

Hon Michael Wood
Transport

Enabling Drone Integration: Release of Discussion Document

Date of issue: 28 May 2021

Description

The following document has been proactively released by Hon Michael Wood, Minister of Transport on the Ministry of Transport website <http://www.transport.govt.nz/>

Title: OC210051 Briefing: Further advice on drone registration and the consent provision
Date: 4 February 2021
Author: Ministry of Transport

Redactions

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4 February 2021

OC210051

Hon Michael Wood
Minister of Transport**Action required by:**
Friday, 12 February 2021

FURTHER ADVICE ON DRONE REGISTRATION AND THE CONSENT PROVISION

Purpose

Provide you with further information on drone registration and the consent provision following your meeting with officials on 27 January 2021.

Key points

- We consider 250 grams as the appropriate minimum threshold for drone registration to achieve the desired safety outcomes, avoid overregulation and foster international alignment. If this proposal is adopted, this threshold will be reviewed in the future should further evidence or data arise.
- Registration through point of sale at retailers was explored as an option during the policy investigation as a way to operationalise the registration system. We do not consider that this as an appropriate registration method because would be the most appropriate as only a third of recreational drones are purchased at retail stores while the rest are purchased online or overseas. Furthermore nearly 20 percent of recreational drones are bought as a gift or by a third party and they may not be in possession of the right information at the point of sale that would be required for registration.
- The Office of the Privacy Commissioner has been regularly consulted on this work and provided initial feedback which was centred around privacy issues with cameras and the capture of personal information. Overall, their feedback was largely positive about the proposal. They intend to provide more substantive feedback when the discussion document is publicly released.
- Safe distances as an option to relax the consent provision is the most common way to regulate drone operations overseas as it mitigates risks to people and property. Should the regulatory proposal go ahead, the Civil Aviation Authority will assess whether to relax or remove this provision and any possible alternatives.

Recommendations

indicate whether you would like changes made to the discussion document "Enabling Drone Integration" in light of this advice. Yes / No

Tom Forster
Manager, Economic Regulation

Hon Michael Wood
Minister of Transport

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- Minister's office to complete:**
- Approved Declined
 - Seen by Minister Not seen by Minister
 - Overtaken by events

Comments

Contacts

Withheld to protect privacy of natural persons

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FURTHER ADVICE ON REGISTRATION AND THE CONSENT PROVISION

Background

- 1 In December 2020, the Ministry of Transport (the Ministry) provided you with the draft discussion document: *Enabling Drone Integration*, seeking your agreement to seek Cabinet approval to release it for public consultation. You requested a further briefing based on initial concerns you had with registration and the consent provision contained within the proposal.
- 2 On 27 January 2021, officials met with you and discussed in detail some of your concerns, specifically:
 - 2.1 potential overreaching and overregulation with who and what is required under the registration proposals; and
 - 2.2 the possible removal of the consent provision and what that may mean in terms of privacy.
- 3 Following the meeting, you requested further advice on the rationale for the minimum threshold of 250 grams for registration, possible streamlined registration process through point-of-sale, the Office of the Privacy Commissioner's comments on the relaxation or removal of the consent provision, and minimum distances of drones from private property.

Registration

We believe that 250 grams is the appropriate threshold to achieve the desired safety outcomes and avoid overregulation

- 4 The current regulatory system is risk-based and does not distinguish between recreational and commercial drone use. Regardless of drones' weight and the introduction of a minimum threshold, pilots must comply at all times with specific operational Civil Aviation Rules (CARs).
- 5 The rationale for introducing a minimum threshold for drone registration is based on studies carried out internationally.
- 6 At present, 250 grams is considered by the vast majority of our aviation counterparts, including the United States, Canada, the United Kingdom, Australia and European Union Member States (through European Aviation Safety Agency regulations), as being an appropriate minimum safety threshold for registration purposes.
- 7 A number of studies have been undertaken to determine the appropriate weight. One study showed that a drone with a mass of up to 250 grams was not able to carry a payload that posed a significant risk. However, heavier drones may potentially pose a security risk.¹

