



THE FUTURE OF POSSIBLE

**Submission for the DITCRD Review of
the Air Navigation (Aircraft Noise)
Regulations 2018 – Remotely Piloted
Aircraft**

DJI

November 20, 2019



DJI appreciates the opportunity to provide input on the Department of Infrastructure, Transport, Cities and Regional Development's review of noise regulations as they apply to Remotely Piloted Aircraft. We were founded by people with a passion for RPAS, but who also understand that new technologies often raise community concerns. As such, DJI have made it a key component of our work to incorporate safety and accountability technologies and to engage in proactive regulatory conversations to ensure that the use of RPAS remains publicly acceptable.

DJI was the first to implement numerous safety features, including geofencing technology designed to educate operators and to automatically help prevent inadvertent drone flights in locations that raise aviation safety or security concerns. DJI safety efforts encompass automatic return-to-home functions, smart battery diagnostics, and computer-vision obstacle avoidance. DJI also implemented a remote ID solution to add a new layer of accountability for DJI RPAS operators and to assist in the enforcement of reasonable regulatory guidelines and existing laws.

In addition, we are keen to cooperate with regulators to ensure the RPAS market continues to thrive in a way that is compatible with community standards. In the U.S. we served on the FAA's RPAS Registration Task Force, on the FAA's Aviation Rulemaking Committee designed to develop safety standards for RPAS flight over unprotected people, and most recently the FAA's Aviation Rulemaking Committee on RPAS Remote Identification and Tracking. We are active members of the Global UTM Association (GUTMA) and spearheaded an effort with the Consumer Technology Association to develop a standardized global RPAS serial number system. In Australia, DJI took part in CASA's Working Group on Registration and Accreditation and has given input on policy issues under the DJI banner but also via industry associations.

Given the breadth of our experience in the RPAS space, we feel well prepared to provide constructive feedback regarding the department's review on noise and to work collaboratively towards guidelines that ensure acceptable use of UAVs.

We have drafted our comments section by section (with the review paper's proposals in bold) preceded by a general comment.

General Comment

DJI believes the issue of drone noise has been taken up prematurely. The level of complaints are acknowledged to be low. DJI recognize that repetitive operations like delivery services are the main issue of contention. But we also believe that there is time before these services expand further that can be used to study the existing small scale delivery areas – currently confined to north Canberra and part of Logan City. This further study would also allow the issue to be taken up within the context of the wider All-of-Government working group Issues Paper. This would allow government to look at noise in the context of safety, public benefits, and other criteria and thus provide a more balanced view.

If the issue of drone noise in residential areas must be dealt with via this current review, DJI submits that the exclusion of recreational and sub 250g drones, and drones operating under SOC is appropriate. But DJI also argues that this is not enough. Many non-SOC operations still do not fall within the repetitive/frequent intrusion category that we believe this review is meant to address. And so DJI would request that infrequent non-SOC operations also be excluded.



a. Concentrating Commonwealth noise regulations for drones on their air navigation (not their base of operations) based on:

- drone size, weight, and design;
- tested noise levels e.g. effective perceived noise in decibels, sound exposure level, LAMax (the maximum noise level reached) or weighted noise levels which are used for traditional aircraft;
- operational height and location e.g. commercial/industrial/residential/rural/remote areas; and
- particularly in built-up and residential areas, the use of restrictions based on total number of flights per day, the duration of flight, how many flights per hour and time of flights (day/night).

DJI do not believe there is a need for noise regulations for the majority of drone operations. First, any drone operating under existing operating conditions has to remain more than 30 meters from people. Second, the current regulations prohibit operations at night. These existing operational regulations mean that noise issues are already excluded under normal operating conditions.

For those operating under waivers, we also believe that the essential short nature of the majority of such operations is not so far removed from the impact of mowing a lawn or any other common neighborhood activity and so should not be regulated further.

For repetitive operations – such as delivery services - that take place in residential areas and/or at night, there may be an argument for noise limits. But we would advocate for these to be easily understandable and practical.

For these types of operations – and these types of operations alone – there should be a fair benchmark set that looks at how close the operation would come to those not directly involved in the operation (bystanders, neighbors, etc). This would mean setting a noise level measured to that distance.

Nuisance should be balanced against public goods. Delivery will not be confined to burritos and coffee. Medicine deliveries or even the convenience of food delivered to a disabled resident have clear and important benefits that must be considered.

