UAS Engagement Session, Formal Feedback

My name is Jim Ewing and I am president of Great Hobbies, Canada's largest supplier of Radio Controlled models and hobby products, and we have been in business, serving Canadian model builders, since 1984 with retail locations in Charlottetown, Ottawa, Mississauga, and Edmonton as well as a Mississauga warehouse from which we handle orders, Canada wide. I, along with two colleagues, attended your UAS Engagement Session held on August 16, 2017 in Halifax, Nova Scotia.

I would first like to applaud Transport Canada on three particular points in this process:

- Thank you for recognizing the Model Aeronautics Association Canada (MAAC) and the work they have done to promote safe flying of model aircraft in Canada. The exemption is appreciated.
- Thank you for amending the interim order by loosening the reigns slightly on several points.
- Thank you for sending a competent and open-minded panel to the UAS Engagement Sessions that you are holding. I very much appreciated the interactions with them. Now please let that engagement process help shape the future direction of regulations in Canada. It is important that the points made by the stakeholders at these engagement sessions not fall on deaf ears. There are some serious repercussions from these proposed regulations and I think they can easily be mitigated.

The Repercussions on Traditional Model Aviation

When I refer to 'Traditional Model Aviation' I am talking about fixed wing and helicopter models that:

A. Are not quad- or multi-copters, commonly known as 'drones'
B. Are not carrying a camera

In speaking with the panel, I was left with the impression that Transport Canada thought most of the repercussions to traditional model aviation were eliminated by the close work with MAAC and the exemption given to its members. Although this helps greatly, there are still sectors of the hobby that have been left out to dry.

There are three areas that are of most concern:

- Park Flyers
- Model Sailplanes and Gliding
- MAAC Members that fly from locations other than MAAC sanctioned fields and events

Park Flyers

A very major part of the beginner's market for model aviation is the light, simple plane called a Park Flyer. Although not heavy, Park Flyers are generally greater than 250g. This type of aircraft is purchased by and for people of all ages, who would like to get a taste of model aviation without spending a great deal of money.

A Park Flyer is generally flown in an open, unpopulated area such as a park, unused soccer field, large private yard, or after hours in a schoolyard, etc. These aircraft are almost never flown over 100-150 feet in altitude. They pose no threat to aviation and any concerns with regard to flying locations and interactions with by-standers can, and should, be dealt with by local, municipal bylaws—not Transport Canada.

Becoming a member of a national organization is not going to solve the problem. Typically, these aircraft may cost only $100 to $150 to purchase. That is the price range the purchaser of this type of model is willing to spend to try the hobby. To require purchasing a membership to an organization such as MAAC for an additional $80 to $100 just so they can fly their model, is simply not in the cards. And necessary membership doesn't end there. To comply with current wording, the activity must be carried out at sanctioned MAAC fields or events. For this to happen, the beginner also has to join a local MAAC chartered club at costs of anywhere from $50 to several hundred dollars per annum. That means anyone wanting to try a Park Flyer would have to pay two, three, or even more times the price of the equipment just to fly it. It simply doesn't make sense. That whole market will simply be dead.

Model Sailplanes—Thermalling and Slope Soaring

Thermal soaring has been quietly enjoyed by many modelers for decades, and to my knowledge there has not been a single reportable incident. These models are not often flown at "official" model fields. They are flown from any wide-open space where they can be easily launched and where there is thermal activity. These models are generally launched by winch, catapult or even by hand. Some may be launched with power assist.

Due to the nature of thermals and using them for lift, thermal soaring regularly involves altitudes greater than the recommended 90-meter limit. To effectively use thermal lift, you require a wide range of altitudes. Many thermal soaring involves flying as high as 500 meters. But let me reiterate, to my knowledge there has never been a single reported incident where a model sailplane has interfered with a full-scale aircraft.

There are other forms of sailplane flying, such as slope soaring and discus launch, but these categories are generally flown below 90 meters. These are, however, typically flown at locations other than an official 'sanctioned' field.

It is important that any future rulemaking not prevent the hobby of flying model sailplanes. It is reasonable to request that model sailplanes be flown outside of the control area, or proximity to an

aerodrome, as laid out in the current proposal. But other than that, I suggest that the regulations make allowance for unpowered air vehicles, such as model gliders and sailplanes, be exempt from the ceiling restriction of the currently proposed UA rules.

MAAC Members Who Fly from Locations Other than Sanctioned Sites

This has been an extremely common sore spot for modelers all across Canada since the first Interim order came into force. There are many, many modelers who fly from locations other than chartered club fields. If a person is fortunate to live on a large piece of land, it only makes sense that they will want to fly their models from home. This could include farms, acreages, or even cottages on a river or lake where float flying is possible.