¹ JRC Science for Policy Report. Scenario study: drones carrying explosives. Implications for consumer product regulation on drones. Larcher M., Karlos V., Valsamos G., Solomos G. JRC 110662, 2018. The study is not

- 8 The risks to privacy and data protection are essentially related to the availability on the drone of a camera or another sensor that is able to record personal information. Most of the drones available on the market, even if they are very small, are equipped with cameras. The European Aviation Safety Agency (EASA) considered that a drone with a mass of less than 250 grams is normally small and would need to fly close to the remote pilot, and this should allow the pilot to be quickly identified. EASA decided not to regulate the registration of drone operators who use drones with masses below 250 grams in order to remain proportionate, even if there is a residual risk to privacy.
- 9 International studies have also shown that a drone that weighs 250 grams and above is able to transfer 80 Joules of terminal kinetic energy capable of injuring a person if it falls from a height of 120 metres.
- 10 The literature on drone weights note that factors such as maximum speed, capacity, and the level of pilot competency can influence the level of risk alongside the weight of a drone.²
- 11 Given the low safety risks of drones weighing less than 250 grams, we believe that introducing this threshold is proportionate to the desired safety outcomes and will avoid overregulation. Annex 1 provides examples of some drones currently available at retailers based on weight and price.
- 12 Aligning our regulatory framework with that of aviation counterparts would provide some form of certainty to the industry, especially manufacturers, and help ensure future harmonisation and systems' interoperability.
- 13 For these reasons, we propose that all drones weighing 250 grams or over should be registered. This minimum threshold could be changed in the future if further evidence or data emerges to warrant a higher or lower weight threshold. Conversely, drones under 250 grams may become more prevalent as technology advances and becomes smaller and cheaper.

You asked about whether registration for recreational users could be streamlined into major retailers' systems

- 14 We have considered point-of-sale registration as an option in our initial research but excluded this based on the following reasons:
- 14.1 only one third of recreational drones are purchased at retail stores while the rest are purchased online or overseas³
- 14.2 nearly 20 percent of recreational drones are bought as a gift or by a third party⁴ - those buyers would frustrate the point-of-sale registration system and create unnecessary inconsistencies where information is not captured accurately (as it would not capture actual owners information)

publicly available. The following is an extract of the conclusions. 'It can be concluded that drones of class C1 has the capability of causing casualties in a limited range, while explosive attacks with drones of classes C2 - C4 can have a significant impact at soft targets/public spaces resulting in a potential high number of casualties.'

² A good example is the article "Mass Threshold for 'harmless' drones", Anders la Cour-Harbo, International Journal of Micro Air Vehicles.

³ See slide 21 of the Colmar Brunton survey, "New Zealand Drone Research 2020".

⁴ Ibid.

- 14.3 third parties (such as retailers) recording information in different systems could open the registration system to breaches of privacy – a preferable option is if the owner directly provides the required information to one secure system (such as one run by the Civil Aviation Authority)
- 14.4 point-of-sale registration would also impose unnecessary burden on retailers (overseas counterparts have explored this option but discounted it due to amount of cost, time and resources).
- 15 A key requirement is to make the end-to-end registration experience as easy and simple as possible for all users and we believe that the proposed option is the most appropriate as it gives drone owners the ability to choose when to register (as long as it is before the first flight).
- 16 Retailers have a key role to play in educating the people purchasing drones of their obligations, including registration. While some New Zealand retailer's already voluntarily direct customers to the CAA website, we believe a similar program could complement drone registration.
- 17 For example, the Australian Civil Aviation Safety Authority has recently introduced a 'drone safety advocates' program for drone retailers, wholesalers and manufacturers. Retailers become a promoted 'drone safety advocate' when they provide:
- 17.1 customers with a copy or referral to the Australian drone safety, registration and accreditation rules at point-of-sale
- 17.2 clear and accurate advice to customers on the importance of following the drone safety, registration and accreditation rules.
- 18 We are interested to see what feedback we receive from retailers and manufactures during the consultation process. Officials will report back on implementation aspects as part of final policy recommendations following consultation.

