

INQUIRY INTO DRONE DELIVERY SYSTEMS IN THE ACT

STANDING COMMITTEE ON ECONOMIC DEVELOPMENT AND TOURISM

JULY 2019

REPORT 6

THE COMMITTEE

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RESOLUTION OF APPOINTMENT

On 13 December 2016 the ACT Legislative Assembly (the Assembly) agreed by resolution to establish legislative and general purpose standing committees to inquire into and report on matters referred to them by the Assembly or matters that are considered by the committees to be of concern to the community, including:

- (g) a Standing Committee on Economic Development and Tourism to examine matters relating to economic and business development, small business, tourism, market and regulatory reform, public sector management, taxation and revenue, procurement, regional development, international trade, skills development and employment creation, and technology, arts and culture.¹

The Assembly agreed that each committee shall have power to consider and make use of the evidence and records of the relevant standing committees appointed during the previous Assembly.

On 26 October 2017 the Legislative Assembly resolved to amend the motion as follows:

Omit the words "market and regulatory reform, public sector management, taxation and revenue", substitute "Access Canberra".

TERMS OF REFERENCE

At its meeting on Thursday, 1 November 2018, the Assembly passed the following resolution:

"That:

(1) the Standing Committee on Economic Development and Tourism inquire into and report on drone delivery systems in the ACT, with particular reference to:

- (a) the decision to base the trials of the technology in the ACT and surrounding region;
- (b) the economic impact of drone delivery technology being tested in the ACT including the:
 - (i) investment that has been brought in to the Territory;
 - (ii) number of jobs that have been created as part of the trial; and
 - (iii) extent of collaboration with local industry and academic institutions;

(c) the extent of regulatory oversight of drone technology at various levels of government including but not limited to:

¹ Legislative Assembly for the ACT, Minutes of Proceedings No. 2, 13 December 2016, pp. 13-16, accessible at http://www.parliament.act.gov.au/in-the-assembly/minutes_of_proceedings.

- (i) local authorities such as the Environment Protection Authority, Worksafe and Access Canberra; and
 - (ii) Commonwealth agencies such as Air Services Australia and Civil Aviation Safety Authority;
- (d) the extent of any environmental impact as a result of trialling drone delivery technology on:
- (i) residents within the trial area;
 - (ii) native wildlife;
 - (iii) domestic animals; and
 - (iv) greenhouse gas emissions;
- (e) ways to improve the use of drone delivery technology within the ACT;
- (f) any other relevant matter; and
- (g) information privacy; and
- (2) the Committee report to the Assembly on the matter no later than the last sitting week in 2019."

ACRONYMS

BAD	Bonython Against Drones
CASA	Civil Aviation Safety Authority
CMTEDD	Chief Minister, Treasury and Economic Development Directorate
EPSDD	Environment, Planning and Sustainable Development Directorate
ICAO	International Civil Aviation Organisation
MLA	Member of the Legislative Assembly
RPA	Remotely piloted aircraft
RPAS	Remotely piloted aircraft systems

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RECOMMENDATIONS

RECOMMENDATION 1

- 2.41 The Committee recommends that Access Canberra increase the amount of information on its website about Wing operations, including a direct link to the CASA exemption (CASA EX40/19) and to the Commonwealth Department of Infrastructure, Transport, Cities and Regional Development's review of drone noise regulation.

RECOMMENDATION 2

- 3.38 The Committee recommends that the ACT Government provide information to the Australian Information Privacy Commissioner to assist her in considering the benefits of, or need to place restrictions on, the collection by commercial delivery drones of the personal information of non-users.

RECOMMENDATION 3

- 3.54 The Committee recommends that the ACT Government and Wing collaborate to establish an independent comparative survey of wildlife numbers and behaviour in a suburb prior to, then following the commencement of, drone delivery operations.

RECOMMENDATION 4

- 4.37 The Committee recommends that the ACT Government proactively engage with the Commonwealth Department of Infrastructure, Transport, Cities and Regional Development's review, drawing on the experience of the ACT community in drone delivery trials.

1 INTRODUCTION

1.1 On Thursday, 1 November 2018, the Assembly passed the following resolution:

"That:

(1) the Standing Committee on Economic Development and Tourism inquire into and report on drone delivery systems in the ACT, with particular reference to:

(a) the decision to base the trials of the technology in the ACT and surrounding region;

(b) the economic impact of drone delivery technology being tested in the ACT including the:

(i) investment that has been brought in to the Territory;

(ii) number of jobs that have been created as part of the trial; and

(iii) extent of collaboration with local industry and academic institutions;

(c) the extent of regulatory oversight of drone technology at various levels of government including but not limited to:

(i) local authorities such as the Environment Protection Authority, Worksafe and Access Canberra; and

(ii) Commonwealth agencies such as Air Services Australia and Civil Aviation Safety Authority;

(d) the extent of any environmental impact as a result of trialling drone delivery technology on:

(i) residents within the trial area;

(ii) native wildlife;

(iii) domestic animals; and

(iv) greenhouse gas emissions;

(e) ways to improve the use of drone delivery technology within the ACT;

(f) any other relevant matter; and

(g) information privacy; and

(2) the Committee report to the Assembly on the matter no later than the last sitting week in 2019."

CONDUCT OF THE INQUIRY

1.2 The Committee called for public submissions on 23 November 2018. The Committee issued a media release and the inquiry was announced through the Assembly's internet and social

media channels. The Committee Secretary wrote directly to relevant parties asking them to consider making a submission. The Committee requested submissions by 22 February 2019 but accepted submissions received by 12 March 2019. The Committee received 151 submissions and these have been published on the Assembly's website at

<https://www.parliament.act.gov.au/in-committees/standing-committees-current-assembly/standing-committee-on-economic-development-and-tourism/inquire-into-drone-delivery-systems-in-the-act>. A list of these submissions is available at Appendix B.

- 1.3 The Committee held public hearings on 6, 13 and 27 March 2019. At this hearing the Committee heard evidence from 26 witnesses. A list of these witnesses is available at Appendix A.
- 1.4 At the conclusion of the hearings the Committee began drafting this report. During this drafting the Committee received correspondence raising questions about interpretation of federal statute. Given the significance of the issues raised, the Committee agreed to write to the responsible federal Minister and delay finalising its report until it received a response. Shortly before tabling this report the Committee received a formal response. This response is available at Appendix D.

STRUCTURE OF THE REPORT

- 1.5 The report first sets out the nature of the Wing drone delivery trials. This includes an examination of the possible economic benefits and the approach taken to community consultation. The next chapter looks at the key issues raised by submitters and witnesses and provides a committee comment. The Committee then looks at the regulatory environment for drone deliveries in the ACT.

TERMINOLOGY

- 1.6 During the inquiry, the Committee received evidence which used a range of terms to refer to remotely piloted aircraft systems (RPAS) technology, including 'unmanned aerial vehicles' (UAVs), 'unmanned aerial systems' (UAS) or 'drones'. While the preferred terminology used by the International Civil Aviation Organization (ICAO) refers to RPAS technology, most members of the public simply uses the term 'drones'. This report uses the terms 'RPAS' and 'drones' interchangeably.

2 THE WING TRIAL

- 2.1 While this report is looking at the impact of drone delivery services in general, it is a fact that there is only one service that has been trialled in the ACT and that is conducting further operations. This chapter will set out the facts around the trial and its regulatory environment. Later chapters include an examination of the possible impacts of wider operation of drone delivery systems, including by multiple commercial operators.
- 2.2 Wing, previously known as Project Wing, is a subsidiary of Alphabet, the company that also owns Google. The project began in 2012² and the company has been operating in Australia since 2014.
- 2.3 Wing described their delivery systems as follows:

How Wing delivery works

Wing has designed a drone that can pick up a package, fly to a designated site, hover over the delivery area, and gently lower the package to the ground at a precise location chosen by the person who scheduled the delivery (such as a backyard or near a doorstep). Our drones map the safest route to a designated location using our UTM system. The UTM plans a flight path from take-off to landing, avoiding other Wing drones and obstacles.

- **1. Order.** The customer orders goods from a merchant via the Wing mobile app. Goods can include meals, beverages, over-the-counter pharmaceuticals and other essential goods. After receiving an order, the merchant packs the goods in a specialised package and requests that Wing send a drone to pick-up the package.
- **2. Flight Planning.** Wing software automatically calculates the route from the launch site to the customer, taking into account safety and regulatory restrictions. The flight plan is then uploaded to the drone.
- **3. Package Pick Up.** The drone launches automatically and proceeds to the merchant pick up area, then hovers at a safe height above ground (7m) while the merchant connects the package to an extendable tether beneath the drone.
- **4. Delivery.** The drone climbs to cruise height and commences forward flight. At the customer destination, the drone enters hover and descends to delivery height 7m above ground. The drone lowers the tether and automatically releases the package containing the ordered merchandise.

² *Transcript of Evidence*, 6 March 2019, p. 41.

- **5. Recovery.** The drone climbs back to cruise height and returns to the Wing site. At the Wing site, the drone lands automatically on a charging pad to prepare for the next delivery.³

ROYALLA

- 2.4 Royalla is a rural part of New South Wales next to the ACT border. Wing established a drone operation next to the Guises Creek Rural Bushfire Brigade in the ACT in order to trial deliveries to Royalla. The ACT Government granted a temporary licence to Wing to use the land from 21 September 2017 to 31 March 2018. Wing paid a commercial rate for the licence.⁴

COMMITTEE COMMENT

- 2.5 The Committee notes that the Royalla trial was a limited one, operating in a relatively sparsely populated area. It provided an opportunity for Wing to test its systems and to demonstrate to regulators its ability to operate safely. The Committee received minimal evidence on this trial, although it notes claims that horses were disturbed by drone operations during the trial, and that the trial impacted on those near the drone station.

BONYTHON

- 2.6 Following Royalla, Wing sought a more suburban area for trialling drone deliveries. The ACT Government granted a licence for use of a site in Greenway (part Block 18 Section 46 Greenway) in order to service Bonython. Wing was licenced to use the site from 25 January 2018 to 15 February 2019 although the trial did not commence until July 2018. Wing paid a commercial rate for this licence.⁵
- 2.7 While the trial was in place from July 2017 to February 2018 the service only operated for 94 days in total, an average of 12 days a month. The service was not offered on every day of the week and breaks were taken during holiday periods. The service did not operate during total fire ban days or during adverse weather conditions such as strong winds or rain.⁶
- 2.8 In Bonython, Wing sought registrations of interest from residents to take part in the trial. Wing reported that 577 residents expressed interest (19 per cent of Bonython residents) and Wing selected 164 of those residents as “testers”. Those testers placed 2,113 orders in total with

³ *Submission 124, Wing, 27 February 2019, p. 3.*

⁴ *Submission 83, ACT Government, 27 February 2019, p. 3.*

⁵ *Submission 83, ACT Government, 27 February 2019, p. 3.*

⁶ *Submission 124, Wing, 27 February 2019, p. 12.*

each ordering an average of 13 times by drone, with 50 percent ordering at least once per month.

