Attachment to MAAC Comments on NPA RDIMS # 10477932

Acknowledgement / Approach Philosophy:

MAAC recognizes the safety concern that a small percentage of irresponsible modellers have created, primarily as the result of the increasing availability of semi-automated, camera carrying models. However, responsibility for safety must remain with the individual, not by attempting to control the technology.

This proposal defines reasonable, and measurable, limitations of responsible conduct for all recreational aero modelers that will stand the test of time.

Further, it provides needed flexibility by leveraging partnerships and expertise found in recognized aero modeling organizations under established safety codes. These partnerships will be key for the Minister in the challenge of public education as the regulations are enacted.

MAAC's proposed approach allows for continued safe model aircraft recreational flight for all responsible hobbyist's, whether members of an aero modeling organization or not. However, it also provides the necessary balance by ensuring there are reasonable measures in place for holding all operators of model aircraft accountable for aviation safety.

RE: Part 1 Defining a "Model Aircraft"

Current:

"*Model Aircraft means an aircraft the total weight of which does not exceed 35kg (77.2 lbs) that is mechanically driven or launched into flight for recreational purposes and that is not designed to carry persons or other living creatures*."

MAAC Committee Def Recommendation Draft: (as of Jun 18/15)

Model Aircraft means an unmanned aircraft the total weight of which does not exceed 35kg (77.2 lbs) that is operated for recreational purposes.

Justification:

- *"Model Aircraft means an **unmanned** aircraft……"*

As per proposed adoption of new terminology within the CARs, model aircraft are, and will always be; "*unmanned aircraft*", thus added.

Note: Model aircraft are not necessarily RPAS as not all model aircraft are "*remotely piloted*", e.g. : free flight or control line models

"*Mechanically driven or launched into flight" removed – replaced with "operated"*:

Redundant → must consider future possible means of propulsion not yet invented that may be pioneered in the recreational model environment.

Must not inhibit innovation with short-sighted / dated terminology

"*that is not designed to carry persons or other living creatures*" removed:

1. Redundant from a "human perspective" with "unmanned aircraft" designation.

2. If there is a requirement to specify that "*no living creatures be placed on board a model aircraft*", it should be addressed as a rule and not in the definition.

Notes:

- "*Recreational Purposes*" must remain as a unique distinguishing feature of model aircraft to maintain practical defining separation.
- Attempting to make distinctions based on equipment, cameras, configuration etc. would be a practical impossibility considering the infinite combinations of current and "yet to be invented" elements of aircraft and equipment.
- The only practical method to separate model aircraft from all others is through intent of use; Recreational (hobby, pleasure, fun) vs. Commercial (for hire, work, research)

The recommended definition is purposely basic and efficient. This definition is based on the premise that "carving out traditional modelers" is a two-part process where the definition provides a solid foundation for our recommended approach to reasonable, risk-based safe model aircraft operations.

RE: Part 2 → Rule Recommendations:

Approach **1** or **2** to "carve out" model aircraft??

> **From NPA:** ***"Approach 1:*** *To provide a means to recognize aero modeling organizations, such as the Model Aeronautics Association of Canada (MAAC), that have a proven safety record, a mature piloting community and provide a well-established set of safety guidelines.*
>
> *For example, persons launching model aircraft for recreational purposes who are members in good standing of an aero modeling organization and operate under its safety guidelines would not be required to meet the requirements of the proposed rule."*

It is MAAC's Opinion that "Approach 1" is the only practical foundation as it maintains a risk based safety approach as opposed to separation based on technology and equipment.

- The technology and equipment is evolving too rapidly to use as an effective method of separation.

However, although aero modeling organizations must be part of the solution, they cannot be a "stand-alone solution" when considering safe model aircraft operations.

- It must be recognized that not all legitimate and safe model aircraft enthusiasts need be "forced" to belong to an organization such as MAAC.
- Flexibility must be provided to allow all responsible recreational aero modellers to continue to fly safely, without the regulations being perceived as a burden that will inadvertently put them at odds with the regulations and/or stifle innovation that has played an important historical role in many areas of advancement in general aviation over the last 100+ years.

Our proposal is based on the premise that there are a few basic safety rules that ALL model aircraft enthusiasts must follow, while providing the option to belong to aero modeling organizations such as MAAC, where enhanced recreational model aircraft opportunities can be exercised under proven safety codes.