Consent provision

We propose to relax or remove the consent provision due to existing problems

- 19 Since its enactment in 2015, the consent provision has proved to be impractical, ineffective and inefficient because:
- 19.1 there is little to no safety benefits due to lack of compliance from the operators and general misunderstanding of the rule;
- 19.2 there is limited ability to enforce due to the inability to associate a drone to a person; and
- 19.3 other agencies are responsible for addressing privacy and nuisance issues.⁵

⁵ The Office of the Privacy Commissioner and Police deal with privacy, nuisances and harm complaints under other laws, such as the Privacy Act 2020 and the Crimes Act 1961.

The Office of the Privacy Commissioner (OPC) has no specific concerns or comments on the consent provision proposal

- 20 We discussed the proposals with the OPC during development. The OPC has two key points of interest in our proposal:
- 20.1 drones that are equipped with cameras or other technologies that allow personal information to be collected and can have significant adverse impacts on privacy and
 - 20.2 some of the proposed measures involve the collection, retention, use and disclosure of personal information about drone owners.
- 21 The OPC did not specifically comment on the relaxation or removal of the consent provision. However, we note that they only provided initial comments on the draft discussion document, and would provide a more substantive submission when the final discussion document is released for public consultation.

Safe distances has been introduced overseas, however there are some shortcomings with the concept

- 22 A potential alternative for the consent provision could be the introduction of a 'safe distance' requirement or rule. This means that, instead of requiring consent from property owners, drones will have a presumptive right to fly over property and people as long as they are following flight rules that include minimum distance(s) from people and property, as well as any other adherence to other requirements (e.g. Privacy Act 1993).
- 23 These operational rules could potentially include a combination of safety requirements that are not based on consent, but instead on safe distances, the type of drone being operated and the level of risks of the operation in question. Annex 1 outlines how safe distances requirements have been implemented in other jurisdictions.
- 24 On 21 November 2019, we held a Drone Forum that took the form of a workshop on the consent provision where we discussed safe distances with stakeholders.⁶ The attendees had mixed reactions to the proposal. The main arguments in favour of safe distances included giving more freedom to Part 101 drone operators (recreational and commercial), ensuring consistency with rules applicable to manned aviation, and maintaining elements of privacy.
- 25 Conversely, some stakeholders stated that applying a specific distance would make the rule less clear to follow - with heights being hard to judge by eye. Safe distances may also increase the level of safety risk - as the higher a drone will fly the faster it will fall, increasing the potential for damage to people or property. There is also differing views on what a safe distance actually is (see Annex 2, with safe distances differing internationally).
- 26 Should the public consultation favour the adoption of the package of measures, the CAA will investigate the feasibility of removing or relaxing the consent provision and

⁶ A summary of the feedback provided at this forum on the Consent Provision can be found on the Ministries website: <https://www.transport.govt.nz/assets/Uploads/Presentation/Consent-Provision-Workshop-Summary.pdf>

exploring all appropriate alternatives through the development and assessment of a safety case.

Next steps

- 27 In light of the above advice, should you wish to amend the Discussion Document “Enabling Drone Integration,” officials will make the necessary changes. Once a draft is finalised, the Ministry will seek your agreement to lodge it for Cabinet consideration.

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Annex 1 – Examples of drones available at retailers

Figure 1 – Remote Control Stunt Quadcopter



Type: quadcopter
Weight: below 100 grams
Battery life: 12-15 mins
Camera: no
Current market price: approx. \$25

Figure 2 – Kaiser Baas Trail Drone



Type: quadcopter
Weight: approx. 155 grams
Battery life: 12-15 mins
Camera: yes
Current market price: approx. \$249

Figure 3 – DJI Mavic Mini



Type: quadcopter
Weight: 249 grams
Battery life: 34 mins
Camera: yes
Current market price: approx. \$669

Figure 5 – DJI Mavic 2 Pro



Type: quadcopter
Weight: 907 grams
Battery life: 31 mins
Camera: yes
Current market price: approx. \$2700

Figure 6 – DJI Phantom 4 Pro



Type: quadcopter
Weight: 1.388 kilogram
Battery life: 30 mins
Camera: yes
Current market price: approx. \$2699

