



LEGISLATIVE ASSEMBLY FOR THE AUSTRALIAN CAPITAL TERRITORY

**STANDING COMMITTEE ON ECONOMIC DEVELOPMENT AND
TOURISM**

(Reference: [Inquiry into drone delivery systems in the ACT](#))

Members:

**MR J HANSON (Chair)
MS S ORR (Deputy Chair)
MR M PETTERSSON**

TRANSCRIPT OF EVIDENCE

CANBERRA

WEDNESDAY, 13 MARCH 2019

**Secretary to the committee:
Mr H Finlay (Ph: 620 50129)**

By authority of the Legislative Assembly for the Australian Capital Territory

Submissions, answers to questions on notice and other documents, including requests for clarification of the transcript of evidence, relevant to this inquiry that have been authorised for publication by the committee may be obtained from the Legislative Assembly website.

WITNESSES

ALECK, DR JONATHAN , Executive Manager, Legal and Regulatory Affairs Division, Civil Aviation Safety Authority	77
ENGELE, MR SAM , Executive Group Manager, Policy and Cabinet, Chief Minister, Treasury and Economic Development Directorate	60
GENTLEMAN, MR MICK , Minister for the Environment and Heritage, Minister for Planning and Land Management, Minister for Police and Emergency Services and Minister assisting the Chief Minister on Advanced Technology and Space Industries	60
GUMLEY, MR LUKE , Branch Manager, Remotely Piloted Aircraft Systems, Civil Aviation Safety Authority	77
LEECE, MS KRISTIN , Deputy Chief Solicitor, Commercial, ACT Government Solicitor, Justice and Community Safety Directorate	60
MONAHAN, MR CHRIS , Executive Manager, National Operations and Standards, Civil Aviation Safety Authority	77
PEFFER, MR DAVE , Deputy Director-General, Access Canberra, Chief Minister, Treasury and Economic Development Directorate	60
RAMSAY, MR GORDON , Attorney-General, Minister for the Arts and Cultural Events, Minister for Building Quality Improvement, Minister for Business and Regulatory Services and Minister for Seniors and Veterans	60
RUTLEDGE, MR GEOFFREY , Deputy Director-General, Sustainability and the Built Environment, Environment, Planning and Sustainable Development Directorate	60

Privilege statement

The Assembly has authorised the recording, broadcasting and re-broadcasting of these proceedings.

All witnesses making submissions or giving evidence to committees of the Legislative Assembly for the ACT are protected by parliamentary privilege.

“Parliamentary privilege” means the special rights and immunities which belong to the Assembly, its committees and its members. These rights and immunities enable committees to operate effectively, and enable those involved in committee processes to do so without obstruction, or fear of prosecution.

Witnesses must tell the truth: giving false or misleading evidence will be treated as a serious matter, and may be considered a contempt of the Assembly.

While the committee prefers to hear all evidence in public, it may take evidence in-camera if requested. Confidential evidence will be recorded and kept securely. It is within the power of the committee at a later date to publish or present all or part of that evidence to the Assembly; but any decision to publish or present in-camera evidence will not be taken without consulting with the person who gave the evidence.

Amended 20 May 2013

The committee met at 9.03 am.

GENTLEMAN, MR MICK, Minister for the Environment and Heritage, Minister for Planning and Land Management, Minister for Police and Emergency Services and Minister assisting the Chief Minister on Advanced Technology and Space Industries

RAMSAY, MR GORDON, Attorney-General, Minister for the Arts and Cultural Events, Minister for Building Quality Improvement, Minister for Business and Regulatory Services and Minister for Seniors and Veterans

LEECE, MS KRISTIN, Deputy Chief Solicitor, Commercial, ACT Government Solicitor, Justice and Community Safety Directorate

ENGELE, MR SAM, Executive Group Manager, Policy and Cabinet, Chief Minister, Treasury and Economic Development Directorate

RUTLEDGE, MR GEOFFREY, Deputy Director-General, Sustainability and the Built Environment, Environment, Planning and Sustainable Development Directorate

PEFFER, MR DAVE, Deputy Director-General, Access Canberra, Chief Minister, Treasury and Economic Development Directorate

THE CHAIR: Good morning, ministers. Thanks very much. Having two ministers is quite a treat for this committee. We really appreciate it. To all the staff taking time out from your busy day, we appreciate it. This is the second public hearing of the Standing Committee on Economic Development and Tourism inquiry into drone delivery trials in the ACT. After we have had you this morning for about an hour—we will get it done earlier if we can; I appreciate you are busy—we have got CASA. Then that will be our last public hearing at this stage.

I draw your attention to the privilege statement before you. I am sure you have seen it many times before, but could you just indicate that you are aware of it and its contents.

Mr Gentleman: Yes, we are.

THE CHAIR: The proceedings are being recorded by Hansard for transcription purposes and webstreamed and broadcast live. I imagine there will be some people listening in today from Bonython and elsewhere. Before we go to any questions from committee members, do you have any opening statements?

Mr Gentleman: Just to reinforce the detailed submission the government put in to the inquiry, we stand by that submission and hope that it provides some detail for the committee to engage with for its inquiry.

THE CHAIR: Thanks for the submission as well. That was useful. Having looked at the submissions and heard evidence last week, it is clear that the regulatory framework around drones is, to an extent, being made up as we go along. Drone technology is emerging. The regulations that CASA has are predominantly around manned flights and for unmanned flights it envisages the recreational drone. Commercial drones are new.

The ACT then has some limits in terms of what it can do. Have you looked at the

potential ways that we as a jurisdiction can get into this space? Two obvious areas are noise—these things make a lot of noise, they are low to the ground and the effect on the community is significant, and that is not regulated—and perhaps no-fly zones. It is a technical term that is used by CASA and is regulated but envisages airfields and airports and so on. Here we have some sensitive areas and areas where there are domestic animals, wildlife, old people's homes, things like that. It is a bit of a wide-ranging question: where are we at as a government in looking at where the ACT government can get more involved to make sure that drones are less disruptive to the community?

Mr Ramsay: I will invite Kristin Leece from the government solicitor's office to be a part of this conversation as well. I suppose the simple reality is that there is very limited space in which the ACT government has the capacity to move into regulation in relation to drones. The Australian government has exclusive power to regulate drones in terms of safety, in terms of drone noise and in terms of the head of power into postal delivery services as well. That means that the ACT Legislative Assembly simply does not have the capacity to move into areas where the Australian government has that exclusive right under the constitution.

I do not know if you want to flesh out the two key areas under any constitutional limitation. One is the exclusive areas that the federal government has. The other relevant area is, for us as a territory, where there may be any inconsistency in legislation or regulation. Any inconsistency that may exist in legislation will obviously mean that the territory legislation will be invalid, to the extent of the inconsistency anyway.

Ms Leece: I would second what the attorney has said and I think the committee, from the submission of the ACT government, would be clear that it is a very limited role that the territory can play in this space. It is not inconceivable that there are some areas that it will be able to legislate in. Some of those have been discussed today. For example, where a drone is used in the commission of an offence, it is the conduct of the person that we will be legislating for. The use of the drone is incidental to that.

There are conceivably some areas that the territory might be able to look at. Noise abatement is one of them. However, great care has to be taken in overstating that because any of those actions which have an impact on the ability of a drone to fly can arguably then get into that space of the commonwealth regulatory space. It is conceivable that there is some scope to make laws in relation to drones, but it is likely very limited and it is more likely to be directed at the conduct of a person than the actual regulation of a drone.

Mr Ramsay: Could I note also, for the information of the committee, that one of the other areas that are potentially for consideration—and I note it is within the inquiry's terms of reference—is workplace health and safety matters. There is a case under consideration by the High Court at the moment and the judgement has been reserved on that. We may be in a position—

Ms Leece: I think it has come down.

Mr Ramsay: It has come down now?

Ms Leece: Yes. I think it is Outback Ballooning that you are referring to.

Mr Ramsay: That is the case.

Ms Leece: It has been handed down, and 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.

THE CHAIR: I accept all that. Legislation and regulations may be not the path, but in terms of making sure that we have got other ways of doing this—either through an MOU or some more rapid way of dealing with CASA and the federal government so that if there is a concern, be it over noise or an area where drones are flying, they can regulate or they can legislate quickly in response to the ACT government's concerns—have you looked at a process whereby that can happen?

At the moment this is a trial, but we have heard evidence that we might have thousands of drones, thousands of flights every day. There has got to be some process going forward whereby we can then deal with a federal agency so that they can be responsive and there is not a three-year process to get a response, so that it can be a more immediate process. Yes, they can regulate, they can legislate, but they are doing it—and we are requesting—and it is seamless. Have we started dealing with agencies to try to facilitate that?

Mr Ramsay: Indeed, and we certainly support the development of a nationally consistent approach to this. I think Mr Engele might be able to flesh out the steps we have already been taking in the area.

Mr Engele: Just adding to the minister's statement, we have had some initial discussions with CASA and some communications about focusing on a national arrangement where it looks at nationally consistent laws but has a reference back to local conditions and concerns for the community. Those discussions have only just commenced. There has been an email and a letter from ministers across to various levels of officials to try to engage with them—and they have been having to engage with us—looking into the future about how such an approach can take place.

