

## **Submission re Draft Civil Aviation Bill**

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To Ministry of Transport

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This submission pertains only to strictly limited topics numbered below.

### **1. Amendments relating to unmanned aircraft (drones)**

Note – UAVs are not drones. The term “drone” should not be used as an overall descriptor in the legislation as it is inaccurate. There are many UAVs that are not drones and which do not present the same problems or risks. For example, a model aeroplane of the same mass as a drone, looks and operates as differently as a motor car does to a hovercraft.

Drones are probably the most dangerous objects in the sky today. They don't fly. They stay up only through thrust forces from electric driven props and heavy batteries. A 2kg drone hovering at 100 feet over a garden becomes an uncontrolled bomb in the event of control system or power system failure. It will drop vertically with no hope of arresting speed and it will present a serious risk to those below. Larger drones, in the event of failure, become the equivalent of dropping your lawnmower from above. In aviation, full size, and particularly small size, there is always failure at some point. Sooner or later, a drone is going to drop, leaving a mess. They have no place near residential areas unless they are small – say, under 2kg. Just consider Boeing 737 Max.

A 2 kg model aeroplane experiencing similar failure, will continue to fly since its fixed wings produce lift. The operator can control such an aircraft at 100 feet to an emergency landing in a clear space some distance away. If the operator cannot control the aircraft, the aircraft will have been trimmed to fly dead-stick and any control systems will have been installed with fail-safe settings which activate in emergency. Model aeroplanes cannot even get off the ground unless they are trimmed and set up carefully. If the aircraft hits anything, its airframe will collapse progressively because it is much larger than the drone and therefore less dense. If it dropped, it actually would flutter. Risks to persons and property would be either negligible or non-existent.

Whilst model aeroplanes have been included in the category of UAV by administrators, they cannot be correctly defined or described as drones. This must be reflected in regulations and rules. Consider the parallels in maritime law. The rules and expectations for p-class yachts are different from those for a super tanker. The expectation that model aeroplanes be governed by rules for other types of craft and full sized aircraft is unreasonable.

### **2. Accidents to drones**

The proposal to require UAV accident reporting needs careful thought. In the event of death or serious injury, reporting to some authority would be natural. But model aircraft regularly sustain damage as they are being set up or developed experimentally to determine best trim. Once developed, a new type becomes predictable so that subsequent versions can be trimmed during testing quickly. However, maiden flights of new airframes will usually be followed by adjustment and repair. All of this adds up to lots of accidents and mishaps – it is called experimentation. Most modellers therefore apply finishing coats only after the early flights are complete. Given model aeroplane enthusiasts are always building new models from scale fighters through to efficient thermal soarers, the proposed rule requiring the reporting of damage will be an unreasonable demand on hobbyists and receiving staff. Administrators must understand that aeromodellers do not go and buy kits or ready built planes; true modellers design and construct their models using balsa, foam, plastic film, wire and so on.

Given that I know of no aeromodeller in my circle who has reported any model aeroplane accident resulting in human injury, the notion of required accident reporting for model aeroplanes should be abandoned as unreasonable and unnecessary. (Motor test bed accidents have happened but this is not part of flight)

As for drones, I have no experience upon which to form an opinion.

### **3. Detention, seizure and destruction of drones**

This section is disturbing because of the unfettered wide discretionary powers given and assumed in assessing risks and circumstances. I oppose the wording as it stands.

It seems the regulation will be applied to model aeroplanes and UAVs. If this rule is to apply just to drones, I have no objection except to recommend that the “decision maker” be fully trained in the assessment of risks around drone operation in relation to a given particular environment or location of flight.

If the regulation is to apply to model aeroplanes, the “decision makers” will need to be fully conversant with the capabilities of any given fixed wing aeroplane (there are many types) to properly assess its performance and risk in various given environments or circumstances. Further, referring to use that might “endanger persons or property” is extremely vague, allowing an officious, ill-trained, decision maker untrammelled power to unreasonably interfere with what might really be a safe recreational activity which some might think is inappropriate but which others might see as perfectly acceptable.

I therefore recommend against Section 94, 95, 96, 98, 103, 105, of the commentary document.

Confiscation of property and interference in operations when model aeroplane operators sincerely believe they have an appropriate right to follow their past-time in a safe manner, could lead to conflict and misunderstandings which are best handled by NZ Police.

If no specific reasonable regulations can be formulated for model aeroplanes, I recommend leaving everything at status quo or detailing the non-inclusion of model aeroplanes

The proposal will grant Civil Aviation powers not even available to NZ Police in other law enforcement contexts. No “decision maker” should have the broad power to confiscate or interfere in any or all circumstances where it is believed a model aeroplane is endangering a person or property. The potential for abuse is real. Only the Police have training and discretion to apply all of the many variables in real circumstances.

R Craig  
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