace and cannot be immediately returned to the area of operation.*

(2) *No pilot shall conduct a take-off or launch of a small unmanned aircraft unless the fly-away contingency procedures are immediately available to the pilot.*

Flight Termination Contingency Procedures

902.25 (1) *No person shall operate a small unmanned aircraft equipped with a flight termination system unless flight termination procedures with respect to the following are established:*

(a) *how to determine when flight termination is required;*

(b) *how to contact the appropriate emergency services or air traffic service unit, if applicable;*

(c) *pre-programmed flight termination points, if applicable; and*

(d) *flight routes to flight termination points, if applicable.*

(2) *No pilot shall conduct a take-off or launch of a small unmanned aircraft equipped with a flight termination system unless the flight termination procedures are immediately available to the pilot.*

Altimeter-setting Procedures

902.26 *When a small unmanned aircraft with an adjustable barometric altimeter is operated in the altimetersetting region or standard pressure region, the pilot-in-command shall, immediately before take-off or launch from an aerodrome or location of the take-off or launch, set the altimeter to the altimeter setting of the aerodrome or location of the take-off or launch or, if that altimeter setting is not available, to the elevation of the aerodrome or location of the take-off or launch.*

Towing

902.27 *No person shall operate a small unmanned aircraft towing an object unless the operation is conducted under a special flight operations certificate — UAS issued under section 904.03 and the pilot may conduct an operation set out in subsection 902.51(2).*

Formation Flight

902.28 *No person shall operate a small unmanned aircraft in formation with other aircraft unless the operation is conducted under a special flight operations certificate — UAS issued under section 904.03 and the pilot may conduct an operation set out in subsection 902.51(2).*

Aerobatic Manœuvres

902.29 *No person shall conduct aerobatic manœuvres with a small unmanned aircraft unless the manœuvres are conducted under a special flight operations certificate — UAS issued under section 904.03 and the pilot may conduct an operation set out in subsection 902.51(2).*

Operational and Emergency Equipment

902.30 *No person shall operate an unmanned aircraft system under this Subpart unless the following operational and emergency equipment is easily accessible to each crew member:*

(a) *a checklist or placards that enable the aircraft to be operated in accordance with the limitations specified in the unmanned aircraft system operating manual, pilot operating handbook or any equivalent document provided by the manufacturer; and*

(b) *a means for extinguishing the types of fires that are likely to occur.*

Capability Requirements

902.31 *No pilot shall conduct a take-off or launch of a small unmanned aircraft unless there is a means of*

(a) *controlling the flight of the aircraft;*

(b) *monitoring the proper functioning of the unmanned aircraft system;*

(c) *navigating the aircraft;*

(d) *performing the communications required by sections 601.08, 601.09, 602.96 and 602.101;*

(e) *detecting hazardous environmental flight conditions;*

(f) *mitigating the risk of loss of control of the aircraft;*

(g) *providing the sense and avoid functions; and*

(h) *remaining clear of cloud at the required distance in accordance with section 902.19 or 902.57, as the case may be.*

Unmanned Aircraft Icing

902.32 (1) *In this section,* ***critical surfaces*** *mean the wings, control surfaces, rotors, propellers, horizontal stabilizers, vertical stabilizers or any other stabilizing surfaces of an aircraft and, in the case of an aircraft that has rear-mounted engines, the upper surface of the fuselage.*

(2) *No person shall conduct the take-off or launch of a small unmanned aircraft that has frost, ice or snow adhering to any of its critical surfaces.*

(3) *Despite subsection (2), a person may conduct the take-off or launch of a small unmanned aircraft that has frost that is caused by cold-soaked fuel and is adhering to the underside of its wings, if the take-off or launch is conducted in accordance with the manufacturer's instructions for take-off or launch under those conditions.*

(4) *If conditions are such that frost, ice or snow may reasonably be expected to adhere to the aircraft, no person shall conduct a take-off or launch of a small unmanned aircraft unless the aircraft has been inspected immediately before take-off or launch to determine whether any frost, ice or snow is adhering to any of the critical surfaces.*

(5) *The inspection referred to in subsection (4) shall be performed by*

(a) *the pilot-in-command; or*

(b) *a crew member designated by the pilot-in-command.*

(6) *If, before commencing take-off or launch, a crew member of a small unmanned aircraft observes that there is frost, ice or snow adhering to the wings of the aircraft, the crew member shall immediately report that observation to the pilot-in-command, and the pilot-in-command or a crew member designated by the pilot-in-command shall inspect the wings of the aircraft before take-off or launch.*

(7) *Before a small unmanned aircraft is de-iced or anti-iced, the pilot-in-command shall ensure that the crew members are informed of the decision to do so.*

De-icing or Anti-Icing Equipment

902.33 *No person shall conduct a take-off or launch or continue a flight of a small unmanned aircraft if icing conditions are reported to exist or are forecast to be encountered unless*

(a) *the pilot-in-command determines that the aircraft has the equipment necessary to operate in icing conditions; or*

(b) *current weather reports or pilot reports indicate that icing conditions no longer exist.*

Technical Records

902.34 (1) *Every operator of an unmanned aircraft system operated under this Subpart shall keep the following technical records in respect of the system:*

(a) *the air time of each flight or series of flights, the cumulative total air time and, where applicable, the number of operating cycles or landings since the date of manufacture; and*

(b) *particulars of any maintenance action, modification or repair performed.*

(2) *Every operator of an unmanned aircraft system operated under this Subpart who transfers ownership of the system to another person shall, at the time of transfer, also deliver to that person all of the technical records that relate to that system.*

*[**902.35** to **902.50** reserved]*

In Conclusion

MAAC appreciates the groundbreaking work done by Transport Canada to develop new aviation regulations that will encourage the growth of a new industry sector while maintaining a safe airspace environment for all users. It is in the spirit of making sure that Canada does its best to enact fair and reasonable regulations for all airspace users that we make these recommendations.

We clearly understand that Transport Canada's recognition of recreational model flyers as legitimate airspace users comes with responsibilities. It is MAAC's duty to continue to advocate for all responsible recreational modelers to maintain the privilege of using Canadian Airspace without overreaching regulatory burdens. We are prepared to offer our association's expertise to enhance and grow our historically positive working relationship with Transport.

Please do not hesitate to contact us if you have any questions or if we can provide any additional information.

Regards,

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CC: Rodger Williams – MAAC Transport Canada Advisory Group Chairman

Department of Transport
Proposed Regulations: Regulations Amending the Canadian Aviation Regulations (Unmanned Aircraft Systems)
RIAS: Regulatory Impact Analysis Statement
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Contact: Chief