- 2.9 During normal operating periods Wing averaged 22 deliveries per day, with 85 deliveries on their busiest, and final, day of operations.⁷
- 2.10 Wing delivered items from a mix of national chains and ACT based businesses including Chemist Warehouse, Bunnings, Jasper + Myrtle, Kickstart Espresso, Guzman y Gomez, and a local franchisee of Bakers Delight. Forty-seven percent of orders were placed with ACT-owned small businesses. Food items and coffee were the most popular items delivered, and over-the-counter chemist items were the most popular non-food items delivered.⁸
- 2.11 In Bonython, the average duration of a drone delivery (from the tester placing an order to receipt of goods) was 7 minutes and 36 seconds (comprising approximately 4 minutes of merchant prep and 3 minutes of flight time).⁹

COMMITTEE COMMENT

- 2.12 Wing, the ACT Government and ultimately the Committee received significant feedback about the Bonython trial. The community reacted to drone operations through the formation of community groups, interaction with MLAs and MPs, petitions and through the utilisation of the service. The key issues raised by those who experienced this trial form the basis of the following chapter.

ECONOMIC BENEFITS

- 2.13 Wing's submission stated that:

Drone delivery has the potential to radically improve the way we live by making the things we need in a hurry available in just minutes. Drone delivery is safe, fast, green and affordable, with the potential to improve the way our cities operate by reducing road congestion and creating new economic opportunities for local businesses.¹⁰

- 2.14 Wing commissioned research from consultancy firm AlphaBeta to "better understand the potential impacts of drone delivery in the ACT".¹¹ AlphaBeta's report, which was provided to the Committee and is available on the Assembly's website, found benefits split across three areas:

⁷ *Submission 124, Wing, 27 February 2019, p. 12.*

⁸ *Submission 124, Wing, 27 February 2019, p. 12.*

⁹ *Submission 124, Wing, 27 February 2019, p. 3.*

¹⁰ *Submission 124, Wing, 27 February 2019, p. 3.*

¹¹ *Submission 124, Wing, 27 February 2019, p. 4.*

- Benefits for local businesses
 - Greater market reach
 - Lower delivery costs
 - Increased sales impact
 - Opportunity for new businesses to deliver
- Benefits for consumers
 - Reaching underserved households
 - Reduced waiting times
 - Lower delivery fees
 - Increased product variety
- Benefits for society
 - Reduced traffic congestion
 - Reduced greenhouse gas emissions
 - Improved road safety¹²

2.15 The headline numbers AlphaBeta included with its analysis included growing retail sales in the ACT by \$30-40 million by 2030 and reducing delivery costs for businesses by up to \$12 million per year by 2030. Businesses would also benefit from up to four times as many customers being in delivery range by drone compared to surface transport. Consumers would have time savings, reduced delivery costs and access to a wider range of merchants. Societal benefits included reducing traffic congestion by replacing 35 million vehicle kilometres each year and reducing 8,000 tonnes of CO₂ emissions annually.¹³

2.16 The ACT Government presented its support for the trial within the context of support for innovation:

The ACT Government's response to Wing and the drone delivery services industry's presence in the ACT is a continuation of the Government's commitment to adopting a smart and innovative city mindset and engaging with emerging industries. This approach delivers competitive advantages, better outcomes and new opportunities for ACT businesses and the community, including business investment, more efficient business models and employment opportunities. When responding to new technology, the ACT Government encourages innovators to engage appropriately with community concerns and when appropriate, work with government to get the regulation right. The ACT's engaged community and agile regulatory environment are key factors that attract innovative businesses to trial and establish their services in the ACT.¹⁴

¹² *Submission 12*, AlphaBeta, 27 February 2019, p. 4.

¹³ *Submission 12*, AlphaBeta, 27 February 2019, p. 5.

¹⁴ *Submission 83*, ACT Government, 27 February 2019, p. 2.

2.17 The ACT Government noted Wing's estimate that the company had invested \$5 million in the territory in support of the trial to the end of 2018.¹⁵ It also pointed to the provision of high value employment opportunities and engagement with the "Canberra innovation ecosystem".¹⁶

2.18 BAD questioned whether there would be any new business created stating that:

It is a similar situation to Uber taxis or Uber cabs starting up. They did not create a new business; they did not create something that was not there previously. All the Uber drivers have done is take business away from the taxis. Is there a net benefit from this?¹⁷

2.19 Some submitters questioned the value of AlphaBeta's analysis given it did not appear to take into account jobs lost through diversion of business away from other delivery methods. It also did not attempt to quantify the impacts on amenity and negative environmental impacts.¹⁸ Other submitters observed that the claimed environmental benefits assumed that land-based delivery would continue to use petrol vehicles when many were currently moving towards alternative, less polluting fuels and electric vehicles.¹⁹

2.20 The Canberra Business Chamber and the Mitchell Traders Association indicated that they believed that drone deliveries would provide benefits to businesses and consumers.²⁰

COMMITTEE COMMENT

2.21 The Committee does not believe that the economic impact of drone deliveries is easily predicted at this point. While the Committee does not question the expertise of AlphaBeta, their analysis appears to be focussed solely on possible benefits and makes no attempt to quantify possible costs. Many of the possible costs are due to environmental impacts, externalities that economic analysis has traditionally struggled to quantify.

2.22 The Committee acknowledges concerns that drone deliveries may result in job losses in land-based delivery industries, although notes that many of these jobs were only recently created by the growth in popularity of food delivery services. The ability of emerging technologies to change established employment patterns has been repeatedly demonstrated since the Industrial Revolution. A much-discussed recent example is the impact of e-commerce on retail employment.

¹⁵ *Submission 83*, ACT Government, 27 February 2019, p. 3.

¹⁶ *Submission 83*, ACT Government, 27 February 2019, p. 5.

¹⁷ *Transcript of Evidence*, 6 March 2019, p. 5.

¹⁸ See for example, *Submission 06*, Hynd, 7 February 2019, *Submission 16*, Sheather, 7 February 2019, p. 9, *Submission 58*, Sheather, 27 February 2019, pp. 3-4, *Submission 90*, Pender, 27 February 2019..

¹⁹ *Submission 76*, Name withheld, 27 February 2019, p. 5.

²⁰ *Submission 38*, Canberra Business Chamber, 7 February 2019 and *Submission 73*, Mitchell Trader Association, 27 February 2019, p. 4.

- 2.23 The current limitations around the size of goods drones can deliver suggests that both delivery methods could co-exist for some time. It could well be however, that there is no net gain in jobs. Any gains are likely to be in increased efficiencies for businesses and consumers. A business that increases their customer base through access to drone deliveries may be able to employ more people as their business grows but the Committee does not believe that there is any solid evidence on the impact widespread drone delivery would have on employment.
- 2.24 The economics of drone deliveries are still very much being explored. The Bonython trial did not include a delivery fee for consumers as Wing was still testing various aspects of its operations. Some submitters suggested that the service would not be viable with a delivery fee but the Committee believes that that is a matter for Wing as a private company to determine. One of the reasons for the trial is to establish what consumers actually want to receive.
- 2.25 Similarly, it is difficult to quantify the benefits of being an innovative and “agile” jurisdiction as promoted by the ACT Government. With the ACT having a highly educated population and a strong core of educational and research institutions, it is likely to be well placed to foster innovation. The ACT Government approach of promoting its openness to innovative industries is a sensible policy decision but not one for which it is easy to quantify effectiveness.
- 2.26 The Committee notes that drone delivery technology is still relatively new. As the technology evolves and understanding of the market improves it will impact the economy in potentially unpredictable ways. It may be that the Wing trial will be a false start, if the issues examined in the following chapter are unable to be satisfactorily resolved at this point.

CONSULTATION

- 2.27 The CEO of Wing told the Committee that:

we will not even be successful as a business ourselves if we cannot create a technology and a service that is acceptable to the greater community. So that is in our interests as well. We would love to have discussion and dialogue around everything we can do to make that acceptability as great as possible.²¹

- 2.28 Wing’s submission stated that they conducted five months of community outreach prior to the start of the Bonython trial and listed a range of community stakeholder meetings, briefings and demonstrations conducted during that time. Wing then held a community BBQ and letter dropped the Bonython community. After beginning operations Wing held a second community open house, attended by approximately 300 people. Wing also door knocked or left notes with the neighbours of the first testers, prior to the first deliveries.²²

²¹ *Transcript of Evidence*, 6 March 2019, p. 41.

²² *Submission 124*, Wing, 27 February 2019, p. 13.

2.29 Bonython Against Drones told the Committee that there were a lot of residents who were not consulted and told BAD that they had no notification before the drones began operation.²³ The letter box drop was considered ineffective because it excluded anyone with a “no junk mail” sign, which was a large proportion of the community.²⁴ A number of submitters indicated that they were unaware of the trial before drones began to fly over their homes.

2.30 BAD conducted their own doorknock and collected 1,024 signatures on the petition presented to the Assembly. They considered that 80 per cent of residents were opposed to the trial.²⁵

2.31 The Tuggeranong Dog Training Club told the Committee that:

We received no advice prior to the drones being established there. There was no consultation or advice before that and we, in fact, initiated contact with Wing to find out what was going on.²⁶

2.32 In their submission they characterised their interactions with Wing as follows:

Data and information, which we thought would have been readily available (eg the length of their trial), was not forthcoming. We were left with the impression that they told us only what they thought would keep us happy and that their consultation was more about ‘ticking a box’ than any real constructive engagement. Project Wing rarely followed through with providing information that the Club deemed necessary to determine the impact of its functions and business activities, and what mitigating strategies if any would be required. Any information that was provided was superficial and failed to address the Club’s issues and concerns. However, in the interests of ‘being a good neighbour’ the Club did not press Project Wing for the requested information, rather we lived with the disruptive noise. We would prefer not to have to experience this again in the future.²⁷

2.33 Wing told the Committee that they:

heard feedback that it does not seem appropriate to set up a drone operating area next to dog parks and residential areas. We agree with that feedback. We have started looking for other locations. That is what led to our choice of the Mitchell industrial area to base our operations. We are choosing to move to an area that is more suitable for these types of operations.²⁸

2.34 Regarding operations in Mitchell the President of the Gungahlin Community Council told the Committee:

²³ *Transcript of Evidence*, 6 March 2019, p. 2.

