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Re: Proposed Strategy for Emerging Aviation Technologies – eVTOL UAS

To Whom It May Concern:

My name is Danny Nowlan and I am an aerospace engineer who runs a world class motorsport simulation software company. I've also been a model aviator for 25 years and have had a front row seat to the emergence of electric powered UAS systems. Not only has the hobby provided me hours of joy and pleasure the lessons learned have been vital for my business.

I would like to address some of the issues raised in the document - Emerging Aviation Technologies - National Aviation Policy issues paper. In particular I want to address what this document has missed and by implication wants to slowly phase out. That is sacrificing model aviation on the dubious altar of commercial eVTOL gain.

To put things in perspective the benefits of drone and eVTOL UAS would not exist without model aviation. I started flying in 1995 and I had a front row seat to everything that was happening. This was the adoption of Ni-MH batteries, the adoption of brushless motors, the emergence of Lithium Polymer batteries and the emergence of gyro's that transformed rotary wing and fixed wing aircraft. The current commercial drone lobby would love to say this was driven by aerospace companies. It wasn't. This was driven by the hobbyists and a quick review of the [www.rc-groups.com](http://www.rc-groups.com) will bare this out. If what is proposed regulates model aviation out of existence you are killing the grass roots of this industry before it even starts. This is something that is ignored at the industry's peril.

There are some in official government channels that would say originations like the Model Aircraft Association of Australia (MAAA) do an adequate job of representing model aviation but unfortunately the facts do not bare this out. The average age of a typical MAAA member is well into their 50's. They fly fixed wing petrol powered planes typically on a weekend at a fixed flying site. That is their perspective view on the hobby but it misses the thousands who fly electric powered planes and lightweight craft in their backyards and parks. To say this is a vital STEM based and aviation training nursery is an understatement. Also to put this in perspective we need to look no further then the United States. The traditional model aviation body the Academy of Model Aeronautics (AMA) has a membership of approximately 200000. In contrast FliteTest that sells electric powered recreational UAV kits has a membership of 1.5 million. The following really illustrates this contrast,

<https://youtu.be/fX2F7LX5iwY>

Consequently there have been some matters missed by the traditional hobby that have driven the over regulation of model aviation. For example take the sighting of drones by full sized aircraft. A typical 1.3m span electric powered RC aircraft such as an Extreme flight Slick 52” EXP or an SAB Goblin with a rotor diameter the same will be very hard to see at 100m range let alone 600m. This has been known in the hobby for decades. So how is a full size aircraft with limited visibility at say 3000 ft AGL and 100 kts suppose to make a positive visual ID of a recreational drone/RC aircraft?

The other thing that is often missed by aviation regulators that is not conveyed by the representatives of the traditional hobby is the subconscious aversion the traditional hobby has to these new technologies. For example there are a healthy percentage of typical MAAA members who view electric propulsion as the work of Lucifer himself. Also there is an indifference/contempt for drone flyers. For example I heard of one case when a bunch of drone racers visited a flying club in the Hunter/Central Coast area of NSW to do a demo drone race. Unfortunately this demonstration was spoiled by older members who wanted to fly their gas models. So the question needs to be asked is how can organisations like the MAAA be trusted as the sole authority to represent the recreational component of drone flyers?

The reason I bring these matters up is in the paper it was said that an evidence based approach was needed. This is why these matters have to be discussed and you only have to look at the proposed range of regulations such as the FAA proposed Remote ID and drone registration to realise they have been designed to clear out the 0 – 400 ft airspace for commercial gain.

In closing what is on the table here will have far reaching consequences not just for emerging commercial eVTOL sector but the model aviation community that supports it. At this point in any conclusion you bring the facts together such as without my adventures in model aviation the work I am doing right now with Electric vehicles wouldn't exist. However I will leave my closing comments to someone who will have to live with the long term consequences of this,

<https://youtu.be/A5rsfcc8hzs>

I commend this submission to the appropriate channels.

Best Regards

Danny Nowlan  
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