THE CHAIR: That is good. But knowing the way these things play out, I cannot imagine nationally consistent laws happening soon, and this is happening right now in the ACT. In the interim, while we are waiting for nationally consistent laws—and that will take a while—what are we going to do here in the ACT when we have got operators? We have got one at the moment and there may be others that may come on board. The ACT is going to be the trial place, and the government has got open arms to this sort of technology. Others may take the opportunity.

What are we going to do in the shorter term to make sure that as this plays out, if there are concerns being raised by the community, if there are places where we do not want drones flying, if there are noise levels that we want to address, whatever, and if safety issues are being raised, we have got a much more responsive interaction with the federal government, with its agencies—CASA, Airservices, whoever it may be?

Waiting for nationally consistent laws is not going to get in front of what is going to be happening in Gungahlin in the next few weeks.

Mr Gentleman: The attorney and others have talked to you about the work that has already progressed with the federal government and those agencies involved in the regulation of air services or flights. There is quite a lot of legislation already in regard to drones, commercial and private, and of course that regulation is enforced as well. So there is an opportunity for us, I think, to work closer, as you say, with CASA and with Airservices to engage at an earlier point. We have already started that work and we will keep progressing.

Mr Ramsay: Can I add to that that the action or lack of action that may exist at the federal level does not change the constitutional capacity of the ACT to legislate or to regulate.

THE CHAIR: I am not suggesting that we put forward legislation and have it turfed out, but someone needs to be, I would have thought, banging on CASA's door or on someone's door on the hill to say, "This is happening right here in the ACT and we cannot wait." If there is a place where we do not want drones flying, are we going to say, "This is an acceptable level of noise at certain decibels and certain frequency. This is where we want it regulated"? If you actually look at what CASA have done in this trial, they have amended the regulations to provide specific guidelines and laws under which Project Wing is operating. So this is being done a little ad hoc with Project Wing because it is new. I do not see why we cannot be more injected into that process. Do you see capacity for that?

Mr Ramsay: I believe that we not only have the capacity but we are actually following through on that and have substantial links going on already with CASA and with the rest of the work.

THE CHAIR: Have we made any specific recommendations to CASA with regard to where drones should or should not fly, with regard to noise or any other changes that we are recommending for legislation?

Mr Engle: Not generally in the broad operation. Geoffrey, you might have details in relation to the licence exemptions provided to Project Wing. There was consultation.

Mr Rutledge: I think, Mr Hanson, all of your questions are valid, and all of those questions are for CASA. Have we put forward direct recommendations on that? No. No commercial drones will take off without CASA approval. That includes standard no-fly zones around Parliament House, around prisons et cetera. They are all covered by CASA regulation.

In our discussions with CASA and Project Wing for the trials, both at Guises Creek and again at Bonython, we raised some of the concerns about where they could fly. We raised those concerns directly with Wing and we said that we would expect CASA regulation to step in and, yes, CASA regulation steps in. Drones are not able to fly near the airport, near the prison, near Parliament House et cetera.

THE CHAIR: I get that, and that is good. But I suppose as this moves forward and

becomes more localised then it might be that we do not actually want them flying over the equestrian park, we do not want them flying over the racecourse or we do not want them flying over the RSPCA. We want the regulations to go to that more localised step. Have we started to look at where we might go, beyond just prison and parliament, to take into consideration the local impact?

Mr Rutledge: No, we have not come to that, but those are things that we are aware of. As you said at the beginning of the hearing, we are learning as we go, and this is Wing trialling CASA's regulatory space as well as us hearing from the community about the impacts that it has on the community.

THE CHAIR: I am not being critical here. It is just that, as we move forward to Gungahlin, there are lessons to be learned from Bonython. Project Wing are obviously being cooperative. That is one operator, but if we get more they may be less cooperative. Before we do the trial in Gungahlin, we can perhaps identify some sites or we can say that these are particular noise levels and these are additional waivers to the legislation, the licensing agreements, that we think Project Wing should adhere to prior to operations in Gungahlin—and that may be over domestic animal sites and so on. Is there potential for that?

Mr Gentlemen: When we talk about early days and listening to what the community has to say—and of course we would be very interested in what the committee have to say at the end of their inquiry—there are other jurisdictions that are doing similar work as well. Queensland have announced that they want to be the drone capital of Australia and they have done quite a bit of work already. There will be lessons that we can learn from other jurisdictions at the same time, I think, as well as thinking about our local opportunity to work with both the provider, which is Wing, and the enforcer, which is CASA.

MS ORR: It came up there that there is limited space for what the government can do. You mentioned a few of those: commissioning of an offence and a reference to perhaps some noise abatement. I want to get a better idea of what you have identified as things the government can potentially do and what the limits to those might be.

Ms Leece: I would not say that we have necessarily identified what you could do. We know that there is potentially a small space where there could be regulation—as I said, not directly on drones—if it is used. There is existing law around that, such as trespass and nuisance. I would suggest to the committee—I do not want to overstate those—that my own view from looking through those things is that when it comes to drones, as is usually the case for new technology, I can see that they will be problematic. A temporary incursion is not someone setting up something in your backyard. As a developing area of law, it will develop as we go along. I do not think I could say that we have identified any areas that we think absolutely are areas. There are all areas that we are exploring as we are asked to by government.

Mr Ramsay: There is case law that makes it pretty clear that you cannot claim an area of jurisdiction by finding an unrelated hook, grabbing onto it and then trying to legislate out of that—effectively expanding the state or territory legislative powers by finding something or other that does not seem to be related and then expanding that. That is not going to work. It is not going to be a matter of being able to say, “We will

look at some other element and then expand it to impact on drones.” The case law would make that extremely unlikely.

MS ORR: Is it fair to say that, while there are some laws that may apply to not necessarily drones but, say, the person who is operating them, there is nothing specifically that goes to regulating drones in ACT? Help me out here in characterising how it would be applied.

Ms Leece: I think what you are asking about is something like a stalking offence. If the stalking is facilitated by the drone, the drone is involved in the stalking. That is what I am getting at.

MS ORR: That is what I am trying to get at, yes.

Ms Leece: It is the conduct of the person—as in you cannot stalk—that is triggered. The drone itself is not triggering the offence. Does that make sense?

MS ORR: Yes.

Ms Leece: There are more like that where you look at them and think, “That is how a drone could be used to commit that offence,” or “That is how a drone could be used that way.” But our focus is not going to be on regulating the drone; the focus is going to be on the offence and enforcement against that offence.

MS ORR: You mentioned in your answers that there might be some things around noise. Can you further clarify that?

Ms Leece: Noise is problematic because it goes to whether the drone can still fly. It is like taking the photos. I think the committee has already heard that they need to take the photos to fly. Similarly, noise is an issue. But there might be some scope for noise abatement around particular times or whatever.

I just want to restate that it will be difficult, because CASA is the one who states when they can fly, when they cannot fly and where they can fly, as the committee has already discussed. I would just add that at the moment our law exempts where it is legislated somewhere else: for example, our normal noise laws. If there was really offensive noise, potentially that might be something where ACT Policing could step in. This is why I am saying that I am sorry if I am not being helpful enough, but it is a grey area of this new technology.

MS ORR: Is it very much a case-by-case basis?

Ms Leece: It is.

MS ORR: I had two questions, but I will stick with noise. Can you run me through more broadly what the EPA actually regulates on noise in the ACT? It has been brought up with us that there is more that they could do.

Mr Peffer: I am the head of Access Canberra, which includes the EPA as one of our branches. The EPA has an important role in managing noise environmental impacts

across the city. It does that for the purpose of the health and wellbeing of the citizens that reside in Canberra. It has a close, structured framework for how it goes about measuring noise.

One of the challenges we would have in the EPA performing a role in noise management around drones is of a practical nature. For instance, our policy around the measurement of noise and how we actually record that requires us to set up a piece of recording equipment that can identify with some level of precision the source of generation of noise so that we can pinpoint within a band where noise is coming from. We are then required to measure that noise over a period of 10 minutes, and it is that 10-minute measurement that we then use to benchmark against whatever the applicable noise standards are that apply in a particular area. For instance, many of our complaints are regarding amplified noise, amplified music, coming from a residence or a commercial premises. We are able to set up that equipment, have it there over a period of 10 minutes, and then do that benchmarking activity. The practicality of measuring noise as it relates to a drone which may pass over the top of someone's residence for a matter of seconds would pose some challenges, I think, for our inspectors in practically applying the framework to this new delivery service.

Mr Ramsay: And that is obviously leaving aside any of the constitutional limitations as to whether we can get there anyway. That is just a practical example of how it is that we work in the area of noise regardless, not specifically around drones.

THE CHAIR: That seems like a manifestly inadequate way of measuring noise in this circumstance. That might be fine for measuring music, but surely we can adapt to the fact that we have something here that is different from someone playing loud music. We know the people that are getting this delivery. I would not have thought it would be hard to set up some sort of noise monitoring in the adjacent property as things are being delivered. Instead of saying, "We cannot measure the noise because it is not tracked over 10 minutes," surely we could adjust the way that we measure noise.

Mr Peffer: Mr Hanson, I should clarify that our responsibilities do not apply to measuring noise for aircraft. That sits outside the role of the EPA.

MS ORR: Minister, is that what you were referring to?

Mr Ramsay: That is what I am saying; that is right. The EPA does not have responsibility for measuring the noise of aircraft, including drones.

Mr Peffer: That is a federal matter, and one that Airservices Australia considers if complaints are raised.