²⁴ *Transcript of Evidence*, 6 March 2019, pp. 3-4.

²⁵ *Transcript of Evidence*, 6 March 2019, p. 7.

²⁶ *Transcript of Evidence*, 6 March 2019, p. 24.

²⁷ *Submission 132*, Tuggeranong Dog Training Club, 27 February 2019, p. 6.

²⁸ *Transcript of Evidence*, 6 March 2019, p. 48.

I think the community, as much as the community is ever given the opportunity to learn about things, is as well prepared as they perhaps could be on the basis of what the proponent has undertaken and what information we have been able to gather and share through our channels. I would observe that the ACT government has been noticeably absent in advertising that they have allowed and are supportive of this program, not only in the earlier trials but they have not made obvious, for example, that should you have problems with the drone service, please call 132 281 and press option 7 to go through to the drone hotline or whatever the service is.

The only communication that the Gungahlin community would have had was through traditional media channels and through our public meetings where we have had the relevant speakers along, plus our normal channels through Facebook and emails.²⁹

- 2.35 Wing told the Committee that they had feedback about their community consultation efforts for the Bonython trial and that they had taken “that feedback to heart”.³⁰ Moving into Mitchell, Wing:

extensively engaged with the traditional methods we used before: community meetings, doorknocking, letter drops et cetera. But we have also performed over 30 pop-ups in community areas—the Gungahlin Marketplace and the Crace commercial area—where we can set up a booth and welcome people to come and give us comments. And we take more recommendations as well. We are trying to do all that we can, and engage in all the channels that we know how to, to make sure that we are doing sufficient outreach and making sure that this is not a surprise and people know who they can contact.³¹

COMMITTEE COMMENT

- 2.36 The Committee believes that initial consultation with residents in Bonython was insufficient. Wing has acknowledged that there were lessons to learn and has been applying them to its operations in Mitchell. Drone operations are not an activity that affect only customers but also impact the wider community.
- 2.37 The Committee notes that it has begun to receive complaints from residents affected by Wing operations out of Mitchell. At the time of writing the Wing website provided information about its delivery services but did not provide significant information that non-users may be interested in such as hours of operation and frequency of flights. The CASA exemption that sets out many of Wing’s operating conditions does not appear to be referenced on Wing’s website.

²⁹ *Transcript of Evidence*, 6 March 2019, p. 37.

³⁰ *Transcript of Evidence*, 6 March 2019, p. 49.

³¹ *Transcript of Evidence*, 6 March 2019, p. 49.

2.38 The only information provided on the Access Canberra website regarding Wing operations at the time of writing is:

April 2019 - Drone delivery service Project Wing has been approved by CASA to operate autonomous delivery drones in Gungahlin. This follows trial operations over recent years in Royalla and Bonython. Any feedback on Wing's operations should be provided directly to them by visiting <https://wing.com/contact/>

2.39 The CASA website has a substantial amount of information about drone operations. It also has the exemption³² that sets out Wing's operating conditions, including significant rules around when and where the drones may be operated that differ from the more general drone operation rules. The exemption is unlikely to be located, however, by an ordinary member of the public who would be unaware that they needed to search CASA's non-legislative instruments for the rules governing Wing operations.

2.40 The Committee believes that it is important that the community can easily access the rules under which Wing is operating. While the Committee believes it would be helpful for Wing to detail this more clearly on their website, that is a commercial decision for them. While the ACT Government may not have jurisdiction over drone operations it is likely to be the first place the ACT community turns to looking for information. The Committee believes that Access Canberra could improve the information it provides to residents looking for information about drone operations. While Wing and federal agencies may be the appropriate places for feedback, the ACT Government should be sharing with the community information that it has been provided with.

Recommendation 1

2.41 The Committee recommends that Access Canberra increase the amount of information on its website about Wing operations, including a direct link to the CASA exemption (CASA EX40/19) and to the Commonwealth Department of Infrastructure, Transport, Cities and Regional Development's review of drone noise regulation.

³² CASA EX40/19, accessed on 26 June 2019 at <https://www.casa.gov.au/sites/default/files/casa-instrument-40-2019-remotely-piloted-aircraft-operation-approved-areas-of-canberra.pdf>.

3 ISSUES AND CONCERNS

- 3.1 Several concerns about the impact of drone delivery services have been brought to the Committee's attention. This chapter looks at each of these issues in turn. These concerns apply to both the Wing trial and drone delivery services generally. The Committee notes that issues that could be mitigated during a limited trial or operation could prove much more significant in an environment where there are multiple operators and/or a greatly increased frequency of drone flights.
- 3.2 A number of submitters who raised concerns stated that they were not opposed to all drone usage. Emergency deliveries, infrastructure maintenance, search and rescue, and fire surveillance were all mentioned as "appropriate" usage of drones.

SAFETY

- 3.3 Submitters raised concerns about what could happen if a drone fell on a child in a backyard or onto the roof of a house. Bonython Against Drones stated "If they want to test safety systems for drones, they should do it somewhere else right away from people."³³ They stated that:
- CASA has very stringent rules for anyone who wants to fly a drone. [. . .]. For this trial, CASA waved virtually all of those safety requirements. "Yes, you can bring in your drone hovering over people's heads." "Yes, you can fly at a low altitude." "Yes, you can do all these things." The only reason for this trial, and the only reason a delivery service can work, is if CASA approve a total rejection of the normal safety requirements that they have for drones. These rules were just waived for the trial.³⁴
- 3.4 CASA informed the Committee that in order for Wing to operate they required approvals from CASA. Wing was required to submit a safety case to CASA as part of the application process for these approvals. The safety case "included information relating to the reliability of the drones and the results of collision testing verified by an appropriately qualified third-party organisation."³⁵ Wing was also required to have a chief remote pilot who is qualified under the legislation and holds the appropriate approvals.³⁶
- 3.5 CASA provided an exemption to Wing for the Bonython trial (CASA EX82/18) and for its Mitchell operations (CASA EX40/19). These exemptions permitted Wing to operate its drones in some ways that would otherwise be prohibited, including in closer proximity to people. These exemptions were granted after assessing material submitted by Wing. The exemptions

³³ *Transcript of Evidence*, 6 March 2019, p. 4.

³⁴ *Transcript of Evidence*, 6 March 2019, pp. 6-7.

³⁵ *Submission 118*, Civil Aviation Safety Authority, 27 February 2019, p. 4.

³⁶ *Transcript of Evidence*, 13 March 2019, p. 78.

also place restrictions on Wing's operations, including hours of operations and prohibiting operations in certain conditions.

SAFETY "INCIDENTS" DURING WING TRIAL

- 3.6 The Committee was told by a number of submitters that there had been serious incidents with Wing drones. BAD told the Committee:

We have reported many incidents to CASA. There have been incidents we have on record of drones coming down in somebody else's driveways, a number of driveways, a number of places. Wing call those "controlled landings"; we call them "unplanned landings". If you want to be really uncharitable, it is a "controlled crash". [. . .] We have videos of the drones dropping a package on top of a car on a driveway and bouncing off on the driveway. We have people who have come home from a weekend away to find a splattered delivery box on their driveway. We have videos of magpies attacking the drones. There are many eyewitness accounts of birds, magpies, attacking the drones.

Apparently none of this is of any concern to CASA. They have given it a complete 100 per cent safety rating success.³⁷

- 3.7 Wing told the Committee that during the Bonython trial they had "No safety incidents, no injuries and no property damage."³⁸ Wing had extensively tested the drone to make sure they were "operating with the highest levels of safety". The drones had also been subject to rigorous CASA assessment.

- 3.8 Regarding birdstrike, the CEO of Wing noted that they had heard comments about this and viewed video of swooping magpies but that they had "no records or direct observations of actual striking of a bird, and that is inclusive of looking at all of our flight log data from the aircraft performance to see that it was not disturbed by some foreign object."³⁹

- 3.9 Regarding the claim of a package striking a vehicle during delivery, the CEO of Wing told the Committee:

That is a case where we believe a customer had parked a car where they do not typically park it. The drone was delivered to the requested spot and the package contacted the vehicle. The package is lowered very slowly—we have one of the cover packages there—and there was no damage or concern whatsoever.⁴⁰

- 3.10 Regarding unplanned landings the CEO of Wing told the Committee:

³⁷ *Transcript of Evidence*, 6 March 2019, p. 4.

³⁸ *Transcript of Evidence*, 6 March 2019, p. 44.

³⁹ *Transcript of Evidence*, 6 March 2019, p. 44.

⁴⁰ *Transcript of Evidence*, 6 March 2019, p. 44.

There have been a few instances of aircraft taking contingency landings where, for various reasons—and I am happy to go into them—they determine that it is safer for them to land safely than to proceed on their mission. That is a case where they operate as intended. They are programmed to take that action for safety.⁴¹

- 3.11 The Committee was further informed that the majority of contingency landings were caused by high winds and that Wing had set very conservative limits which meant that the drones landed safely before they reached their maximum wind tolerance.⁴²

COMMITTEE COMMENT

- 3.12 Judging by the content of submissions received, the Committee believes that there is a lack of understanding in the community of the safety requirements placed upon Wing during its operations. The standard for drones operating in Australia is for activity within 30m of people other than the operator to be prohibited. A number of submissions suggested that, because Wing had been granted an exemption from this requirement, its operations were inherently unsafe. This fails to appreciate the difference between a rule intended to apply to drones generally, where there can be huge variance in drone design and levels of operator experience, and regulation of an activity where the regulator has detailed information on the drone and those operating it.
- 3.13 The Committee sees no evidence to suggest that CASA has not taken seriously its role as a regulator with safety as its primary consideration. Drone operation is not, and cannot be, 100 per cent safe but this is not a standard we demand in other areas of our society. Wing has pointed to the significant risk to health posed by land transport.
- 3.14 The Committee is confident that CASA has taken steps to assure itself that the risks posed by drone delivery operations are minimised. The Committee notes that it would be difficult at this stage to permit multiple providers to operate drone delivery services due to the lack of current agreed unmanned traffic management system. Without such software the risk posed by multiple drones providers sharing airspace is likely to be too great. The Committee notes that Wing and others are working on developing airspace management systems for RPAS and regulators are looking at whether they could be integrated with existing airspace management systems.

⁴¹ *Transcript of Evidence*, 6 March 2019, p. 44.