- It should also be recognized that although MAAC is currently the only established and recognized national organization, there must be opportunity for other aero modeling organizations to emerge and earn similar recognition.

- Circumstances presently unknown may prove the need for other aero modeling organizations to establish themselves in order to properly support the safety of the recreational hobby industry and that door needs to remain open for that to happen. (i.e.: FPV quad-copter racing?)

- It should also be understood that it is certainly conceivable that MAAC could fail (financially, legally, etc.) as an organization which obligates consideration and provisions for new organizations to be established and recognized.

Applicable Rules Currently in CARs:

"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."

- It is our opinion that 602.45 should remain unchanged.
    - **o** It is the primary rule of safe flight for ALL model aircraft enthusiasts and provides an effective method to ensure that all operators of model aircraft remain clear of cloud and makes them responsible for safe operations.
    - **o** The general nature of this rule allows it to stand the test of time and technology as the most basic requirement for safe operations and is not subject to variables associated to technology, weather variables, aircraft type etc.
    - **o** It maintains the responsibility for adapting to changing technology and equipment on the **operator**, not the Minister.

The following are recommended as basic rules of safe model aircraft flight that would be applicable to ALL enthusiasts operating for recreational purposes:

602.X1 - A model aircraft shall always give way to manned aircraft. (e.g. hot air balloons, gliders, ultra-light aero planes including powered parachutes, aero planes and helicopters)

602.X2 - No person shall operate a model aircraft;

(a) In restricted airspace without expressed consent.

(b) Over persons not directly involved in the flight operation without their expressed consent.

(c) In a manner or location that may interfere with first responders during the execution of their duties.

(d) With a laser on board.

(e) With self-propelled projectiles on board.

(f) With a live creature on board.

602.X3 - A person operating a model aircraft shall:

(a) Inspect the model aircraft and required components for fit for flight condition prior to flight.

(b) Ensure flight is conducted within unaided visual line of sight.

(c) Ensure that owner identification is contained on or within the aircraft.

The above recommendations 602.X1, X2 & X3, along with 602.45, are sections that all model aircraft enthusiasts should be subject to, regardless of membership in any aero modeling organization.

The following recommended sections would apply to model aircraft enthusiasts who choose not to take membership with a recognized organization, such as MAAC:

602.X4 – Any person operating a model aircraft, who is not a member in good standing of a recognized aero modeling organization shall;

(a) Fly only during daylight hours.

(b) Not fly (at a distance to be determined) at any aerodromes and heliports without expressed consent.

(c) Not fly above 300 feet (90 metres) altitude.

(d) Maintain a minimum horizontal distance of 300 feet (90 metres) from people, structures or buildings.

Below is the justification / opinion why "Approach 2" would NOT be effective:

From NPA: ***"Approach 2:*** *Transport Canada may consider model aircraft equipped with a camera payload, excluding first person view (FPV) devices to no longer be a model aircraft, but a UAV, and subject to the UAV rules. The rationale is that persons using the aircraft to take pictures or videos would in fact be conducting surveillance or collecting data, so launching the aircraft for a secondary purpose (e.g. as a flying camera) other than recreational flying only.* "

Comments on "Approach 2":

- "Traditional modellers" pioneered and continue to use camera devices for recreational purposes with the vast majority operating safely.
- Such a rule will immediately and inadvertently create a large number of "non-compliant" traditional modellers which has never been the intent of Transport Canada.
- It is a practical impossibility to eliminate camera equipped aircraft from hobbyist/recreational equipment inside or outside MAAC.
- It makes more sense to continue to allow MAAC to lead by positive example and outreach, while continuing to partner with Transport Canada to educate non-members, than to capture responsible hobbyists in the UAV Regulations.
- **However, if decided that some distinction through on-board data collection is required to separate modellers, then it must focus on the purpose / intent of any airborne data collected**.
    - **i.e.:** If onboard video / images / data are collected for non-recreational purposes, you must comply with UAV regulations.
    - Such an approach would allow some flexibility, but doesn't address how you deal with the hobbyist operating inappropriately.
    - Large potential to alienate many traditional modellers making it more difficult to educate hobbyist and creates a larger "field of ignorance" for irresponsible modellers to hide in.

All things considered, regulating based on payload is an impractical method to ensure recreational modellers are accountable for aviation safety. Further, it has the potential to create a larger enforcement problem than currently exists by putting many more responsible, than irresponsible, persons in violation of this regulatory approach.