THE CHAIR: I think there is responsibility to legislate for it, but I would not have thought there would be an issue with actually measuring it. Concerns have been raised by the Bonython community about the level of noise as a result of these. The government, I would assume, is interested in this. Is it not possible for the EPA to go down and measure the level of noise? I am not saying that they consequently regulate or legislate, but certainly we have to be providing feedback to CASA or to the operator. Is it not possible for the EPA to go and monitor and listen and provide that advice to government?

Mr Ramsay: At any stage, any regulator within government would have to be carefully considering what responsibilities it has to deploy its resources for an area that is regulated by another government, in the same way that, for example, aged-care facilities are regulated by the federal government, and we would not expect the ACT government to walk in to check if the federal government is carrying out its regulatory response. There is a regulatory body that has responsibilities under the federal government's responsibilities; I am not sure that it would be a reasonable deployment of resources of the ACT government to have its regulator doing a double-check on what the federal government regulator should be doing.

THE CHAIR: Perhaps, but we all know, and it is in your submission, I think, that there is no regulation around noise of unmanned aircraft at the moment. You are receiving numerous complaints about this as the ACT government has allowed this to proceed. If you are going to be providing feedback to the federal government about what is happening to residents in the ACT, I would have thought it would be quite useful if you were able to respond to the federal government by saying, "Are you aware that this area is not regulated and there are craft operating in the ACT with X decibels of noise." I am not saying that you legislate, but if you are going to be responding to CASA or to the federal government, how are you going to do that if you do not actually get the EPA to measure the noise? I know that you have received a bunch of complaints about it.

MR PETTERSSON: You do know how much noise these devices make. You do not have to have the regulator out measuring them; you do know how much noise they make.

Mr Gentleman: We have seen the video, yes. I have seen live delivery as well.

THE CHAIR: How much noise does it make?

Mr Gentleman: I did not measure it.

THE CHAIR: Why can't the EPA measure it? Surely you would want to go back to CASA or to the federal government to provide them with the response on what is happening with concerns being raised by the community. To say you have watched the video—why can't the EPA go out and measure the decibels and frequency?

Mr Peffer: Just to reiterate what I was saying before, there is a practical challenge in this. The equipment that is used is a directional microphone which sits on a tripod which is stationary. It is not dynamic; it does not move around; it cannot follow or track something that is moving. It is stationary and points in a particular direction. If there are drones flying overhead, there is a limit to whether it would even pick that up, be able to identify it. There is an even greater constraint in being able to pick that up in a way where you could say, "This is the average impact on the amenity of this property over a 10-minute period."

THE CHAIR: The drones hover when they deliver. That is the major concern being raised by residents; there are other concerns with noise. They come to the adjacent property; they hover for a period of time; and they deliver the product. Is there

something that restricts us from liaising with Project Wing to measure what that noise is, to know how many decibels it is, so that we can be informed and so that we as a government can provide a response back to CASA and to the federal government? Can we say, “Your licensing agreement needs to address this issue?” Is that not feasible?

Mr Peffer: I suppose you could look at a simulation-type scenario, but whether that is legitimate or not, the compliance point changes in every noise measurement we do, so I do not think that you could necessarily simulate a delivery and say that for every delivery this is the noise impact on the neighbours. The compliance point is the property boundary, which changes from house to house, from suburb to suburb. It changes depending on the weather, the time of day, the level of cloud cover and surrounding environmental factors. I am not sure that you could necessarily produce something and say, “This is the average impact and this needs to be dealt with.” I am not sure we would be in a position to do that.

MR PETERSON: Don’t we do that for other noises? In your submission you talk about trucks at certain distances and lawnmowers at certain distances.

Mr Peffer: There are scientific standards where a given decibel level can be compared to some level of activity. You could say that a particular decibel level is equivalent to what you might experience if there was a lawnmower operating within 15 metres of where you are currently standing. That is possible to do. But, again, given that the properties that will potentially have drone deliveries occurring nearby will differ from property to property, I am not sure that we could produce a standard and say, “That is the impact on each resident.”

THE CHAIR: Wing have measured the noise, and they are providing advice to the committee—I am not sure if we have got it yet—on decibels at 10 metres, at 25 metres, at different distances. Have you seen that information? Are you aware of that information?

Mr Peffer: I have not been provided with that information

Mr Rutledge: In our submission we had put that in—that Wing had provided it to us. That is correct.

THE CHAIR: They are measuring it; someone is measuring it. Are we not able to validate or investigate how they are measuring that?

Mr Peffer: The attorney made the statement that this actually sits outside our regulatory powers. This is, by law, a commonwealth matter. No, we have not invested our time or effort into—

THE CHAIR: I understand that you have not. The committee is looking for a way forward here because there is a lot of noise and there are concerns. Project Wing have amended the noise, but this will still remain a concern. We are trying to find a way whereby perhaps we can address what that noise level is, so that we can then inform the licensing agreement. CASA might be able to—and this is something that we will ask CASA—put in the licensing agreement that drones are not to operate at certain

frequencies and certain decibels, perhaps. That is where my thinking is going.

Mr Ramsay: I think that would be an excellent question for CASA.

THE CHAIR: Yes, I will put it to CASA. I am trying to see where we are at, in terms of the ACT government. Is there a view? Have you looked at this? Do you have a view on what reasonable decibel levels would be, or what frequencies would be reasonable? If you have not done that, that is fine. That is why we are having this committee hearing.

MS ORR: Mr Peffer, I appreciate that this is primarily CASA's area. However, are you aware of any standard? You said that it would be very difficult to develop a standard for drones. Are you aware of any standard that has been developed and that could be applied?

Mr Peffer: To the measurement—

MR ORR: Of drone noise.

Mr Peffer: I am not aware. That is not to say there is not one that has been done, but I am not aware of one.

MR ORR: Can you also clarify for me what constitutes a noise breach? You said, "This is how we measure it," but how would you actually say there is a breach occurring here, once you have done the measurement?

Mr Peffer: Across the city there are different zones and precincts that have different noise levels applying. A commercial area or the city precinct has a different noise level applying from the outer suburbs, for instance. Those noise levels change depending on the time of day. During daytime certain noise levels apply. There are also a range of exemptions that apply to things like construction activity being permitted between certain hours. Outside those hours, there are much stricter noise decibel limits that apply to various areas.

If we receive a complaint about the level of noise being emitted by an activity, commercial or otherwise, our inspectors will go out and take a noise measurement from the compliance point, which is the property boundary of the complainant. They will take that noise measurement provided the conditions are right. If you imagine that you are in a commercial precinct and you are surrounded by a number of bars, clubs, or whatever it might be, and they are all generating a level of noise, it is very hard to pinpoint specifically, without doubt, where that noise might be generated from.

Given the right conditions, we can take a noise measurement. We measure over a period of 10 minutes. We do not measure one-off noises. The regulation permits for an escalation of the decibel limit for predetermined amounts of time, given the time of day and the location. Where there is sustained noise being emitted, we will take a 10-minute reading of that, and we will compare the average decibel limit of that noise reading to the average permitted decibel level and determine whether there has been a breach. That will then guide us as to whether we take enforcement action.

MS ORR: What are the enforcement actions that you can take?

Mr Peffer: There are a range of tools that we employ. In some circumstances it is enough for an inspector to go and talk to a nearby business or to an individual; they may have had an air conditioner incorrectly installed, for instance, and it is generating noise near a neighbour's bedroom window. We are able to resolve many matters simply by engaging with the individuals affected and putting a resolution in place, or we might go right through to issuing fines and prosecuting through the courts, if need be.

MS ORR: Are you able to—and I am happy for you to take this on notice—provide an overview of what the noise allowances are in certain areas across the city, so that we have that as a benchmark?

Mr Peffer: Yes, I can provide that.

MR ORR: Thank you. Mr Hanson made reference to a licence a couple of times. I do not mind who takes the question: can you please update us on what is the licensing arrangement with Wing at this current point?

Mr Rutledge: With the licence arrangement for both Guises Creek and Bonython, because they were accessing territory land, we were able to use the licensing arrangement for access to land, and we built into that licence some rules around the business operations. We put in time of use—in the same time that you can mow your lawn, there are the same noise restrictions as there are around that. And we put a time limit on it, because Guises Creek and Bonython were both short-term subleases or licences to use territory land. We just built some operational restrictions around Project Wing. The mechanism was on the basis of access to territory land. To repeat what we keep saying, there is no easy regulatory approach, so we leveraged a licensing agreement for access to territory land as an approach.

MS ORR: Mr Rutledge, it has been put to the committee a few times that land use is one way that this could be regulated. Given that you have just said the licence is because it is on territory land, is there anything to stop you putting in place further licensing or further points within a licence on the new site that Wing is going to take up at Mitchell?

Mr Rutledge: I suppose that would be possible. They have put in a development application for changes to the building. I think of it in this way: 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.

MS ORR: Mr Rutledge, can you clarify this for me: you said there was a licence because it was on leased territory land?

Mr Rutledge: Yes.

MS ORR: At the new site will it be on leased territory land and will there be a licence?

Mr Rutledge: No.

MS ORR: Can you explain to me why there is a licence for one and not the other?

Mr Rutledge: As I said they desired to use territory land. With our licensing arrangement for use of land, we used that to leverage some regulatory response around the business. As Wing have entered a private lease with a private building owner and they have put in a DA, our role is to approve the DA. But there is no licence on hours of operation from the planning regime.