⁴² *Transcript of Evidence*, 6 March 2019, p. 44.

NOISE

- 3.15 The noise emitted by the Wing drones differs depending on whether it is flying or hovering. Submitters and witnesses likened the noise of a Wing drone passing overhead to that of a Formula One racing car.⁴³ While some members of the public clearly found both sounds to be objectionable, the sound during hovering was considered to be particularly piercing and intrusive.
- 3.16 It was noted that the noise impact differed greatly depending on where a residence was located in relation to Wing's base of operations. While a resident may be disturbed by a single neighbour's drone delivery, a resident living under a flight path would have the noise of multiple deliveries every day of operations.⁴⁴
- 3.17 Among submitters who objected to the noise could be found the following descriptors and comments:

extremely aggravating⁴⁵

sound like an F1 car a couple of blocks away. The sound is not like traffic or lawn mowers and has no regular pattern. The noise can be heard from inside my home and cannot be easily blocked.⁴⁶

The noise of the drones is a high pitched whine that can be heard inside a house (with windows shut) and the noise is especially loud at the point of goods delivery when the goods are lowered to ground.⁴⁷

the whine of a dentist's drill overhead while enjoying the solitude of the bush⁴⁸

noise precludes all conversation and is indescribably piercing and stressful⁴⁹

The screaming noise as the drone hovered while delivering the goods was terrible.⁵⁰

The noise of street traffic in the suburbs is largely buffered by buildings and vegetation. The same sound 30 or 50 metres in the air carries to a much greater degree.⁵¹

Sounds like an extremely loud, angry, squealing vacuum cleaner⁵²

a high pitched, strong motorised noise, with a loud howling noise that is haunting⁵³

⁴³ *Transcript of Evidence*, 6 March 2019, p. 12.

⁴⁴ *Transcript of Evidence*, 6 March 2019, p. 12, *Submission 11*, Wilson, 7 February 2019, p. 1.

⁴⁵ *Submission 02*, Ryan, 7 February 2019.

⁴⁶ *Submission 09*, Wilson, 7 February 2019.

⁴⁷ *Submission 11*, Wilson, 7 February 2019, p. 1.

⁴⁸ *Submission 18*, Warren, 7 February 2019.

⁴⁹ *Submission 25*, Boettcher, 7 February 2019.

⁵⁰ *Submission 71*, Meekin, 27 February 2019.

⁵¹ *Submission 84*, Blount, 27 February 2019.

⁵² *Submission 89*, Vincent, 27 February 2019, p. 2..

⁵³ *Submission 127*, Kolak, 27 February 2019.

3.18 Other submitters, fewer in number, suggested that the noise was not particularly significant:

The noise is actually less than 20 seconds if you have a delivery and if the drone is going to another neighbor it's less than 12 seconds. The noise from the construction sites of Tuggeranong are far more disturbing.⁵⁴

They travel so high in the air and so quickly you barely even notice they were there until they have passed overhead.⁵⁵

I did not find the drones to be any more intrusive than a lawn mower or motorbike. Yes, the sound is a different pitch than we are accustomed to in the past, but after a day or two I did not notice it any more. Inside the house I found I didn't hear it at all. I believe that like any new technology, it simply takes time for people to adjust.⁵⁶

The noise disturbance in my opinion is extremely minimal and is no different to many neighborhood noises we become accustomed to in suburban living.⁵⁷

We were surprised at how quickly the drone noise became more like white noise, unless you were specifically listening out for it.⁵⁸

3.19 Wing informed the Committee that 91 per cent of the critical feedback it received from the Bonython trial was related to noise. Wing looked to address that by making the drone quieter and by distributed flight routes so the noise impact was not concentrated in one area.⁵⁹

3.20 Wing had a third party consulting firm measure the noise emitting from drones with a reading of 62 decibels measured at 25 metres, which Wing considered to be the typical distance to an adjoining yard during a delivery. Following complaints about noise, Wing researched ways of reducing the noise from its drones. The drones operating from Mitchell have been measured at 55 decibels when hovering.⁶⁰

3.21 Wing acknowledged that while this level of noise might be comparable to road traffic and other environmental noise:

it is a unique sound and it really draws attention. It is an unknown, unexperienced type of frequency. In that specific frequency, with the higher pitch that really gets people's attention, we see a 10 to 12 decibel reduction with the new aircraft that really focuses on not just being quieter but also having a more pleasing tone that is at a lower frequency and that blends in with the background noise more readily.⁶¹

⁵⁴ *Submission 04*, Irene Clarke, 7 February 2019, see also *Submission 53*, Ruscinski-Stanek, 27 February 2019.

⁵⁵ *Submission 64*, Mele, 27 February 2019.

⁵⁶ *Submission 68*, Name withheld, 27 February 2019.

⁵⁷ *Submission 69*, Saint, 27 February 2019, p. 1.

⁵⁸ *Submission 85*, Name withheld, 27 February 2019.

⁵⁹ *Transcript of Evidence*, 6 March 2019, p. 43.

⁶⁰ *Transcript of Evidence*, 6 March 2019, p. 43.

⁶¹ *Transcript of Evidence*, 6 March 2019, p. 43.

- 3.22 The ACT Government told the Committee that noise had been considered in issuing the licences to use unleased territory land:

EPSDD also considered Wing's proposed business model against ACT noise limits detailed in Schedule 2 of the Environment Protection Regulation 2005 and contemporary research on the potential impacts of drone use on wildlife. This assessment led to the inclusion of a licence requirement that limits Wing's activities to between 7am- 8pm Monday to Saturday and 8am-8pm Sunday and Public Holidays⁶²

- 3.23 The ACT's *Environment Protection Act 2005* excludes aircraft noise from its noise limits and standards as aircraft noise is regulated under the Commonwealth *Air Navigation Act 1920*.⁶³ The ACT Government notes that the decibel levels reported by Wing for its drones are comparable to other permitted urban/suburban noises including idling trucks, lawnmowers and other garden maintenance equipment.⁶⁴

- 3.24 BAD noted the problem of there being no clear regulatory oversight of drone noise:

The EPA exempts drones. CASA is not responsible for noise. Airservices Australia is not responsible for noise. There is no-one responsible for the noise. We had to go back to Wing, the very company that did it.⁶⁵

COMMITTEE COMMENT

- 3.25 The Committee has heard both the older drone and the newer drone in operation. The Committee has considerable sympathy for those that found the hovering noise in particular to be annoying and intrusive. The Committee notes that Wing recognised that noise was the single largest source of negative feedback during the trial and modified its drone. The Committee considers that the hovering noise of the drone to be used in Mitchell is significantly less intrusive and annoying but does not believe that the noise will be readily accepted by all in the community.
- 3.26 The Committee believes that drone noise is the single biggest obstacle to community acceptance of drone delivery services. It is a reasonable expectation that the community will adapt to occasional commercial drone noise due to activities such as infrastructure inspection or fire prevention. The Committee believes that there are substantially larger questions when the activity is planned to be frequent as would be the case with any drone delivery service.
- 3.27 The Committee notes that a review of RPAS noise is intended by the Commonwealth and discusses this further in the following chapter.

⁶² *Submission 83*, ACT Government, 27 February 2019, p. 4.

⁶³ *Submission 83*, ACT Government, 27 February 2019, p. 9.

⁶⁴ *Submission 83*, ACT Government, 27 February 2019, p. 11.

⁶⁵ *Transcript of Evidence*, 6 March 2019, p. 8.

PRIVACY

- 3.28 Submitters raised concerns about a loss of privacy for people caused by delivery drone oversight. These concerns related to both images being captured and the way in which such information could be used or stored after capture. BAD told the Committee before we allow drones to operate “we need legislation about privacy and about what happens to the footage, at the very least.”⁶⁶
- 3.29 Submitters raised concerns about abusive partners and other people with ill intent using drones to spy on people. A common concern was that the average person may be unable to differentiate between a legitimate commercial drone and one being used by a potential criminal.⁶⁷
- 3.30 The Tuggeranong Dog Training Club, which was frequently overflowed during the Bonython trial told the Committee:

No permission was sought to take images and of course as a corporate entity we cannot give permission on behalf of our members to have their image taken. We are concerned about that. Why were the images taken? What is done with the images? Who viewed them? How are they stored? Are they securely stored? Who owns them? Can they be on-sold? Et cetera! On all of this we have no idea, and we never got a satisfactory response. And, most importantly, is there some sort of independent oversight as to what is done with that data?⁶⁸

- 3.31 Wing told the Committee that they complied with all applicable Australian privacy laws and the Australian privacy principles. They also have a published privacy policy. Regarding the nature of images collecting Wing stated:

Unlike recreational drones, Wing’s delivery drones use cameras for safety purposes to navigate in the event GPS is unavailable. In the unlikely event that GPS is unavailable, the drone on-board camera navigation system compares images frame by frame to determine how fast and in what direction the drone is moving, providing a backup navigational reference. The camera is downward facing and collects low resolution, greyscale still-images of the ground or ground features. This process is computed on the drone in real-time without transmitting any images back to the human pilots.⁶⁹

- 3.32 Wing’s submission continued:

After flight, images are transmitted electronically to Wing’s servers in the United States using secure protocols and deleted from the drone. Images are stored on secure

⁶⁶ *Transcript of Evidence*, 6 March 2019, p. 6.

⁶⁷ See for example, *Submission 22*, Peddle, 7 February 2019 or *Submission 40*, Weatherly, 27 February 2019.

⁶⁸ *Transcript of Evidence*, 6 March 2019, p. 25.

⁶⁹ *Submission 124*, Wing, 27 February 2019, p. 7.

servers, and can only be accessed on an “as-needed” basis by a small group of Wing software engineers with access permissions, all of whom are bound by strict confidentiality obligations. The flight data and images are reviewed in the event of an error or incident during flight, and also debugging, safety and system improvements. Access to the images is monitored and audited.⁷⁰

- 3.33 The ACT Government submission stated that the licences issued during the trial to allow Wing to use unleased territory land required Wing to comply with the Commonwealth’s *Privacy Act 1988*.⁷¹

COMMITTEE COMMENT

- 3.34 The Committee notes that there are existing criminal offences that would govern certain intrusive use of drones. For example, section 35 of the *Crimes Act 1900* covers the offence of stalking and drone usage would be caught by those provisions in certain circumstances, including in cases where the drones were being used by an abusive ex-domestic partner. The recently announced requirements for drone registration will assist law enforcement in dealing with such serious cases.
- 3.35 The Committee notes the evidence from Wing about the nature of the cameras used on their drones and the images they take. These are low resolution images used for navigation and provide a less clear image of a backyard than that freely available on online satellite imagery sites. People in the images are not identifiable. The images are retained for a limited period to assist in reviewing the operation of the drones. The Committee does not believe that the drones as currently operating are a breach of privacy in terms of collecting personal information.
- 3.36 The Committee is concerned, however, that this is only because Wing has chosen to outfit its drones in this way. Were Wing, or any other operator, to decide that there was a commercial imperative to collect higher resolution images it is not at all clear that current Territory or Commonwealth laws would prevent them from doing so.
- 3.37 The Committee notes Wing’s privacy policy but also notes that it primarily applies to those making use of the delivery service. Drones are capable of capturing information from a significant number of non-users who have no contractual relationship with the drone service provider. While the Committee notes Wing’s expressions of goodwill in this area, the Committee does not believe relying on individual company goodwill is a sustainable basis to address the privacy concerns of non-users. The Committee recommends that the ACT

⁷⁰ *Submission 124*, Wing, 27 February 2019, p. 10.