This activity has been severely hampered by the new regulations—needlessly!

Let's Get to the Root of the Problem

There seems to be three major concerns that have led to the interim rulemaking with regard to UAVs. These include:

1. Danger to Full Scale Aviation
2. Flying drones in congested areas and over gatherings of people
3. Privacy concerns

In almost every case of interference with full scale aviation, the device involved was a drone or, more rarely, a camera-carrying RC helicopter.

There is one element that is in common with all of these problem areas—THE OFFENDING UAV WAS CARRYING A CAMERA! The vast majority, if not all, of the concerns and reports of issues, have been with operators that are using UAVs as a camera platform to get the latest cool picture or video. Non-camera-carrying UAVs have RARELY been an issue. **Therefore, I recommend that any non-camera-carrying UAV, such as a traditional model aircraft, be exempt from these proposed regulations.**

For non-camera-carrying UAVs, one simple rule is all that needs to apply and that was essentially in place in the CARs before March 16, 2017:

"Do not fly your UAV or model aircraft in such a way that it could endanger full-scale aviation or people". PERIOD

Burdening the hobbyists, organizations, and the associated industry involved in traditional model aviation with the proposed additional regulations is completely unnecessary, and will solve no problems, as virtually no problem has existed historically. It will simply hinder this recreational pastime and the many Canadian businesses that support it.

Discussion on Proposed Rules for UAVs

The following are comments and observations regarding the proposed rulemaking on UAV use in Canada, as proposed by Transport Canada in Gazette 1.

UA of more than 250g but not more than 25kg

Page 3120

- **Confirm that no radio interference could affect the flight of the UA**

This is an abstract statement and impossible to adhere to. All radio controlled vehicles are subject to interference by rogue radio signals. There is no way to mitigate this.

These requirements must be written such that the operator has the ability to comply. The other points in this heading fall into that category. This one does not.

- **Use another person as a visual observer if using a device that generates a streaming video also known as a first-person view (FPV) device;**

I applaud the acknowledgement that FPV is a valid application of UAV technology and it is here to stay. It must be included in the regulatory process with a framework that allows it to flourish. It will be a popular use of these vehicles—with or without the department's blessing.

There is one clarification that should be made here, however. The line should read: "**Use another person as a visual observer if relying on a device that generates a streaming video also known as a first-person view (FPV) device;"**

This is a subtle, but important difference. Many devices have the ability to stream video the transmitter or a tablet, however the operator can still have full visual control of the aircraft. Do not require the presence of an observer, just because the technology has the ability to stream video.

Distances

Page 3123

- **Operate at least 100 feet (30.48 m) from a person. A distance of less than 100 feet would be possible for operations if conditions such as a maximum allowed speed of 10 knots (11.5 mph) and a minimum altitude of 100 feet are respected;**

This should probably read 'lateral distance'. Otherwise the statement is nonsense.

Page 3124

It is suggested that Small Limited operations require a person setback of 250 feet. This includes minimum altitude above a person. Yet the maximum altitude that the UA can fly is 300 feet. This is a very narrow band that is difficult to define from the ground.

For that matter, how stringent are the altitude rules? How are they effectively measured—by either the operator or an enforcement person?

Again, with regard to setback from persons, it should be specified 'persons unrelated to the activity of flying the UA'.

Speeds for Very Small UA

Page 3121

The category of Very Small UAs, 250g – 1 kg, encompass many of the very popular FPV racing drones. Being a racing drone, the object is speed. I would suggest that speeds greater than 25 knots are achieved in the normal course of operation. This limitation must be removed for that purpose.

SFOC Requirements

Page 3125

- **UA flown for air races, air demonstrations, or air shows**

I assume this does not include FPV racing that is extremely popular. If it does, it should not.

Insurance

Page 3129

I find it curious that a figure of $15 is quoted repeatedly for an insurance policy of $100,000. Could one please refer a company that is willing to provide such coverage for $15 annually. During the engagement session, I note that the panelists were unwilling to share (inadvertently endorse) company names of any kind. That's fine, but suggest that any such company come forward and offer such package to the public.

Philosophy on Mitigating Risk from a Fly-Away

Page 3151

Regarding the 0.5NM (0.93 km) lateral distance in a built-up area. Yes, this makes massive restrictions on the use of a UA when not in the complex category. Moving to the complex category increases the burden greatly. Many potential users will not go that route.

> **"However, Transport Canada is confident that the recreational UA pilot would be able to find an appropriate location to operate their UA."**

Let's face it. Many operators live in suburbia. Most wish to get pictures of their property with their drone. I would bet that is number one on the list of things recreational operators want to do. Being restricted to a rural area does not allow that to be satisfied.