MR PETTERSSON: What are the benefits to the community from drone delivery?

Mr Gentleman: There are probably a range of benefits. Firstly, there would be a reduced delivery cost. There would be the opportunity for local businesses to expand their market share, delivering an economic benefit to the territory. There is also probably a social benefit, with ease of access for those that might not be able to get to the shops due to health concerns or tied-up schedules. I am thinking of the sick, the elderly—those sorts of people would certainly benefit from drone delivery.

There would be an environmental benefit in the reduction of carbon emissions, with moving from large trucks or cars to drone deliveries. There are quite a few both economic and social benefits. But there is a cost to that, and we have heard in other submissions to the committee what they see as nuisance and noise at the same time.

MR PETTERSSON: You mentioned a few things there. In terms of reducing delivery cost, how would that occur?

Mr Gentleman: It is less expensive for a company to be able to deliver via a drone than it would be to drive a truck and deliver an article of the same size.

Mr Rutledge: This is not related to Project Wing, but drones have a number of uses, say, in our parks and conservation and emergency services. I refer to accessing weed spotting in remote areas, and the delivery of spare parts to RFS—that sort of stuff. Through the Guises Creek trial, I know that, whilst they were delivering burritos and they were running a commercial business, it really expanded the mind of ESA regarding the way drones could be used in those emergency response areas. Also, parks and conservation, as I say, are using it for weed control and spotting feral pests. So whilst this committee is particularly looking at commercial delivery, there are uses for drones in other areas that we see benefits from, in the case of both emergency services and parks and conservation, and we are using them right now.

MR PETTERSSON: Have we seen any economic benefits from this trial to the ACT?

Mr Gentleman: Certainly anecdotally, those businesses that are operating with Wing

have said they have benefited from their operation so far. But it is a trial. We would need to see the full report on how the trial went for those businesses.

THE CHAIR: Let us go back to noise. My understanding is that CASA do not regulate for noise; it is done by Airservices Australia. But they only regulate around airports, so there is a bit of a gap at the moment. Obviously, this impact is much more on local residents and some of the expertise may reside in EPA—lawnmowers and so on. Does the government have a view, or would it be able to form a view, of what is an acceptable level of noise so that the committee can provide advice back to CASA or others on what are acceptable frequencies and decibel levels? I assume that we have a standard for lawnmowers at 10 metres, or whatever it might be. Is there a template? What is acceptable noise and what is not—or is it a bit ad hoc?

Mr Peffer: It is not for me to talk for ministers or to say what the government policy may end up being. I would imagine that a reasonable outcome would be to have no change to the decibel limits that are provided for now. They are in place and have been established for a very clear reason. They are based on science from the World Health Organisation that looks at the impacts of noise on people's health and wellbeing over a long period of time or for sustained shorter periods where that noise is quite acute and loud.

THE CHAIR: So it would be about imposing those on the drones. Does that system cover frequency as well? It might cover decibels, but I know that one of the issues was with the pitch. Project Wing has sought to address that, but other operators who come in might not address that issue. Does the regulation cover that or not? I do not know.

Mr Peffer: It does in a way. It does not specifically identify different decibel limits for different pitches. We may hear different pitches in different ways. Each of us will hear the same pitch in a different way—in our own way. Those decibel limits apply whether it is a high-pitched frequency or a low-pitched frequency. We find that it is often the lower frequencies that tend to generate the most amount of noise. That is a thudding sound that you can hear, whether it is amplified music or someone using a 50-tonne hammer on an excavator for sustained periods of time. It is that sort of shaking, thudding sound that generates quite a number of complaints. At the same time high-pitched frequencies generate their own share of complaints, but perhaps fewer.

THE CHAIR: With a number of these complaints, is there a central point of reference through Access Canberra that people can ring up? Is there a phone number? As this moves into Gungahlin, and if there are a similar number of concerns, I appreciate that Project Wing and others are trying to inform the community that this is coming, but that is never a 100 per cent solution. All of a sudden people see drones flying overhead. What is the process for people who are concerned or have questions? Is there a central resource at Access Canberra or somewhere else, a number that they can ring, to have their questions or concerns addressed?

Mr Peffer: Yes, there is, Mr Hanson. To date people have been calling our contact centre, as they would with any other type of noise complaint or general regulatory complaint. We have also received some written complaints related to the trial.

THE CHAIR: If someone rings up, do you have a couple of staff that are experts in what is actually happening? I imagine that if you ring the standard Access Canberra number, there would not necessarily be staff across the issues. Do you have some people who are trained in and aware of the issues, who have Q&As and who are ready to hear concerns from people as this rolls out, so that there is a central resource?

One of the concerns is that people have questions and concerns and it is difficult for them to navigate where to address those. Do they go to Project Wing? Do they go to CASA? Do they go to the ACT government? Where do they go? I appreciate that, in a regulatory space, it may not come under the ACT government, but these are ACT residents that are looking for answers. Is it feasible to have that set up so that there are some people with ready access to information and who are ready to take people's concerns, so that at least they are being addressed and people are not feeling around and trying to find out where to go?

Mr Gentleman: The government have been responding to all of the queries as quickly as we can, through Access Canberra, through phone calls, and through correspondence with my office and Minister Ramsay's office. I think that all of that correspondence is up to date. They are well skilled in understanding the concerns that residents have, as well as the application of law and the ability to deal with the regulation around drones.

THE CHAIR: I appreciate that ministers respond to correspondence and so on, but I am looking for a more immediate effect. If someone is unaware of what is going on and all of a sudden there are drones flying overhead, writing a letter to the minister and waiting for 30 days might not satisfy that requirement. Are Access Canberra available and ready to answer the specific concerns and questions? Have they been briefed? Have we made sure that that loop has been closed?

Mr Peffer: Yes. Access Canberra is always available and it is always ready. In terms of the question about expertise, I would like to think that the whole team are experts in responding to community concerns. You are talking about a team of 30 people that field around 700,000 phone calls a year. What sits behind that is a very sophisticated knowledge base—a system with tens of thousands of pages of information that is updated every day. Every time a minister puts out a media release, there is knowledge built into the system, and immediately our phone operators have at their fingertips the latest information, the latest guides, should they need to send someone to a particular website or interact with their services. If there is a particular complaints page or phone number that needs to be called, they have that at their fingertips, ready to go.

Mr Gentleman: In fact, Mr Hanson, I went straight to Access Canberra, typed in "drone" in the search and two links popped up straightaway. You can have a look online for those.

MS ORR: What engagement did the government have with Wing in setting up the trials and subsequently?

Mr Gentleman: There was quite a bit of engagement with Wing in the setting up of the trial in relation to the licence for the land use. Mr Rutledge might have more to

add.

Mr Rutledge: Project Wing first contacted the ACT government in July 2017 to present to the ACT government both their innovative business model and a request to access a suitable site. They had previously done a number of rudimentary desktop site selections around Canberra. Some of those were privately held land and some of them were territory land.

We worked with them probably from July through to September 2017. In early September 2017 we landed on the Guises Creek RFS site. That seemed to suit Wing's belief as to where they would get CASA approval, in the semi-rural setting of Royalla. If the committee is interested in jurisdictional challenges, that was a further jurisdictional challenge because it was land use within the territory, the beneficiaries were only those New South Wales residents, and they were operating beside an RFS site.

As I said, it benefited the RFS in that we got some good intel about some of the potential uses for drones. They kicked off there in October 2017. As Wing continued to talk to us and they were learning and working with CASA, they then suggested that there would be an opportunity for other areas of the city. Again, more driven by Wing and where they thought CASA's approval could go, somewhere in the Tuggeranong Valley was suggested. They worked with us to try for site selection either on ACT government territory land or on privately leased land. That is what we worked on, and we agreed that the Bonython trial could go ahead.

On both of those occasions we looked at impact on the land, EPA requirements around that, workplace health and safety regulation, and health regulation, because they were delivering food. A number of arms of government were involved in enforcing regulation where we could and ensuring that Wing were operating a safe business on the ground, leaving the safety of the airspace issue with CASA.

From 2017 through to now, that is when, as I said, Wing identified a privately leased area in Mitchell for the next rollout. Pending CASA's approvals, Wing will operate from Mitchell in coming months.

THE CHAIR: Going back to Access Canberra, I looked at the site. Maybe I am looking in the wrong spot, but the referrals are to CASA, on the Access website, and it is about the recreational use of drones, not the commercial trial. Is that the link that you are referring to or is there a specific link about the commercial trial that is ongoing in the ACT?

Mr Peffer: Fifteen of the 18 complaints that we have had have come directly through our contact centre, which is where—

THE CHAIR: I am going back to the link that you talked about, minister. Is that the one you are talking about or is there something that I am missing?

Mr Gentleman: I quickly searched for "drones", and Access Canberra gave me those links.

THE CHAIR: Just to clarify, those links in Access Canberra, from what I can see, are about the recreational use of drones, and it just refers to CASA. It is not actually about the commercial trial that has occurred in Bonython and that is about to occur elsewhere. I wanted to clarify that point.

MR PETTERSSON: Has any work been done to assess the potential impact of drone deliveries on local wildlife?

Mr Rutledge: Yes, Mr Pettersson. We asked Wing to undertake a bird study, in effect a wildlife study. Wing brought on an ecologist to look at that. They provided that information to us. Then we got our internal ecologist to look at that. The science is unclear on this. Birds are very adaptable, and they work with the growing human population of Canberra. The impact is unclear, but it is an emerging area for both Wing and our own ecologist looking at that.