⁷¹ *Submission 83*, ACT Government, 27 February 2019, p. 4.

Government, in conjunction with Commonwealth authorities, examine whether legislative change is needed in this area.

Recommendation 2

3.38 The Committee recommends that the ACT Government provide information to the Australian Information Privacy Commissioner to assist her in considering the benefits of, or need to place restrictions on, the collection by commercial delivery drones of the personal information of non-users.

DOMESTIC ANIMALS

3.39 Submissions raised concerns about the impact of drone noise and movement on domestic animals. Feedback from the Royalla trial suggested horses were reacting to the drones and residents in Bonython reported dogs reacting to drone operations.

3.40 The ACT Equestrian Association informed the Committee that, as prey animals, horses are “extraordinarily sensitive to noise” and have a very high hearing rate meaning that “no drone is ever silent enough for a horse”.⁷² Similarly, the Tuggeranong Dog Training Club stated that sound is:

incredibly important to dogs—they hear about four times the distance that we do—they will hear a drone or a sound entity coming four times further away than we do. And their frequency of hearing goes up to about 45,000 hertz; so they hear much more”.⁷³

3.41 BAD told the Committee:

Dogs have such sensitive hearing. The dogs around my neighbourhood would start barking before I even knew there was a drone in the area. I have had reports of dogs becoming psychotic when drones were around. One neighbour was scared that the dog, in his anxiety, was going to knock down the fence and take off. He destroyed her backyard by jumping around.⁷⁴

3.42 The ACT Equestrian Association noted that Wing had spoken to them and taken away maps of horse trails so that they were aware of where they were. The Association said that even if Wing undertook to avoid these areas, that would not be a solution when the technology is

⁷² *Transcript of Evidence*, 6 March 2019, p. 21.

⁷³ *Transcript of Evidence*, 6 March 2019, p. 23.

⁷⁴ *Transcript of Evidence*, 6 March 2019, p. 11.

advanced and multiple different companies provide drone delivery services. Some kind of overarching framework is required.⁷⁵

- 3.43 The ACT Equestrian Association suggested that there was no way that drones and domestic animals, with their heightened sense of hearing, could be compatible. While noise is the dominant impact, witnesses also noted that the sight of drones was also likely to trigger a reaction from domestic animals.⁷⁶

COMMITTEE COMMENT

- 3.44 The Committee raised the impact other urban environmental noises, such as road noise and construction noise, could have on domestic animals and this was acknowledged by witnesses.⁷⁷ The Committee accepts that some domestic animals will react strongly to drone noise but notes that there are a wide variety of urban noises that can trigger domestic animals.
- 3.45 The Committee would draw a distinction between domestic animals in residential property and those in training facilities and other specialised animal areas. Drone overflight of animal training facilities, animal shelters, racecourses, stables and other animal facilities should be avoided. The Committee notes Wing's efforts to identify such areas of particular sensitivity but again believes that relying on company goodwill is not a sustainable approach moving forward.
- 3.46 The Committee believes that there are certain areas that are not suitable for drone overflight. This has been accepted for issues of safety and public security (for example banning overflights over prisons) but there are other community sensitivities to be taken into account. In addition to facilities for domestic animals the Committee believes that places of worship, cemeteries and some health care facilities may also be subject to a community expectation around noise and overflight. The Committee looks at jurisdictional issues for possible "no drone zones" in the following chapter.

WILDLIFE

- 3.47 BAD expressed concern about the lack of studies on the impact upon wildlife, particularly given Canberra's status as the bush capital and associated high levels of wildlife.⁷⁸ Submitters raised concerns about birds and drones coming into contact as well as birds and other wildlife being disrupted or startled by drone noise and activity, causing them to injure themselves or simply to vacate the area.

⁷⁵ *Transcript of Evidence*, 6 March 2019, p. 23.

⁷⁶ *Transcript of Evidence*, 6 March 2019, p. 31.

⁷⁷ *Transcript of Evidence*, 6 March 2019, p. 31.

⁷⁸ *Transcript of Evidence*, 6 March 2019, p. 11.

3.48 Numerous submitters supplied anecdotal reports of a reduction in birdlife in their backyards or in neighbouring nature reserves during the Bonython trial. One submitter with experience operating commercial drones noted that drone activity tended to drive smaller birds away and could cause larger birds to act aggressively towards the drone.⁷⁹ Other submitters suggested that they had noticed no change in wildlife numbers.⁸⁰

3.49 Wing pointed out that ground-based traffic has a significant detrimental impact on wildlife and moving some traffic to the air could reduce this. Wing engaged a third-party provider to do a study on birdlife and are also in talks with the Canberra ornithological society.⁸¹

3.50 The ACT Government acknowledge the lack of research in this area.

The impact on native birds was identified by EPSDD as a potential risk early in the development of a Section 303 licence to use land in Greenway. As part of licence negotiation, Wing agreed to engage a local consultant (NGH Environmental) to undertake research into the potential impact of their services and identify strategies to mitigate that impact. Wing has shared this research with the ACT Government and EPSDD ecologists have provided comment on this analysis.⁸²

3.51 The Committee understands that this report will be released under the *Freedom of Information Act 2016*.

COMMITTEE COMMENT

3.52 The Committee notes the possible tension between green spaces inhabited by wildlife and residences when it comes to flight paths. In response to residents' feedback, Wing adjusted its flight paths to try and lessen the noise impact on certain residences. The anecdotal evidence suggests this increased the flight time over Bonython green space, thereby potentially disrupting wildlife and residents making use of the space.

3.53 There is not, at this point, clear evidence on the impact of regular drone delivery flights on wildlife. It would appear that there is currently an opportunity to gather solid data on the wildlife impacts. Wing is gradually expanding its operations in Gungahlin suburbs. An independent survey of wildlife numbers and behaviour in a suburb prior to drone delivery operations and a subsequent comparative survey after the commencement of operations would provide some clarity on this issue.

⁷⁹ *Submission 76*, Name withheld, 27 February 2019, p. 5.

⁸⁰ *Submission 85*, Name withheld, 27 February 2019.

⁸¹ *Transcript of Evidence*, 6 March 2019, p. 47.

⁸² *Submission 83*, ACT Government, 27 February 2019, p. 12.

Recommendation 3

3.54 The Committee recommends that the ACT Government and Wing collaborate to establish an independent comparative survey of wildlife numbers and behaviour in a suburb prior to, then following the commencement of, drone delivery operations.

4 THE REGULATORY ENVIRONMENT

- 4.1 The Commonwealth's Department of Infrastructure, Transport, Cities and Regional Development (the Department) administers aviation statutes and regulation. Importantly, the Department retains all powers under the legislation that are not clearly delegated to other bodies, such as CASA and Airservices.
- 4.2 Aircraft and airspace regulation in Australia, including the regulation of RPAS, is governed by the *Civil Aviation Act 1988* (the Act) and the Civil Aviation Safety Regulations 1998 (CASR). This federal act and these regulations are administered by the Commonwealth's Department of Infrastructure, Transport, Cities and Regional Development.
- 4.3 Since 2002 RPA (and all unmanned aeronautical activities including balloons, kites, model aircraft and fireworks) have been regulated by CASR Part 101.
- 4.4 CASA's submission stated that:
- Part 101 was substantially amended in 2016 to, amongst other things:
- reflect evolving international regulatory developments and terminology; and
 - introduce an 'excluded category' of operations to reduce red tape associated with the commercial operation of smaller, lower risk RPA.
- In October 2017, CASA issued a direction on the operation of certain unmanned aircraft to clarify aspects of the existing regulation and to enhance the safety regulation of RPA operations (<https://www.legislation.gov.au/Details/F2017L01370>). This legislative instrument gives directions on the operation of certain unmanned aircraft in the interests of safety, particularly in relation to the operation of unmanned aircraft in the area of emergency operations, near aerodromes and near people not associated with the operation of the aircraft.⁸³
- 4.5 The Senate Standing Committee on Rural and Regional Affairs tabled a report in July 2018 titled *Regulatory Requirements that impact on the safe use of Remotely Piloted Aircraft Systems (RPAS), Unmanned Aerial Systems and associated systems*. This report made 10 recommendations, including for a whole of government approach with improved coordination between agencies and for the establishment of a registration scheme for RPA. The report recognised a need for the harmonisation of federal, state and territory approaches on issues such as privacy and enforcement action.
- 4.6 During the course of the inquiry, CASA announced that it would be introducing compulsory registration for drones more than 250 grams operated recreationally and all drones operated

⁸³ *Submission 118*, CASA, p. 2

commercially regardless of weight. While the scheme is still being finalised key parts of the proposal include:

- flyers under 16 years of age need to be supervised by someone 18 or older who is accredited
- accreditation will be an online education course to make sure you know the rules - basically, watching video and answering a quiz
- registration for recreational flyers will be less than \$20
- for commercial flyers registration is likely to be from \$100 to \$160 per drone.⁸⁴

AIRSERVICES AUSTRALIA

4.7 In 1995 Civil Aviation Australia was split into two bodies: Airservices Australia and CASA. Airservices Australia, a government-owner organisation, states that it is:

Australia's air navigation service provider. We exist to provide safe, secure, efficient, and environmentally-responsible air navigation and aviation rescue fire fighting services to the aviation industry.⁸⁵

4.8 In regards to RPAS Airservices Australia informed the Committee that:

Airservices is responsible, under certain conditions, for assessing RPAS applications received from CASA and determining whether access is approved and whether any conditions need to be imposed. We assess applications when operations will occur within three nautical miles (approximately 5.5 kilometers) of an aerodrome with an air traffic control tower and for all operations above 400 feet above ground level in controlled airspace (airspace managed by air traffic controllers which requires an air traffic control clearance to enter). However, Airservices has no powers to restrict aircraft flights (including RPAS) outside controlled airspace.⁸⁶

4.9 Airservices Australia told the Committee that it had no regulatory powers to establish maximum noise levels or enforce compliance related to aircraft noise. They stated that there are currently no federal noise regulations pertaining to RPAS.⁸⁷ The Bonython trial occurred outside controlled airspace, beyond three nautical miles of Canberra Airport at altitudes below 400 feet and did not require Airservices authorisation.⁸⁸

⁸⁴ "Drone registration and accreditation scheme – update" dated 28 March 2019, accessed at <https://www.casa.gov.au/about-us/news-article/drone-registration-and-accreditation-scheme-update> on 19 June 2019.