Annex 2: International comparison of safe distances

	Rules & Categories	Visual line of sight	Maximum height	Minimum horizontal distance from people and property	Hazard to other aircraft	Reference to privacy	Flight over private property
New Zealand <i>Civil Aviation Authority (CAA)</i>	Part 101 CAR All drones below 25kg	At all times	400ft / 120m	<ul style="list-style-type: none"> No flight directly above people except if operators obtain consent No flight above property except if operators obtain the owner or person in charge of the land's consent Minimize any hazards you might create with your drone to people and property 	<ul style="list-style-type: none"> Give way to all crewed aircraft Land drone if another aircraft approaches 	None	Operators must obtain the consent of the property owner or person in charge of the area the operator wishes to fly above (i.e. private landowners, district and regional councils, and government departments such as DOC and MNZ)
Australia <i>Civil Aviation Safety Authority (CASA)</i>	Part 101 CASR 250g – 25kg	At all times	400ft / 120m	<ul style="list-style-type: none"> 30m away from people No flight over/above people (e.g. events and crowds) No flight/operation that would create a hazard to person or property 	No operation that would create a hazard to another aircraft	Respect personal privacy - prohibition to record or photograph people without their consent	<ul style="list-style-type: none"> Users are legally entitled to fly drones over private property without asking for the owner's consent, as long as they comply with all the safety rules and take off from a public area. But people can inhibit take off and landing on their property (case of trespass) Anyone could base a complaint on grounds of nuisance, reckless flying, and violation of privacy laws
United States <i>Federal Aviation Authority (FAA)</i>	Part 107 FAAR 250g – 25kg	At all times	400ft / 120m	<ul style="list-style-type: none"> 25 feet from individuals and vulnerable property Never fly over groups of people, public events, or stadiums full of people Maximum speed of 100 mph (87 knots) 	Never fly near other aircraft	None	
United Kingdom <i>Civil Aviation Authority (CAA)</i>	ANO 2016 250g – 20kg	At all times	400ft / 120m	<ul style="list-style-type: none"> 50m away from people, vehicles, buildings or vessels 150m from congested areas and large group of more than 1,000 people 	Keep away from aircraft	<ul style="list-style-type: none"> Operators can fly in the airspace over private properties/land if they do not cause a disturbance or infringe on landowners' privacy. If you intend to record in an area where people are, you must inform them before you start 	
Canada <i>Transport Canada</i>	Part IX CAR 250g – 25kg	At all times	400ft / 120m	<ul style="list-style-type: none"> 30 metres away from bystanders No flight over/above people (e.g. events and crowds) 	Keep away from other aircraft	<ul style="list-style-type: none"> Always respect the privacy of others while flying. * Privacy laws apply to pictures, videos or other information collected by a drone. Pilots are accountable for the personal information (PI) collected by their drone, must limit collection, obtain consent, store PI securely, be open and responsive about their activities 	
European Union <i>European Aviation Safety Agency (EASA)</i>	Commission Delegated Reg (EU) 2019/945 & Implementing Reg (EU) 2019/947 <i>Open category :</i> <ul style="list-style-type: none"> A1 <250g (low risk, toys) A2 <4kg A3 <25kg 	At all times	400ft / 120m	<ul style="list-style-type: none"> A1: 'Fly over people', but not open-air assemblies A2: 30m from uninvolved people, or 5m when "low speed mode" is selected A3: Fly far from people', only fly in areas clear of uninvolved people, 150m from residential, commercial, industrial or recreational areas, until further guidance received a minimum horizontal distance of 50 m from all uninvolved people 	Keep away from other aircraft	<ul style="list-style-type: none"> The regulations include privacy provisions, such as a requirement that owners of drones with sensors that could capture personal data should be registered to operate the craft (exception for toy drones) But the regulation sets out the "possibility for Member States to lay down national rules to make subject to certain conditions the operations of unmanned aircraft for reasons falling outside the scope of this Regulation, including environmental protection, public security or protection of privacy and personal data in accordance with the Union law" 	