MR PETTERSSON: When did you ask Wing to undertake that study?

Mr Rutledge: I will get you the date. I know they provided us with their bird study in October 2018. Our ecologist provided additional advice back to me in November 2018.

MR PETTERSSON: I do not want a precise date, but I want a rough time line: before they commenced operations?

Mr Rutledge: February 2018 was when they committed to doing a bird study, a wildlife study, during the trial. During the trial in Bonython they did that study and they provided it to us later. As I was saying to Ms Orr earlier, because it was a trial for both CASA regulation and for us, we asked that, as a condition of the temporary licence, they undertake a wildlife study. We thought that was of interest to both us and the community.

MR PETTERSSON: Excuse my lack of technical knowledge on this, but is “bird study” a precise technical term?

Mr Rutledge: That is probably my shorthand; I am not an ecologist either, Mr Pettersson. I am happy to provide the bird study, for want of a better term, to the committee.

MR PETTERSSON: Okay. You said you got the results in October last year?

Mr Rutledge: Correct.

MR PETTERSSON: Are those results public in any way?

Mr Rutledge: I think we have released them under freedom of information, but I am happy to provide that to the committee.

Mr Ramsay: Mr Hanson, we are clarifying the question on the Access Canberra site, and we are happy for Mr Peffer to flesh out further details, but if you go to Access Canberra and type in “use of drones in the ACT”, one of the two links is specifically

about how noise is managed in the ACT, and it provides information around—

THE CHAIR: Yes, but I am trying to find if that goes to Airservices.

Mr Pepper: No. That also provides our contact details. With the complaints that we have had come through, I think three have been written complaints using form technology on the website.

THE CHAIR: I am trying to find—this might be a recommendation for the committee; I do not know—some information about the specific trial that is being conducted. At the moment, it is just referrals to CASA, referrals to Airservices, information about recreational drones.

Mr Gentleman: It does link you to commercial operations as well.

THE CHAIR: We will look into that further. Thank you very much for your attendance today; I appreciate it. We will send you a copy of the *Hansard* to peruse. There is some information that you might be providing to the committee; I look forward to getting that.

Short suspension.

MONAHAN, MR CHRIS, Executive Manager, National Operations and Standards,
Civil Aviation Safety Authority

GUMLEY, MR LUKE, Branch Manager, Remotely Piloted Aircraft Systems, Civil
Aviation Safety Authority

ALECK, DR JONATHAN, Executive Manager, Legal and Regulatory Affairs
Division, Civil Aviation Safety Authority

THE CHAIR: Thank you very much for coming here this morning. This is the second public hearing of the Standing Committee on Economic Development and Tourism and we are inquiring into drone delivery trials in the ACT. Thank you very much to the Civil Aviation Safety Authority for your attendance today. I appreciate that you are very busy with what is going on in other places.

If I could just draw your attention to the pink privilege statement before you. Just have a look at that and make sure that you are aware of its contents. These proceedings are being recorded for transcription purposes and are being webstreamed and broadcast live. Before we start, do you have any opening statements?

Mr Monahan: I do have one very brief one. We welcome the opportunity to appear before the drone inquiry. The team here today is here to answer questions that you have. I would like to take this opportunity to apologise on behalf of the CASA director, Shane Carmody, who is attending to an immediate matter which precluded his attendance today. Otherwise he would have been here. I would be happy to outline CASA's role in the regulation of RPAS in Australia and our team's role in improving and facilitating elements of the trial in the ACT and to address any of the committee's questions.

THE CHAIR: With the trial that is happening in the ACT, my understanding is that drone regulation really has been focused on recreational drones and potentially limited commercial organisations such as power companies and so on. You sat down with Project Wing and came up with a licensing agreement that is an interim measure that goes beyond the current legislation and regulations. Is that the way that this has worked?

Mr Monahan: I will ask Mr Gumley to give you more specific information on Wing. In general, there is a licensing structure and an operating structure that goes for recreational and commercial. That applies for people even if they want to do a trial, as in this case; they are still operating as a commercial entity and they will have to meet those requirements.

There may be some specificity to what they want to do that drives us to have some other discussions or changes to the standard entry to that kind of agreement. That goes back and forth, and that is common with what we do not only here but also in regular, fixed wing or rotary wing aviation. With any kind of other operator there is always a little back and forth to how they specifically want to operate in a given place and at a given time. I will ask Mr Gumley to go ahead.

Mr Gumley: Chair, to your question about the commercial framework, there is a robust framework for commercial operations in the RPAS space. They have been in

place since 2002. They are in the Civil Aviation Safety Regulations, part 101, and they prescribe recreation, but they also have a lot of detail around commercial operations.

In short, 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.

Specifically, just to clarify, the Bonython trial was conducted by Unmanned Systems Australia. They are the actual RPA operating certificate or ReOC holder that facilitated the trial on Wing’s behalf. But I think for clarity perhaps we will just refer to Wing today.

In terms of the process of obtaining that approval or that operating certificate, the applicant must be able to demonstrate through an operations manual—quite a comprehensive operations manual—how they will comply with all of CASA’s legislation. They have a chief remote pilot who is a person that is qualified under CASA’s legislation and holds the appropriate approvals for the types of aircraft that Wing would operate as well.

There is a framework for commercial operations and that has been in place for some time. To give you some context around the kinds of numbers of commercial operators that have an RPA operating certificate, we had 1,504 as of a couple of days ago. There are quite a number of operators in Australia like Wing but they do different types of commercial operations. I am happy to walk you through the approval process for Wing or any questions you might have in that regard.

THE CHAIR: The licensing agreement with Wing is a bit different in a sense, in that the impact on people on the ground is quite significant. You are looking very much at what is happening in the air, I guess. But then, particularly with regard to noise but also with things like disruption to domestic animals and to wildlife, there is an impact. Whose responsibility is that? Where does CASA’s responsibility stop and where do concerns perhaps raised by people on the ground start and who is responsible for that?

Mr Gumley: I might start off in terms of the areas that we look at for the assessment. Whilst we predominantly look at the airspace and what risks might be in the airspace to a drone operating in a particular area, we also do look at risks to people and property on the ground. We use a methodology that is an internationally benchmarked methodology by the Joint Authorities for Rulemaking on Unmanned Systems, or JARUS. They have a specific operation risk assessment that provides a framework for us to conduct these sorts of complex operational approvals. We look at both airspace and the ground risks as well. I might hand over to Dr Aleck to talk about CASA’s remit around environment.

THE CHAIR: I hear you saying “risk” and “safety” but then there are other impacts as well. It is about trying to explore where and who is responsible for the things perhaps that go beyond safety.

Mr Gumley: Exactly.

Mr Monahan: And if I could confirm your question, we have, as you have mentioned, more than a thousand commercial operators. The concern here is obviously the repetitive nature, and that is consistent, versus a one-off event that you are addressing here in particular. I will ask Dr Aleck to respond.

Dr Aleck: As was expressed earlier, and much like your own attorney indicated, our legislative remit is limited and it is more or less exclusively related to safety—the safety of other aircraft, the safety of persons and property on the ground. Our functions revolve around that remit. We do have a duty to perform our functions and exercise our powers in a way that, to the extent practicable, takes into account the effects of aircraft operations and operations associated with the operation of aircraft when we make our decisions. But we do not have an affirmative environmental remit in that respect.

To the extent that animals, domestic animals and wild animals, and other elements on the ground are part of the environment—in a theoretical sense they would fall in there—as I said, our obligation is to have regard to those considerations (a) to the extent practicable and (b) most importantly, subject to the overriding interests of safety.

THE CHAIR: Who does have remit for noise and the environment then?

Dr Aleck: It is an interesting question. Although there are many agencies, federal and state, that have remits in those areas with respect to the particular issues involved in this case, I will not say it is a question of no-one does, but I think it is a question of where the lines begin and where the lines end.

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 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.

I share the concerns of your government solicitor 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.

THE CHAIR: In regard to the gaps that we have identified here—I appreciate that you are looking very much at the safety aspect but you are giving them the green light in terms of safety—are there any conversations happening between you and

Airservices or other regulatory bodies federally to address those gaps so that you can say, “We are giving the green light on safety”? Is someone actually giving the green light for noise? Is someone giving the green light for environmental impact? Are you looking at that or do you just simply say yes for safety and then you have no further remit? I appreciate legislatively you may not but—

Dr Aleck: I will let Mr Gumley respond to that in substance, but one of the things that I am sure are very frustrating when anyone deals with government is to be told, “We don’t do that; sorry, take a walk.” It may appear—although I do not think it is quite the case—that whenever it comes to these thorny social and environmental issues you have a number of agencies saying, “That’s not our remit and we don’t do that.” Although technically that is true and we would not be authorised to regulate in those areas, that does not mean that we are not aware of them and that, to the extent that we are able to under our legislative mandate, we do not take them into account.

Environmental matters are matters that we take into account. Privacy is a matter where we have no authority to do that but we have been involved in intergovernmental discussions quite actively for well over 18 months, two years now. Mr Gumley can speak to that.

Mr Monahan: One of the concerns we have is that it is a much broader issue, and 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.