⁸⁵ *Submission 07*, Airservices Australia, p. 1.

⁸⁶ *Submission 07*, Airservices Australia, p. 2.

⁸⁷ *Submission 07*, Airservices Australia, p. 2.

⁸⁸ *Submission 07*, Airservices Australia, p. 2.

- 4.10 CASA stated that Airservices do have a remit to deal with the decibels levels of aircraft noise but at this stage they were equipped to look at conventional aircraft not drones.

They tend to limit their concern [...] to controlled airspace, the airspace in which they have responsibilities for directing traffic and separating traffic. Considering the fact that virtually all of the traffic we are talking about in this context operates below the level of controlled aircraft operations, they would not have had that experience or probably that level of organisational orientation.⁸⁹

CIVIL AVIATION SAFETY AUTHORITY (CASA)

- 4.11 CASA has the function of conducting the safety regulation of civil air operations in Australian territory and the operation of Australian aircraft outside Australian territory.⁹⁰ In exercising its powers and performing its functions, CASA must regard the safety of air navigation as the most important consideration. Subject to this, CASA must exercise its powers and perform its functions in a manner that ensures that, as far as is practicable, the environment is protected from the effects of the operation and use of aircraft; and the effects associated with the operation and use of aircraft.⁹¹

- 4.12 CASA set out in its submission the international risk assessment methodology it uses to assess any given RPAS operation. CASA uses this methodology where the traditional approach to aircraft certification may not be appropriate.⁹²

- 4.13 CASA informed the Committee that:

there are two ways of operating commercially in Australia. We have a basic framework, which we call “excluded RPA”. They are for smaller, less complex operations along the lines of, let us say, a real estate agent taking photos. For the likes of Wing, they have a remote pilot aircraft operating certificate and there is a robust process they must go through in order to obtain that.⁹³

- 4.14 At the time of CASA’s appearance before the Committee there were over 1,500 commercial operators in Australia that held a RPA operating certificate.⁹⁴

- 4.15 Regarding noise CASA told the Committee:

Airservices Australia primarily has responsibility for the noise impact of the operation of aircraft. Technically, drones are aircraft, but as a practical matter the aircraft with

⁸⁹ *Transcript of Evidence*, 13 March 2019, pp. 81-82.

⁹⁰ *Civil Aviation Act 1988*, s. 9.

⁹¹ *Civil Aviation Act 1988*, s. 9A.

⁹² *Submission 118*, CASA, pp. 3-4.

⁹³ *Transcript of Evidence*, 13 March 2019, p. 78.

⁹⁴ *Transcript of Evidence*, 13 March 2019, p. 78.

which Airservices is accustomed to dealing are conventional aircraft. State and local authorities, as you have heard today certainly, have a considerable degree of authority when it comes to managing conduct that has an impact on the environment in terms of noise.⁹⁵

- 4.16 With regards to Wing’s operations, CASA used a risk assessment methodology to look at the safety aspects of the operation. CASA also looked to fulfil its environmental considerations under s9A of the Act by gathering information from Wing about noise, looking at the ACT Government’s noise thresholds.⁹⁶ CASA stated that they do not have a framework to look at noise issues but recognised the need to impose some limitations:

We used a document that is put out by the ACT government. It is titled “Noise in residential areas”. That provides some details around the times of day and days of the week that operations can occur. We used that to formulate part of our exemption process, specifically authorising certain parts of the Bonython trial. Whilst we did not use the decibels or set particular noise limits, we used the time limitations of the ACT government document to formulate part of our exemption.⁹⁷

- 4.17 Regarding CASA’s ability to act on noise issues they stated:

as part of our duty to take into account environmental considerations to the extent practicable [...] credible authoritative advice from a state or territorial government about environmental impacts would be something we could—and I would suggest under our legislation we would have an obligation to—take into account.⁹⁸

- 4.18 CASA acknowledged the broader issues of drone regulation and said it was participating in international and domestic discussions on possible regulatory approaches. It also noted that:

CASA, as the regulator, is very cautious, appropriately so, about not overreaching our mandate. In many other regulations—we work in many other parts of the aviation sector—people are concerned that we are overstepping and encroaching, perhaps doing too much and doing things not in our remit.⁹⁹

ACT GOVERNMENT

- 4.19 The ACT Government provided the following overview of its power to regulate:

The Commonwealth Government has exclusive power to regulate drones. It also has exclusive power to regulate activity associated with postal delivery services. Where a

⁹⁵ *Transcript of Evidence*, 13 March 2019, p. 79.

⁹⁶ *Submission 118*, CASA, p. 4.

⁹⁷ *Transcript of Evidence*, 13 March 2019, p. 81.

⁹⁸ *Transcript of Evidence*, 13 March 2019, p. 81.

⁹⁹ *Transcript of Evidence*, 13 March 2019, p. 82.

Commonwealth law is identified as presenting a complete statement of the law, sometimes expressed as 'covering the field', the power to legislate is the exclusive power of the Commonwealth with respect to that topic. This means that ACT laws must be capable of operating alongside any relevant Commonwealth law to have legal effect, and must not seek to legislate on an area which the Constitution provides as a head of legislative power for the Australian Parliament.

Some areas of ACT law apply to drone delivery, as they would apply to any other activity in the ACT, these include: aspects of workplace safety law, fair trading, criminal law, and tort law. The ACT Legislative Assembly does not have the legal ability to provide a comprehensive, targeted regulatory response to drone delivery.¹⁰⁰

4.20 The ACT Government noted the Commonwealth's exclusive power to legislate in matters of in flight safety.¹⁰¹ The Commonwealth's power to makes laws related to "postal, telegraphic, telephonic, and other like services" was also cited as being possibly relevant to drone delivery services.¹⁰² The ACT Government notes that drone operators in the ACT are subject to a range of ACT legislation including planning and land use laws, criminal law and tort law. The *Work Health and Safety Act 2011* governs workers at commercial drone operations.

4.21 Noise abatement was one area the ACT Government acknowledged it could take a further look at but stressed that its ability to act was likely very limited.¹⁰³

4.22 In answer to questions about the use of planning laws to regulate drone activity the Committee was told:

the planning regime is very good at locating businesses and commercial centres, but we do not build in, say, a quality control of the coffee. We zone where coffee shops should be, and we approve the building of a coffee shop. We do not then take that extra step and use a land and planning regime to further regulate businesses. The current planning regulation is not set up to regulate the drone delivery business. That is, I suppose, one angle, but I am not sure that it would be a successful angle to regulate a drone business by a land and planning framework.¹⁰⁴

JURISDICTIONAL ISSUES

4.23 In February 2019 the High Court of Australia released its judgment in the case *Work Health Authority v Outback Ballooning Pty Ltd*.¹⁰⁵ The case concerned an incident where a passenger

¹⁰⁰ *Submission 83*, ACT Government, 27 February 2019, p. 6.

¹⁰¹ *Submission 83*, ACT Government, 27 February 2019, pp. 6-7.

¹⁰² *Submission 83*, ACT Government, 27 February 2019, pp. 7-8.

¹⁰³ *Transcript of Evidence*, 13 March 2019, p. 61.

¹⁰⁴ *Transcript of Evidence*, 13 March 2019, p. 70.

¹⁰⁵ *Work Health Authority v Outback Ballooning Pty Ltd* [2019] HCA 2.

of a hot air balloon was fatally injured when her scarf became entangled in balloon's fan during boarding. The question before the court was whether Northern Territory authorities could take action against the balloon operator under Territory workplace safety legislation or whether the Commonwealth's exclusive jurisdiction on aviation matters precluded any role for the Territory.

4.24 The ACT Government's Solicitor's office was of the view that the decision was:

unfortunately it was not as helpful as we would have liked and has just reinforced the position, which is generally that the commonwealth will have scope. There is a possibility of the states and territories having some role but it is very limited and will be decided on a case-by-case basis.¹⁰⁶

4.25 CASA told the Committee that they shared the concerns of the ACT Government:

about the implications of the decision of the High Court only a month ago, but one element that did come out of that decision was that—whereas before that decision was handed down the assumption was that state and territory authorities could make no laws whatsoever in any area that impacted on the operation of aircraft, in terms of safety and otherwise, because it was an area exclusively reserved for the commonwealth government—the High Court decision last month made it clear that that is not an exclusive jurisdiction, that there can be concurrent jurisdiction but the parameters of that concurrent jurisdiction remain to be articulated because there can be no direct inconsistency with commonwealth law.¹⁰⁷

4.26 CASA suggested that one of the implications of the High Court decision is that, while there would need to be national coordination, “there can and should be space for state and territory governments to do the kinds of things that they are better able to do, as long as they do not conflict with safety-related considerations.”¹⁰⁸ CASA noted that they are not now, nor reasonably could be in the near future, in a position to deal with the day to day control and management expectations of a community being served by commercial drone services. State and Territory governments are better suited to that role.¹⁰⁹

¹⁰⁶ *Transcript of Evidence*, 13 March 2019, p. 62.

¹⁰⁷ *Transcript of Evidence*, 13 March 2019, p. 79.

¹⁰⁸ *Transcript of Evidence*, 13 March 2019, p. 87.

¹⁰⁹ *Transcript of Evidence*, 13 March 2019, p. 87.