DJI would again argue that this issue of repeat operations in residential areas needs additional study and should be considered in conjunction with the wider Issues Paper being worked on by the Federal Government working group led by DITCRD. By doing so, noise can be considered in its proper context alongside safety issues and public benefits.

b. Regulations not applying to recreational drones, all drones below 250 grams and drones operating under standard operating conditions.

DJI agree the noise regulations should not apply to recreational drones and all drones below 250g. As stated above, standard operating conditions preclude flying closer than 30 meters to others and prohibit night operations thus limiting noise impacts. Anyone failing to comply with the SOC without a waiver, should be dealt with for violating the conditions.

However, it is worth noting that many drone service providers are operating outside of SOC with approvals on a frequent basis. These would not be the repetitive-type delivery operations that have generated the current concern. Non-SOC, infrequent operations of short duration that are unlikely to result in complaints should not be covered by new noise regulations.



c. Regulations not applying to particular types of operations including emergency services, agricultural and other prescribed service operations (e.g. lifesaving patrols, essential medical supply delivery).

DJI agree with this proposal. Operations where public benefit outweighs any noise disruption should not fall under any new noise limitations. It is important that this category be flexible enough to allow for new use cases to emerge and be included within this exemption.

d. Drones that meet recognised international aircraft noise certification standards not requiring approval under the Regulations (as is the case now with other aircraft types).

DJI agree with this proposed regulation.

e. Benchmarking acceptable noise levels for overflying different land use areas (including residential areas) having regard to acceptable noise levels permitted from other similar noise generating equipment under State/Territory legislation.

Most states and territories do not appear to have specific decibel levels for power tools or lawnmowers. This type of equipment is most analogous to infrequent non-SOC operations as they are used for fixed period for a defined purpose.

Decibel levels set by states and territories seem to apply more to fixed machinery such as pool pumps and air conditioners that would produce constant noise. Those benchmarks – while appropriate for A/C units – are not an appropriate benchmark for a drone doing something such as a 10-minute roofing survey done once a year near an aerodrome or similar infrequent and short duration work done under waivers.

f. Allowing noise regulation of drones by State/Territory Governments where this is consistent with the application of their regulations to other types of noise disturbance from operating equipment and not inconsistent with Commonwealth legislation.

DJI disagree with this proposed regulation as we believe that a single federal approach is required to keep regulation clear and easy to follow across Australia. Allowing noise regulation of drones by State or Territory Governments could introduce confusing and inconsistent regulation that would be difficult for operators and more complex to enforce.

Federal pre-eminence over the airspace is also an important principle in and of itself. Allowing States to set their own noise regulation undercuts this principle as it will hinder routing of operations and could lead to a jigsaw puzzle of operational areas with which operators would need to contend. Further, noise regulation could become a proxy manner of banning drone operations.

A patchwork of state and territory regulations would be harmful for several reasons:

- 1) State-based regulations will harm the ability of drone service providers and manufacturers to expand their services nation-wide. This type of expansion would be the precursor for Australia generating globally competitive drone companies.
- 2) State-based or localized regulation also has safety implications if delivery or other services are routed to favor state noise constraints and without a safety first mentality. This point needs to be considered when drafting Federal noise rules as well.
- 3) Manufacturers – particularly global manufacturers – look for global standards. Or at the very least, manufacturers look for consistent national standards. Having different localized or state level



standards makes it far less likely that manufacturers would build to meet such standards as the cost/benefit ratio simply would not make business sense.

In closing

DJI recognize the intent of the DITCRD review is to get ahead of a potential unintended impact of the growing drone economy – in this case the possible nuisance of drone noise generated by repetitive and frequent drone delivery services in residential areas. But the review is still too soon given the very limited nature of current drone delivery operations in Australia – which are essentially confined to a few hundred homes. These small scale operations give us all a chance to understand and study the issue further and formulate rules based on evidence.

This issue should be seen within the broader context of the Federal Government Issues Paper process. The process, led by DITCRD, can balance noise issues against other impacts and benefits.

Finally, if the noise review should proceed, we agree that the recreational, SOC operations and sub-250g categories should be excluded. But also would argue that there are numerous short duration and infrequent non-SOC operations that should also be excluded. A 10 minute roofing survey conducted under a waiver near an aerodrome once a year should not be seen in the same category as a delivery service operating 70 or more flights a day in a quiet neighborhood.