There are checks and balances built into the system. When we make regulations that oversight that, that goes into a review process before it actually goes to the government to be signed off. That shows that it would perhaps be an overreach. Some of these things that were suggested today would likely get stopped at that point, to say, “That is actually outside and we do not have the authority to do it.” As you mentioned, there are discussions going on in order to broaden that. While we may not have jurisdiction in this space now, we know that discussions need to be had to have a more robust evaluation of this.

THE CHAIR: My understanding on noise is that the responsible agency for noise is Airservices, but that is not with regard to unmanned aircraft, just about noise adjacent to airfields. Is that right or do they have a broader remit for all things in the sky, whether they are manned or unmanned?

Dr Aleck: I do not want to get into Airservices’ airspace, if you will pardon me, but they are actually not a regulatory agency; they provide services, and their ability to develop legislation that governs the way activities occur in airspace revolves around a conventional understanding.

I do not believe—I will not commit to this—that there is any reference explicitly to unmanned aircraft in Airservices legislation, but there is no question that an unmanned aircraft is an aircraft, and they are very much alive to the operations of unmanned aircraft when they operate in conventional airspace. These are quite restricted activities when they are larger and can conflict with air traffic.

So I do not think it is a question of their not having a remit; I think it is a question of their not having had the opportunity to explore the parameters of that remit, which we are all doing right now. I daresay that at the end of that process the remits of the respective agencies will surely be revisited.

THE CHAIR: I have to say that after all this it is still unclear to me what noise a drone is allowed to make and who is meant to regulate it, but can I just ask some questions on safety.

MS ORR: Can I just ask a supplementary?

THE CHAIR: Yes.

MS ORR: On page 4 of your submission it says:

CASA did not set a noise limit, in decibel levels, as it has no framework by which to consider this issue.

Are you aware of any framework that does exist for noise levels on drones?

Mr Gumley: In terms of CASA's review of noise levels, it is correct to say in our submission that there is not a framework for us to look at it. However, we did recognise that we needed, in this space, where it is evolving technology, something that gave us the capacity to impose some limitations on the types of operations. 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.

MS ORR: Can you clarify for me why you did not use the decibels? We heard earlier that there is not an easy way to measure decibels for a drone. Is that the reason you did not look to it or is there another reason?

Mr Gumley: In terms of the decibel limit, CASA does not have a framework to do measuring of noise of aircraft. I might ask Dr Aleck to talk a bit about our regulatory remit around noise in a moment, but there is no framework for us to be able to do that and undertake that type of work.

MS ORR: Is that because it is done by Airservices or someone else?

Mr Gumley: Correct. Airservices has a remit for part of that. I might ask Dr Aleck to talk a bit about it.

Dr Aleck: The only thing I would add is that yes, Airservices does have that remit. I do not know what the extent of their technological capability is, but my understanding is that they are equipped to measure the sound of aircraft in a conventional sense and they are not, at this point, that I am aware of, equipped or

inclined to measure the effects of relatively small drone activity at the lower levels. They tend to limit their concern—and I do not mean this in a pejorative sense—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.

THE CHAIR: Following up on what you said there, that you looked at the regulations in the ACT around noise and you used part of that to inform your licence, if the ACT government were to provide you with additional recommendations around licensing, including the decibel limits or areas where not to fly, you could incorporate that into the licensing agreement. I assume that by virtue of the fact that you would adhere to the timing restrictions, you could then, as long as they were reasonable, incorporate other aspects into the licensing agreement if you got advice from the ACT government on that. That is open to you?

Mr Monahan: We would have to make a causal connection between that and safety condition. If there is a public sentiment that it is too loud, I completely appreciate that, but for us to use our regulatory power there has to be a safety issue.

THE CHAIR: What is the safety issue that said that it could operate at various times of the day? What is the difference with a safety issue that says hours of operations as opposed to decibels? Why is one safety and one not?

Dr Aleck: I might just qualify Mr Monahan's response. It is quite true: we do not have a remit to affirmatively act in that space. But as part of our duty to take into account environmental considerations to the extent practicable, I think, as Mr Gumley was suggesting, 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.

THE CHAIR: It appears to me that you already have.

Dr Aleck: Yes.

THE CHAIR: By virtue of the fact that you have limited the time. Really the principle has been set to take that into consideration. All we are trying to do here is make sure that drone operations adhere to safety conditions. You have that remit, but there are a lot of other impacts that are a bit fuzzier. You have already taken some into account. If you were to receive further advice from the ACT government on that—be it decibels, no-fly zones or whatever it might be—then on principle you could incorporate that into your licensing agreement. I am not saying you would, but in principle you could.

Dr Aleck: As long as it did not compromise a safety-related decision, yes.

Mr Monahan: And just to be clear, while we would consider any suggestion, we would also look at whether it would have a local versus a national impact or whether it set a national precedent. That is always part of our consideration. When the next

operator, or someone in another state or territory asks, we like to be consistent and transparent.

THE CHAIR: Sure. Because this trial is live in the ACT and not elsewhere, we are pathfinding here. I accept that time limits, decibel limits and so on would potentially form part of a standard licensing agreement, and that needs to be more taken into consideration by you. That is, in a way, the purpose of a trial, so that we are making those learnings that then can inform what happens in Queensland or somewhere else.

Mr Monahan: We would certainly consider it.

MR PETTERSSON: Has anything arisen from this trial or previous drone operations that gives you any concern about their safety?

Mr Gumley: In terms of the Wing trial, no, we have seen nothing that has come to us that would cause us concern from a safety perspective.

MR PETTERSSON: In your submissions you mentioned a couple of incidents—I think it was two—that were notifiable. Could you expand on what those were?

Mr Gumley: Yes, I can. There were two incidents that Wing reported to CASA. That is one of their obligations: they must report to CASA. One was in August 2018. That was when an aircraft was landed under the control of the remote pilot as a safety precaution on some green space in Bonython. There were no safety issues, injuries or property damage with the landing, and the aircraft recovery was handled in accordance with the established procedures, which CASA approved. There was a second incident on 20 September last year where, again, the aircraft was landed under the control of the remote pilot in a safe area, the safe area being away from houses and people. Again, there were no safety issues, injuries or property damage, and the aircraft recovery was handled in accordance with established procedures.

MR PETTERSSON: What makes it notifiable?

Mr Gumley: There are a couple of differences in terms of what are notifiable. Under their requirements from CASA, something like this would be required to be reported to CASA. I can take on notice the more specific information as to how that might work.

THE CHAIR: Sure.

Mr Gumley: But if there is an incident, an accident, under the Transport Safety Investigation Act and regulations, they have obligations in certain circumstances to report those to the Australian Transport Safety Bureau.

MR PETTERSSON: Every so often I see local media or social media reports of incidents—drones getting attacked by birds or maybe a delivery to the wrong location. What is happening here? Are these people making these things up or are they not getting reported?

Mr Gumley: I cannot speak to what was in the minds of people about making those,

but with the complaints, matters and incidents that have been reported to CASA, we go through a review process. In these instances we had a particular matter, a report of a drone crash; so we reviewed that. Obviously, we made contact with Wing as well. We looked at their data. We were able to access their data on the telemetry of flights, to ascertain whether a crash had occurred. We found that there was no crash, other than the two off-normal landings in August and September. As we receive information that might come through social media or directed through our web form on the CASA website, we review that appropriately and take action as required.

MR PETTERSSON: When you go through and try to ascertain the veracity of these claims, do you actually go through, essentially, the flight logs for the drones?

Mr Gumley: We have that option, and in one of the instances we did that. We would not necessarily do it in all circumstances. It depends on the veracity of the information that comes in. We go through a process to ascertain more details. If there are scant details, it makes it very difficult for a regulator to look into it further. However, for matters that have been raised with CASA specifically in relation to Wing, we have reviewed those appropriately and, where we were required to, we have accessed flight logs.

MR PETTERSSON: How does that compare to a non-commercial drone operator? What would happen if a drone being flown by an amateur, a hobbyist, was attacked by birds as it flew over recreational space? Is there anything that CASA would do in that situation?

Mr Gumley: It would come down to what happened with the drone. If it continued flying, it might not be reportable to CASA. But if it fell to the ground, and certainly if it injured someone, that would be a reportable matter. It is around what happens in the circumstance post the bird striking it.

MR PETTERSSON: I note in your submission that across the country there are a number of these fines. What is the terminology?

Mr Gumley: Aviation infringement notices.

MR PETTERSSON: Aviation infringement orders. How many of those have been issued in the ACT?

Mr Gumley: I would have to take that on notice, in terms of numbers in the ACT.

MR PETTERSSON: Counselling letters as well; and administrative actions and briefs of evidence to the DPP.

Mr Gumley: Again we would need to take that on notice, to come up with the details specifically for the ACT.

MR PETTERSSON: That would be good; thank you.

THE CHAIR: On that line of questioning, with the safety aspects, do you wait for someone to refer to you and then investigate, or do you have an on-the-spot audit

team that goes in and checks that people are complying?

Mr Gumley: It is both. We have a surveillance regime that we go through on a regular basis. In terms of the Wing operation, we have conducted audits. We look through a number of their systems for compliance. There are the scheduled audits, and, if people come to us with a complaint or a matter, we would certainly review that and take appropriate action.

THE CHAIR: Have you been down to have a look at Project Wing's operation on the ground?

Mr Gumley: CASA has; and I have been to review the operation.

THE CHAIR: You may have already covered this: have you received specific safety concerns from anyone about the Project Wing operation?