DEPARTMENT OF INFRASTRUCTURE, TRANSPORT, CITIES AND REGIONAL DEVELOPMENT AND THE REVIEW OF DRONE NOISE REGULATION

- 4.27 Following public hearings, BAD wrote to the Committee setting out an argument that the *Air Navigation (Aircraft Noise) Regulations 2018* applied to commercial drone operations unless specifically exempted. In brief, the regulations required that aircraft (including RPAS) either have noise certification or written approval from the Secretary of the Department. Noise certification is a complex process intended to verify the noise of large aircraft and is the process commercial passenger aircraft would undertake before flying in Australia. BAD noted that there was no evidence that a written exemption had been granted at any point (and questioned whether the Secretary actually had the discretion to issue one given the noise impact of Wing's drones) and therefore that all of Wing's operations to date had not been in compliance with regulations.
- 4.28 The Committee reviewed BAD's argument and found it to be logical and comprehensively put. The Committee's role is not, however, to interpret federal legislation and so it agreed to seek clarification from the Department.
- 4.29 The Committee had not received evidence from the Department nor did it expect to, as the Department is answerable to the federal Minister. However, in light of BAD's correspondence, the Committee wrote to the Minister for Infrastructure, Transport, Cities and Regional Development, the Hon. Michael McCormack MP, to ask about the application of the *Air Navigation (Aircraft Noise) Regulations 2018* to RPAS, including the Wing operation. The Committee did not request specific action but sought clarification of the Department's understanding of the laws it administered.
- 4.30 While the Committee was awaiting a response to its letter, during the drafting of this report the Department placed a statement on its website that includes the following:
- Until recently the department was of the view that the Air Navigation (Aircraft Noise) Regulations 2018 (the Regulations) did not apply to drones, and that approvals under the Regulations were intended for vintage, adventure, ex-military and other historical aircraft operations for which noise standards do not apply.
- However, having regard to representations from the community and the Australian Capital Territory (ACT) Standing Committee on Economic Development and Tourism, the Department has examined carefully the applicability of the Regulations to drone operations.

The outcome of that consideration is that the department has formed the view that a range of commercial and recreational drone operations within Australia require approvals under section 17 of the Regulations.¹¹⁰

- 4.31 The Department went on to state that it would not be taking enforcement action against past commercial drone operators given “past lack of clarity about the operation of the Regulations”. Regarding future and current operations the Department stated that it would undertake:

a review to determine the appropriate scope and breadth of future noise regulation.

The review will consider the community noise impact of drone operations, the size, frequency and nature of drone operations (recreational and commercial), and existing safety regulations administered by the Civil Aviation Safety Authority (CASA).

The review will examine State and Territory regulations that commonly cover noise from equipment operating in urban environments.

The review will also look at developments overseas and industry innovation to reduce noise impacts through better drone design and operations including varying flight paths.¹¹¹

- 4.32 The Department states that it will “focus its regulatory resources on those commercial operators that propose to operate in residential areas and that have exemptions from the CASA”.¹¹² The Committee assumes this will cover Wing’s current operations from Mitchell.

- 4.33 The Committee subsequently received correspondence from the Minister for Infrastructure, Transport, Cities and Regional Development which provided similar information to that on the Department’s website. That correspondence is attached as Appendix D.

COMMITTEE COMMENT

- 4.34 The Committee welcomes this departmental review as the evidence before it provided a concerning picture of a lack of regulatory oversight of the most significant concern raised by residents. As the only body with clear authority over RPAS noise it is important that the Department determines what standards will apply. The Committee also welcomes the indication from the Department that it will take into account existing Territory standards.
- 4.35 The Committee notes that this outcome is the result of considerable work by BAD. Without BAD’s intervention it is likely that federal authorities would have continued to misinterpret the

¹¹⁰ https://www.infrastructure.gov.au/aviation/environmental/aircraft-noise/noise_regulation_for_rpa_drones.aspx accessed 19 June 2019.

¹¹¹ https://www.infrastructure.gov.au/aviation/environmental/aircraft-noise/noise_regulation_for_rpa_drones.aspx accessed 19 June 2019.

¹¹² https://www.infrastructure.gov.au/aviation/environmental/aircraft-noise/noise_regulation_for_rpa_drones.aspx accessed 19 June 2019.

relevant legislation. The Committee was intending to make recommendations that the ACT Government make urgent representations to the federal Government about the need for noise control for drones but recognised that this sort of inter-governmental process could take considerable time. With the Department now aware of its role in regulating drone noise there is now a clear avenue for community concern about the noise of drone delivery services to be addressed.

- 4.36 No other Australian jurisdiction has experienced a drone delivery trial in a residential area. The Committee would expect the ACT Government to actively engage with the review, drawing on its experience and the considerable feedback provided to this Committee and directly to the government. The aim of the review is to create a workable framework for regulating drone noise, an aim that the ACT community clearly supports.
- 4.37 Shortly before finalising this report the Committee received a letter from Mr Gordon Ramsay MLA, Minister for Business and Regulatory Services (see Appendix C). The Minister noted the announcement of the Department's review and informed the Committee that:

The ACT Government will be providing a comprehensive submission to the Commonwealth Drones Inquiry once the terms of reference and invitation to submit have been provided.

Recommendation 4

- 4.38 The Committee recommends that the ACT Government proactively engage with the Commonwealth Department of Infrastructure, Transport, Cities and Regional Development's review, drawing on the experience of the ACT community in drone delivery trials.**

FUTURE REGULATION

- 4.39 In addition to the Department's noise regulation review, there are processes currently underway looking at how the RPAS regulation might change to address potential rapid growth in commercial operations. The Department is leading a whole-of-government approach. CASA and Airservices have created a working group to look at their possible roles.¹¹³ Both approaches are at an early stage and are linked to slow moving discussions in international fora.
- 4.40 CASA acknowledged that it was conceivable at this point for a second commercial drone delivery service to meet CASA's regulatory requirements and operate within the ACT.¹¹⁴ There

¹¹³ *Transcript of Evidence*, 13 March 2019, p. 85.

¹¹⁴ *Transcript of Evidence*, 13 March 2019, p. 91.

is currently a “race” on to develop a traffic management system that would allow different drones to safely operate in the same airspace. Inter-agency discussions are underway on how you could equitably allocate airspace between competing commercial RPAS operators.

- 4.41 The ACT Government noted its support for a national approach to future drone delivery regulation given the Commonwealth’s exclusive power to legislate in significant areas of drone operation.

5 CONCLUSION

- 5.1 The introduction of drone delivery services to the ACT has further highlighted the already known weaknesses in drone regulation. The federal government has taken steps to update the regulatory regime and is planning further changes but drone technology is advancing rapidly. The commencement of Wing's trials in the ACT has underlined the need for urgent action.
- 5.2 This Committee does not support regulation for regulation's sake. Wing has followed the rules that government has required it to and is adapting its approach as it receives feedback from its trials. One of the purposes of the trials, however, is to test the regulatory environment. Where that environment has been shown to be lacking, which is clearly the case for noise, changes must be made. The Committee supports an updating of the regulatory environment so that commercial drone operators have clear rules for operating in residential areas.

Mr Jeremy Hanson MLA

Chair

25 July 2019

APPENDIX A - WITNESSES

6 MARCH 2019

- Mr Cara Vincent, Committee Member, Bonython Against Drones
- Mr Neville Sheather, Convenor, Bonython Against Drones
- Ms Andrea Sheather, Committee Member, Bonython Against Drones
- Ms Robyn McIntyre, Committee Member, Bonython Against Drones
- Ms Christine Lawrence, ACT Equestrian Association
- Mr Michael Charles Askew, Tuggeranong Dog Training Club
- Dr Lyndal Hasselman, Belconnen Dog Obedience Club
- Ms Anne Lewis, Belconnen Dog Obedience Club
- Ms Julie Cutts, Tuggeranong Dog Training Club
- Ms Glenys Patulny, President, Tuggeranong Community Council
- Mr Peter Thomas Elford, President, Gungahlin Community Council
- Mr James Ryan Burgess, CEO, Wing.

13 MARCH 2019

- Mr Gordon Ramsay MLA, Attorney-General and Minister for Business and Regulatory Services
- Ms Kristin Leece, Deputy Chief Solicitor - Commercial, ACT Government Solicitor, Justice and Community Safety Directorate
- Mr Sam Engele, Executive Group Manager, Policy and Cabinet, Policy and Cabinet Division, CMTEDD
- Mr Mick Gentleman MLA, Minister assisting the Chief Minister on Advanced Technology and Space Industries
- Mr Geoffrey Rutledge, Deputy Director-General, Sustainability and the Built Environment, EPSDD
- Mr Dave Peffer, Deputy Director-General Access Canberra, CMTEDD
- Mr Chris Monahan, Executive Manager, National Operations and Standards, Civil Aviation Safety Authority (CASA)
- Mr Luke Gumley, Branch Manager, Remotely Piloted Aircraft Systems, CASA
- Dr Jonathan Aleck, Executive Manager, Legal and Regulatory Affairs Division, CASA

27 MARCH 2019

- Mr Craig Charker, Acting Executive General Manager, Air Navigation Services, Airservices Australia
- Mr Tim De Raadt, Senior Policy Advisor, Government Relations, Airservices Australia

- Mr Marcus Knauer, Chief Air Traffic controller, Airservices Australia
- Mr Adam Rucinski-Stanek
- Mr Phillip Balding

APPENDIX B – SUBMISSIONS

Submission Number	Submitter	Received
1	Buonopane	28-Nov-18
2	Ryan	30-Nov-18
3	Goyne	06-Dec-18
4	Irene Clarke	06-Dec-18
5	Neill	10-Dec-18
6	Hynd	12-Jan-19
7	Airservices	14-Dec-18
8	Dickson	23-Jan-19
9	Wilson	23-Jan-19
10	Butler	23-Jan-19
11	Rowland	24-Jan-19
12	AlphaBeta	24-Jan-19
13	Anonymous	24-Jan-19
14	Anonymous	25-Jan-19
15	Withdrawn	26-Dec-18
16	Sheather	26-Jan-19
17	Anonymous	28-Jan-19

Submission Number	Submitter	Received
18	Warren	29-Jan-19
19	Anonymous	29-Jan-19
20	Stelzig	29-Jan-19
21	Strudwick	29-Jan-19
22	Peddle	30-Jan-19
23	Chamberlain	30-Jan-19
24	Anonymous	31-Dec-19
25	Boettcher	01-Dec-19
26	Ralston	01-Feb-19
27	Anonymous	30-Jan-19
28	Anonymous	30-Jan-19
29	Anonymous	30-Jan-19
30	Anonymous	01-Feb-19
31	Dee	02-Feb-19
32	Taylor	02-Feb-19
33	Marks	02-Feb-19
34	Anonymous	03-Feb-19
35	Barisic-Bentley	04-Feb-19