All aspects of life seem to be getting more and more regulated. The world is trying to reduce risk in everything to zero. What is also happening is that the ability to do things in life gets more restricted—prohibitively. It is not unlike municipalities where they are no longer allowing skating on ponds, or tobogganing on hills, due to fear of legal liability.

There are risks in life. I accept that and everyone should to a certain extent. Continually trying to mitigate risk to the nth degree simply reduces that ability to live life to the fullest. Not exactly what government regulators want to hear, I'm sure. But true, none the less.

Aeromodelling Associations

Page 3151

> **The following presents a rationale with respect to why the proposed Regulations do not include an exception for MAAC members.**
>
> **MAAC has a long history of a safety culture, provides continued mentoring and guidance and has insurance for its members. It is Transport Canada's intent to develop criteria for new emerging model associations that can provide to their members the same mentoring as MAAC does. The proposed Regulations would apply to MAAC members until such time as these criteria are developed and further amendments are introduced to carve out those associations. Until the Regulations can be modified to address new and emerging aero-modelling associations, Transport Canada would issue an exemption to MAAC members to the proposed requirements, so as to not negatively impact this sector of the industry.**

This is extremely confusing the way it is written. The first paragraph and the last sentence in the second paragraph seem to be in opposition. The former indicates there is not a beneficial exemption for MAAC members, while the latter indicates there will be an exemption for MAAC members. Please clarify.

MAAC Exemption

Page 3160

> **If operated recreationally and a member in good standing of MAAC, would be exempt from the proposed regulations, provided they meet the conditions of the exemption.**

What does "provided they meet the conditions of the exemption" mean specifically.

Comments on the Transport Canada Engagement Session Presentation

The following are a few comments on the Unmanned Aircraft Systems Regulatory Engagement Session.

Economic Importance

It is interesting that Economic Importance as been cited as a key factor for this new technology. What has not been mentioned is the devastating affects the interim regulations have imposed on the current businesses that sell, not only the new technology, but also traditional model aviation supplies. Business has dropped markedly in these areas since March 16, 2017—much of it needlessly.

Subparts 0 — General Provisions

Minimum altitude—able to glide clear:. Model aircraft can generally glide, if not severely incapacitated. Model helicopters, with enough altitude, can usually autorotate with some directional control. Multirotor craft do not glide. They drop straight down. Altitude will do absolutely nothing but increase the momentum.

Very Small UAS—Proposed Requirements

5-year Renewal: Why is there a 5-year renewal required? This is not the case with Canada's Boating License which is good for life.

Identification: Full name and address should not be necessary. Maximum requirement should be phone number. There are privacy concerns.

Very Small UAS—Subpart 1 Requirements

Max speed of 25 knots Drone racing is extremely popular and is going to be a major portion of drone activity. These UAVs are almost all in the Very Small UAS category, between 250g and 1kg. These will be flying in excess of 25 kts.

However, this activity is usually conducted on a specified course with organizers around to control exposure to anyone not directly involved with the activity. It does not mean that the activity is carried out under the umbrella of a national organization, however.

Limited UAS Operations—Proposed Requirements

5-year Renewal: Why is there a 5-year renewal required? This is not the case with Canada's Boating License which is good for life.

Limited UAS Operations—Division II Requirements

No Towing, Formation, Aerobatics: Gentlemen, this is a non-starter. In model aviation and all types of drone flying there is aerobatics. Model aviation includes towing gliders aloft. This line must be removed completely. I can only suspect that the person that wrote this line has either taken it from full-scale regulations, or is picturing a DJI Phathom with a camera mounted under it. It is completely impractical limiting this from model aviation. No compromise here.

Complex UAS Operations—Proposed Requirements

Complies with design standard: Just as with amateur-built aircraft in the full-scale community, it is important that a similar category for amateur built drones be permitted in this category. After all, the majority of operators of UAS are hobbyists, and design and development is a major part of the activity.

In Summary

There is no doubt that some regulations must be in place to mitigate problems where problems have occurred. The problem areas are almost exclusively camera-carrying 'drones'. Until the development of this technology, there have been almost no incidents, and certainly not enough to warrant special legislation and oversight by Transport Canada.

So, let us, as a society, develop regulations to directly target problem areas and not affect all those that have unwittingly been swept into the same net. Traditional model aviation does not deserve to be restricted by these proposed regulations that have been developed—let's face it—for 'drone' operators—people that want to use this new aerial technology as a camera platform. The regulations should target only UAVs with cameras.

This is borne out by the first two principles of the Canadian Aviation Regulations:

- Applying a risk-based approach to regulation
- Minimizing the regulatory burden

Let's confine regulation to where it is needed and not elsewhere.