Mr Gumley: We received some material where the complainant indicated that they held a concern about safety. We reviewed that and found that there were no safety matters—safety implications or things that we would need to take action on, as a regulator.

THE CHAIR: Has Airservices looked at the next steps beyond this specific trial? As this rolls out in the ACT, we have heard evidence that other providers may get into this space and we would have thousands of drone operations. How is that managed? It seems to be becoming a far more complex environment. Is that being thought about at CASA?

Mr Gumley: There are probably two vehicles that we go through with the approach. One is the whole-of-government approach. That is led by the Department of Infrastructure, Regional Development and Cities. They are looking at a number of government departments—holistically, at what the government response is to this emerging technology.

Specifically, between CASA and Airservices, we have formulated a working group. That is in its infancy. We are working through the terms of reference on the sorts of matters that you have raised; certainly, on the sorts of things on which we would like to have ongoing discussions.

THE CHAIR: At the moment the licence to operate comes from you. But there are, as we have seen, other issues to be addressed, be they environmental, noise, privacy and so on. You may not want to take on all of those responsibilities, but is part of the conversation around a whole-of-government licence, whereby the CASA bit is just part of the licence but they also have to get the tick-off from other agencies, as part of that licensing agreement? There is a licence but you are only the safety subset. You would either not have to get into environmental issues and so on, which may not be your major remit, or there would be a central agency that provides a licence, of which you are a part. That does look like a way forward. Is that part of the thinking at the moment, or is it just all coming to you and you have to get input from elsewhere?

Mr Gumley: It is fair to say at present that the work of both the intergovernmental

conversations and meetings and CASA's and Airservices' meetings through the working group is probably at an early stage. I do not think we have resolved a concept like you have suggested, chair.

Dr Aleck: State and territory governments are expected to be a part of, where they are not already a part of, that conversation. Irrespective of the jurisdictional issues, one way or the other there needs to be coordination, and that can override what may or may not be jurisdictional frictions.

THE CHAIR: It seems to me that, with all of these agencies involved, federal and state—clearly, this has an impact; that is why we are here—a central licensing body that takes all of that into account would be a potential way forward. Do you have any thoughts on that?

Mr Monahan: Multi-agencies have different approvals, and those other agencies would then provide those to the dominant agency that issues the licence in that case. It is certainly more complex governmentally to be able to do that, because there is the state and territory aspect to it as well.

Dr Aleck: That is a policy issue that the department will take the lead on. As a practical matter, whilst at one level it may appear logical that there should be a one-stop shop for all of these things, given the level of technical expertise involved in making those distinctive decisions, rather than recreating that expertise in one place, what may work just as well would be a very well-coordinated process where initial contact may be with one agency but responsibility for addressing the various issues that would feed into an authorisation process would go to the respective agencies.

THE CHAIR: That is logical, but at the moment there appear to be gaps in that process. That is understandable; this is a trial. We are still trying to find out what would be a way forward, and this is in the federal space. The problem is that, without any capacity at the moment to address these issues, we are relying on goodwill. I think that there is goodwill, but that may not extend beyond this trial to other operators. It needs to be addressed sooner rather than later, as this expands quite rapidly, as it clearly is doing. A way forward would be a one-stop shop, or potentially an agency that has the lead, and it then has to go to other agencies. It could be CASA with the lead; then it has to tick off on state issues, environmental issues, privacy issues and so on. I imagine that extra resourcing would be needed as well.

Mr Monahan: As you have highlighted, it would be complicated, but it is the business of government to sort that out so that it is somewhat transparent to the public. Hypothetically, for argument's sake, if the EPA make a 10-decibel limit on whatever the activity is, with having that in our legislation or our licensing, who enforces it? How does that get worked out? That is a very complicated set, because privacy, noise and security all have a big piece to play in this space.

People are thinking about this. This multi-agency group and whole-of-government approach are starting to take these on, and have been for some time. This is not something that is brand new. We have realised that this is an emerging growth area, significantly. As you said, there will be one, there will be two, there will be three; then there will be quite a few after that. Again, we are working towards that and the

complexities of that.

THE CHAIR: Working towards it could take a long time, though. These things are due to fly over a number of suburbs in Canberra shortly. Do you have a time frame for this? In the interim are you prepared to take on a little bit of extra responsibility in terms of looking at those environmental aspects, within reason, pending a more fulsome response from the federal government?

Dr Aleck: The department take the lead on the time frame, so we are more or less in their hands. By the same token, we are alive to the immediacy of the concerns of individuals and state and territory governments. I do think—and I am in touch with your government solicitor on this point—that one of the implications of that High Court decision may mean that, without creating an absolutely unmanageable patchwork of various local legislation in an area that should be nationally coordinated and controlled, 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. That, frankly, is one of the reasons the commonwealth government was as actively involved in that High Court case as it was. Although it involved work health and safety, we were all very cognisant of the implications for drone activities.

MS ORR: Dr Aleck, what areas should the states and territories be taking a bigger lead on, based on that?

Dr Aleck: They were canvassed a bit by the government witnesses. There are areas of concern to local constituencies in the states or territories with which state and territorial governments are much more conversant, such as the immediate concerns of communities: areas in which noise restrictions, for example, would make more sense in one place than they would necessarily in another. In some states you want to open up a city park so that people can fly their drones there; in other places the city park is located next to a retirement centre, or an equestrian centre, whatever the case may be, in which case there may be a strong argument for restricting it.

These are matters that state and territorial governments are much more conversant with, to the extent that those kinds of—I will not say restrictions—controls and management arrangements can be put in place in ways that suit the interests and expectations of the community being served, so long as they do not conflict with safety regulation in a direct way. That is the area in which, necessarily, we do not want to see that happen. We will not be equipped, now or in the foreseeable future, to address every potential carnival in a local park to ensure that it is complying with the whole comprehensive realm of legislation. CASA is not in a position to do that.

THE CHAIR: Based on that High Court decision, is it your view that if, for example, the ACT government was to say that before a commercial operator flies in the ACT they have to get a permit, as long as that permit does not interfere with the safety aspects, it would be constitutional for the ACT government to have such a permit?

Dr Aleck: In a general sense, that is our interpretation of the majority decision: so long as that state requirement did not directly conflict with an existing federal rule, that would be permissible. That is bearing in mind that as soon as a federal rule that

does interfere with that comes into effect, it could override that existing state or territorial rule, which creates a level of uncertainty that is probably not healthy to maintain. That is all the more reason to coordinate these kinds of activities, irrespective of the jurisdiction.

MS ORR: Can I ask a question for the sake of clarity? These opportunities have only existed since this judgement has been handed down. Prior to that, these were an option. Am I right?

Dr Aleck: I think it depends on who you talk to. A number of states have enacted legislation limiting how, where and when drones can be operated. Our view on that, certainly up until the High Court decision, was that the constitutionality of that legislation was a matter that they should consult their own law officers about. I suspect that they have done that and taken their decisions accordingly. Some are more conservative than others.

States can certainly limit what comes onto state property. They can say that you may not bring a drone into this particular state park. But, as far as flying a drone outside the perimeters of the park or over the park is concerned, some have been a little more hesitant to introduce restrictions on those kinds of activities. To my knowledge, none of those state or territorial rules have been challenged in the court. If they were to be now, without speculating on the outcome, they would be more sustainable than they were before, but the absence of that High Court decision did not prevent them from doing it.

THE CHAIR: Do you know which states have laws around drone operations? I know Queensland has them.

Dr Aleck: Victoria has some; New South Wales has some. I do not want to speak out of turn here, but it has to do primarily with where, when and how, particularly with relation to state prisons. I think in both Victoria and New South Wales it has to do with operations near prisons.

THE CHAIR: We probably have some of that too. But there is nothing beyond prisons?

Dr Aleck: I can take that on notice.

THE CHAIR: No, it is all right. We can correspond with them.

Dr Aleck: Even local governments—municipalities, shire councils—are introducing ordinances of various kinds, which, as I said, to my knowledge, have not been challenged.

THE CHAIR: Do it and see if they want to take it to the High Court?

Dr Aleck: They are on firmer ground now than they were two months ago.

MS ORR: I just want to clarify something. With the licence that has been granted to Wing by CASA, correct me if I am wrong, but was that for the trial? And then there

will be another licence?

Mr Gumley: Ms Orr, there are a few different approvals and certifications that CASA have provided to Wing. To clarify, originally it was Unmanned Systems Australia. If we talk about what approvals they had, they had an RPA operator certificate, which is the commercial operation. Then they needed more specific approvals and exemptions to operate the Bonython trial, so we issued some approvals and exemptions in terms of the dates for those. In June 2018 we provided an exemption, which is the one that has the more specific approvals of operations near people, the limitations on hours and those sorts of things. There are a few sets. There is the RPA operator certificate, there are the approvals, and then there is the exemption instrument specifically for the Bonython trial.

MS ORR: For the Mitchell operation, are they currently undergoing another process for having a licence granted? Is that correct?

Mr Gumley: CASA has a current assessment on foot. The RPA operator certificate is enduring. Wing now have their own operator certificates, so they now no longer operate through Unmanned Systems. In terms of the approvals and exemptions, yes, CASA is going through an assessment for the Mitchell location.