Submission Number	Submitter	Received
36	Turner	04-Feb-19
37	Collings and Dean	04-Feb-19
38	Canberra Business Chamber	05-Feb-19
39	Anne Gardner	06-Feb-19
40	Weatherly	08-Feb-19
41	Williams	11-Feb-19
42	Anonymous	12-Feb-19
43	Horwitz	12-Feb-19
44	Anonymous	15-Feb-19
45	McKenzie	15-Feb-19
46	Clarke	15-Feb-19
47	Anonymous	17-Feb-19
48	Carpenter	18-Feb-19
49	Stohr	18-Feb-19
50	McIntyre	18-Feb-19
51	Anonymous	19-Feb-19
52	Anonymous	19-Feb-19
53	Rucinski-Stanek	19-Feb-19

Submission Number	Submitter	Received
54	Anonymous	19-Feb-19
55	Anonymous	19-Feb-19
56	Belconnen Dog Obedience Club	19-Feb-19
57	Exposito	19-Feb-19
58	Sheather	19-Feb-19
59	Houston	19-Feb-19
60	Elle	19-Feb-19
61	Weston Creek Community Council	19-Feb-19
62	Blomfield	19-Feb-19
63	Cliff	19-Feb-19
64	Mele	19-Feb-19
65	Reis	19-Feb-19
66	Denham	19-Feb-19
67	Cox	19-Feb-19
68	Anonymous	19-Feb-19
69	Saint	19-Feb-19
70	de Luca	20-Feb-19
71	Meekin	20-Feb-19

Submission Number	Submitter	Received
72	Willoughby	20-Feb-19
73	Mitchell Traders Association	20-Feb-19
74	May	20-Feb-19
75	Wood	20-Feb-19
76	Anonymous	20-Feb-19
77	Savigny	20-Feb-19
78	Anonymous	20-Feb-19
79	Tuggeranong Community Council	20-Feb-19
80	Browne	21-Feb-19
81	Beaton	21-Feb-19
82	Steel	21-Feb-19
83	ACT Government	21-Feb-19
84	Blount	21-Feb-19
85	Anonymous	21-Feb-19
86	Glasser	21-Feb-19
87	Anonymous	21-Feb-19
88	Vincent	21-Feb-19
89	Vincent	21-Feb-19

Submission Number	Submitter	Received
90	Pender	21-Feb-19
91	Hackett Community Association	21-Feb-19
92	The Green Institute	21-Feb-19
93	Mitchell	21-Feb-19
94	Anonymous	21-Feb-19
95	Anonymous	21-Feb-19
96	Farrer	21-Feb-19
97	Anonymous	21-Feb-19
98	Anonymous	21-Feb-19
99	Dalzell	21-Feb-19
100	Anonymous	21-Feb-19
101	Anonymous	21-Feb-19
102	Longland	21-Feb-19
103	Rezo	21-Feb-19
104	Newman-Martin	21-Feb-19
105	Bonython Against Drones	21-Feb-19
106	Anonymous	21-Feb-19
107	Lissaman	22-Feb-19

Submission Number	Submitter	Received
108	Field	22-Feb-19
109	ACT Equestrian Association	22-Feb-19
110	NoDrone Zone	22-Feb-19
111	Barney	22-Feb-19
112	Anonymous	22-Feb-19
113	Balding	22-Feb-19
114	Anonymous	22-Feb-19
115	Turner	22-Feb-19
116	Anonymous	22-Feb-19
117	Fitzgerald	22-Feb-19
118	Civil Aviation Safety Authority (CASA)	22-Feb-19
119	Anonymous	22-Feb-19
120	Smythe	22-Feb-19
121	Channells	22-Feb-19
122	Wild	22-Feb-19
123	Coghlan	22-Feb-19
124	Wing	22-Feb-19
125	Clark	22-Feb-19

Submission Number	Submitter	Received
126	Di Allende	22-Feb-19
127	Kolak	22-Feb-19
128	Anonymous	22-Feb-19
129	McIntyre	22-Feb-19
129A	McIntyre	22-Feb-19
130	Hass	22-Feb-19
131	Anonymous	22-Feb-19
132	Tuggeranong Dog Training Club	22-Feb-19
133	Anonymous	22-Feb-19
134	Schumann	22-Feb-19
135	Meek	22-Feb-19
136	Carden	22-Feb-19
137	Davidson	22-Feb-19
138	Donnelly	22-Feb-19
139	Hughes	23-Feb-19
140	J Griffin	24-Feb-19
141	M Griffin	24-Feb-19
142	Rutland	24-Feb-19

Submission Number	Submitter	Received
143	Lake	24-Feb-19
144	Gungahlin Community Council	25-Feb-19
145	Shah	25-Feb-19
146	Environmental Defenders' Office	27-Feb-19
147	Anonymous	05-Mar-19
148	Anonymous	05-Mar-19
149	Browne	08-Mar-19
150	Anonymous	12-Mar-19
151	Byrne	25-Mar-19

APPENDIX C – LETTER FROM MINISTER GORDON RAMSAY MLA



Gordon Ramsay MLA

Attorney-General
Minister for the Arts and Cultural Events
Minister for Building Quality Improvement
Minister for Business and Regulatory Services
Minister for Seniors and Veterans
Member for Ginninderra

Mr Jeremy Hanson CSC MLA
Chair
Standing Committee on Economic Development and Tourism
LACommitteeEDT@parliament.act.gov.au

Dear Mr  Hanson

Thank you for your leadership of the Standing Committee on Economic Development and Tourism undertaking the Inquiry into Drone Delivery Systems in the ACT. I am writing to confirm with you a recent and important development in the regulation of drones in the ACT.

As you are aware, remotely piloted aircraft 'drones' have been a challenge for regulators in the face of their rapidly developing technology and impact on community. The ACT community has demonstrated substantial interest in issues involved with drones. From the Inquiry, you would be aware that some areas of ACT law apply to drone delivery, as they would apply to any other activity in the ACT, these include: some aspects of workplace safety law, fair trading, criminal law, and tort law. The ACT Government recognises and supports the Commonwealth Government's exclusive power to regulate remotely piloted aircraft and welcomes a national approach to remotely piloted aircraft policy.

Until recently, the Department of Infrastructure, Regional Development and Cities (Infrastructure) considered that the [Air Navigation \(Aircraft Noise\) Regulations 2018](#) (the Regulations) did not apply to drones, and that approvals under the Regulations were intended for vintage, adventure, ex-military and other historical aircraft operations for which noise standards do not apply.

However, having regard to representations from the community and the Inquiry into Drone Delivery Systems in the ACT, Infrastructure have re-examined the applicability of the Regulations to drone operations. The outcome of that consideration is that Infrastructure has accepted that commercial and recreational drone operations within Australia do come within section 17 of the Regulations. This means that the Commonwealth Government do have jurisdiction for the regulation of drones, including drone noise.

The Deputy Prime Minister has announced a review into drone regulation which will determine the appropriate scope and breadth of future noise regulation. The review will consider the community impact of drone operations, the size, frequency and nature of drone operations (recreational and commercial) and existing safety regulations administered by the Civil Aviation Safety Authority (CASA).

ACT Legislative Assembly

London Circuit, Canberra ACT 2601, Australia GPO Box 1020, Canberra ACT 2601, Australia
Phone +61 2 6205 2615 Email ramsay@act.gov.au



@Gordon_R_Ramsay



Gordon Ramsay MLA



The review will examine State and Territory regulations that commonly cover noise from equipment operating in urban environments. The review will also look at developments overseas and industry innovation to reduce noise impacts through better drone design and operations including varying flight paths.

The ACT Government will be providing a comprehensive submission to the Commonwealth Drones Inquiry once the terms of reference and invitation to submit have been provided.

Thank you again for your contribution to the Inquiry into Drone Delivery Systems in the ACT.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Gordon Ramsay', written in a cursive style.

Gordon Ramsay MLA

APPENDIX D – LETTER FROM DEPUTY PRIME
MINISTER THE HON MICHAEL MCCORMACK
MP



The Hon Michael McCormack MP

**Deputy Prime Minister
Minister for Infrastructure, Transport and Regional Development
Leader of The Nationals
Federal Member for Riverina**

Ref: MC19-001731

29 JUL 2019

17 JUL 2019

Mr Jeremy Hanson CSC, MLA
Chair
Standing Committee on Economic Development and Tourism
ACT Legislative Assembly
GPO Box 1020
CANBERRA ACT 2601

Dear Mr Hanson

Thank you for your letter dated 29 March 2019 regarding application of the *Air Navigation (Aircraft Noise) Regulations 2018* (Regulations) to remotely piloted aircraft or drone delivery services in Canberra. I apologise for the delay in replying.

In relation to the letter from Mr Neville and Mrs Andrea Sheather on behalf of the Bonython Against Drones Action Group to the Standing Committee on Economic Development and Tourism (Committee) on the operations of Wing Aviation Pty Ltd (Wing), I can advise that the Department of Infrastructure, Transport, Cities and Regional Development (Department) has provided three approvals to operations by Wing. The first was made under the Regulations for a number of demonstration flights by Wing between 11 April 2019 and 13 April 2019.

A subsequent approval was made for the Wing 'Early Flyer Program' in the Australian Capital Territory (ACT) covering the period 24 April 2019 to 31 May 2019. This approval has been extended until 31 July 2019 and includes a number of conditions on Wing's operations.

Until recently the Department was of the view that the Regulations did not apply to drones and that approvals under the Regulations were intended for vintage, adventure, ex-military and other historical aircraft operations for which noise standards do not apply.

However having regard to the Committee's and community representations, since March 2019 the Department has been examining carefully the applicability of the Regulations to drone operations.

The outcome of that consideration is that the Department has formed the view that a range of commercial and recreational drone operations within Australia require approvals under section 17 of the Regulations.

In terms of previous drone operations, such as the Bonython trial, given the past lack of clarity about the operation of the Regulations in relation to drones, and having regard to the fact that the potential applicability of the Regulations to drone operations has not been the subject of public information initiatives, it is not considered that the public interest would be served by initiating enforcement action in relation to past drone operations.

The Department will be conducting a review to determine the appropriate scope and breadth of future noise regulation, in consultation with government, industry and community stakeholders and looking to complete the review by the end of the year. The review will examine a range of issues, including state and territory regulations that commonly cover noise from equipment operating in urban environments.

The Department has placed information on the noise regulation of drones, including ACT drone delivery operations, on its website at www.infrastructure.gov.au which includes links to other relevant agencies including: the Civil Aviation Safety Authority (CASA) for safety regulation issues; Airservices Australia for handling of noise complaints; and, the ACT Government's Access Canberra site for community feedback on drone use in the ACT.

Thank you for bringing the Standing Committee's concerns to my attention and I trust this is of assistance.

Yours sincerely



Michael McCormack