THE CHAIR: In terms of a way forward, and you may not have a preference or a view, there seem to be a couple of ways to address the noise and environmental concerns. One is that the ACT government engage with you and you incorporate that into your exemptions and licence agreement. Alternatively, the ACT government could operate with a permit system whereby any operator must adhere to the permit system and, as long as it is not interfering with your safety requirements, you do not care. Do you have a view? Are either of those workable? Is it better to coordinate it in one space under one licence?

Dr Aleck: I respect the conservatism of your government solicitor. The space available for territorial jurisdiction is grey; I think was the term that she used. But if I understand Mr Gumley correctly, and it certainly would be consistent with past practice within CASA, they would welcome input for a coordinated consideration in the process of making the decisions that we make and applying the environmental considerations that we are obliged to apply.

MS ORR: Given that the assessment for Wing's operations at Mitchell is currently underway, what opportunity is there for input at this point in time?

Mr Gumley: There are a few opportunities for input. We have continued to work with the ACT government. In the Bonython trial, the ACT government conducted a risk analysis. They did that for certain elements, in consultation with CASA; we provided advice and did information sharing. That precipitated some of the conditions that we put into the instrument. That option is available for the Mitchell operation. That is predominantly one of the major areas that we would look at.

MS ORR: I was more getting to this: it sounds as though you have an assessment underway for an application. Given that we still have to go through our process as a committee, talking more to time lines, is there an opportunity to have input at this

point in time, given that an assessment by you is underway?

Mr Gumley: I think CASA is open to receive information that we can take into consideration.

THE CHAIR: Don't they need a licence down the track, though?

MS ORR: That was my next question.

Mr Gumley: If we have issued an exemption, yes, CASA can, if there is an aviation safety reason to amend it. That is an option that we have.

THE CHAIR: If we came to you with an environmental issue—we do not want them flying over the racecourse, as an example—you could then make an amendment?

Mr Gumley: I think there are a couple of areas that are probably worth discussing, before I hand over to Dr Aleck, about considerations that would make a change to an exemption. One of those is that CASA is aware that Wing, during its consultation with community, spoke to areas that people voiced concerns about—things like schools, other areas that might be noise sensitive—and they elected to do their flight routing away from those particular areas. That is something that Wing appears to be continuing to do in the Mitchell circumstance, working with local community to understand potential noise impacts and things like not operating near schools. That is outside CASA's approval or exemptions that we give at this point in time. I might hand over to Dr Aleck about changing an instrument based on environmental concerns.

Dr Aleck: I am reluctant to say it would be unprecedented. But if an applicant for an exemption satisfies all the safety-related requirements that they would be obliged to satisfy to be entitled to that exemption, it would be difficult for CASA to refuse to grant it. They would have a basis on which to challenge that decision and could perhaps have it overturned.

By the same token, as I said, in performing that function of assessing and perhaps granting an exemption, we are required—it is a duty in the act; so I am not speaking out of turn here—to take into account, to the extent practicable, the effects of the operations involved on the environment. We would have to look at that and, without an environmental function, I think it may be difficult to say no to an applicant on the basis of potential environmental issues, but it would be something we would be obliged to demonstrate that we had turned our mind to.

I will not speak to who may or may not have the standing to challenge a decision, but to the extent that there is a statutory duty to take something into account then CASA would be obliged to demonstrate that it has discharged that duty. I am certainly not looking to open the door to litigation, but I think it is all the more reason for a cooperative, coordinated approach in looking at these things.

THE CHAIR: Relying on Project Wing's goodwill is where we are at at the moment and I just think we need to work a way forward that is not dependent upon goodwill in a system, because we may come up with an operator that does not have the same

goodwill.

Dr Aleck: That is why we have laws.

THE CHAIR: That is right—or not in this case, which is the problem.

MR PETTERSSON: We currently have one unmanned drone operator operating in the ACT. Would it be possible for a second one to operate in the ACT?

Mr Gumley: We have got multiple certified commercial operators in the ACT, but there is only one doing parcel delivery, which is Wing. You are correct. It is conceivable that if an applicant came to CASA, met all the required regulatory standards and safety assessments, using the JARUS SORA methodology principally to inform our decision-making, yes, there could be a second operator in the ACT.

MR PETTERSSON: Are there any safety concerns with two operating simultaneously?

Mr Gumley: If they are operating in the same location, they are collocated, operating and doing deliveries in the same area, yes, there are some aviation safety considerations we need to take into account, particularly around traffic management. You might be aware that Wing currently have what they call an unmanned traffic management system that helps them do their flight planning, because they have a number of aircraft conceivably airborne at one time. You would need to look at how those two operators would do separation between their various aircraft. That is certainly something we would need to take into consideration before we issued any approvals for that type of operation.

MR PETTERSSON: Has any of that work occurred, allowing those two systems to interact?

Mr Gumley: We have commenced the conversations with Airservices Australia. Whilst they are principally looking at controlled airspace, depending on where those locations are, CASA and Airservices would look very closely at a traffic management system and we certainly have started those conversations.

THE CHAIR: You are looking in the future, potentially, at a single traffic management system that all drone operators would then adhere to. Is that right?

Mr Monahan: UTM is used commonly, but that is a subset. The air traffic management system that governs aviation airspace will have to integrate into that effectively, because if you want to work in airspaces that are more restrictive—for example, you want to fly with aircraft at higher altitudes or in controlled airspace near or closer to airports; those requirements on regular aviation, the fixed wing and rotary side of the house—it would be incumbent on the use of the airspace. That is what is going to drive that effectively.

There is potential for us to have the UTM, but the UTM has got to learn to integrate. Right now it is a closed system. The one that Wing has is a closed system for them to manipulate and drive their own system and deconflict one another, the grander system.

But right now that system, both in drones but also in grander aviation, applies in different parts of the airspace. There are parts of the airspace where you are not required to have all the things you do to fly into Sydney, for example.

THE CHAIR: Project Wing is a closed system. Can you envisage where that would be open and other providers would then be using that system and that would be a path forward? Is that what is being proposed?

Mr Monahan: That is the international question of the day and there are a lot of people driving it.

Mr Gumley: Mr Monahan is correct. There are a number of international initiatives and reviews in this space that CASA looks at very closely, about what the world is moving towards in the UTM space. I think it is fair to say that the government has not defined a position where we will be going with UTM, because there are many different considerations and because the technology is evolving rapidly. It is not something we have resolved at this point in time.

But specifically to your question around “can we see a point at which there would be more open sharing”, I think when we have an additional operator that comes into similar airspace or more complex airspace—operations near an airport, for example—that is probably going to trigger an opening up of a UTM system like Wing’s.

Mr Monahan: It is also important to note that when they start to work to integrate these systems there is going to be a requirement that anybody who wants to integrate has to meet the design specifications that are required for those UTM systems we now currently use to drive the RPT aircraft through our airspace and the radars. There is a certain integrity that has not been set in this case yet. It has to have a certain amount of reliability, maintainability, suitability, does not create false positives—there is a whole ream of things that go with that before they are allowed to plug in. That is why right now there are effectively closed systems managing their own business before they can integrate.

But are people thinking about this? Absolutely, and they have been for some time. There is a race on to find a way to effectively integrate into the UTM system, because that opens up more airspace and more opportunities and goes to your density question and your conflict question—that they can start to resolve those things at the lower altitudes. It is certainly an ongoing business. We are not driving a particular format, protocol or software because that is not appropriate for us, other than that they have to meet a standard. Right now that standard has not been set for integration on that.

MR PETTERSSON: Whilst we wait to resolve, maybe one day, these traffic management problems, does that mean we can only have one operator in any one designated space or can you mitigate those safety concerns and have two operators operating in the same space?

Mr Gumley: I think that you can safely mitigate two operators being in a similar airspace if they want to have an integrated—

MR PETTERSSON: Similar or the same?

Mr Gumley: The same airspace. If traffic management was not an option, it would be possible; it would probably be unlikely, though, because it would be very restrictive. You would probably be looking at things like operator A only operating at these times of day and operator B operating at these times of day; or particular parcels of airspace and corridors would be dedicated. So it is possible to do it outside a UTM system or a UTM construct, but perhaps it would not necessarily be a sensible approach, because you would be quite restricted in what you could do as an operator.

MR PETTERSSON: Even with those caveats, it seems to me that you can only have one set of drones operating at one time. One operator would be operating in certain hours; the other operator would be operating in different hours. That airspace would be utilised by one operator, one company, at a time.

Mr Gumley: Mr Pettersson, currently we have different drone operators, commercial operators, operating in the same parcels of airspace. For us, if there was another company doing drone deliveries in the same location as Wing, we would need to look at a number of different factors: what is their concept of operation; what machine are they flying; what sort of systems do they have on board? There are things like: are they able to detect other aircraft?

There are a number of factors that we look at in our assessment, and we use that JARUS SORA methodology to help inform our decision-making. It is a little too difficult to quantify by saying that it could or could not. The reality is that we would take a pragmatic approach to see what is realistic and what is the safest course of action.

Dr Aleck: While safety would drive, ultimately, our decision-making, in addition to our obligation to take environmental factors into account, in allocating airspace we have another duty to ensure that it is allocated equitably. The interpretation of the term “equitable access to airspace” is probably as challenging as what constitutes an unacceptable intrusion in the environment. These are all new issues that we are dealing with.

Mr Monahan: If your concern was that one operator would, by default, have exclusive right to the airspace, that would not be the case because we have to make it available to anybody who can qualify and meet the requirements.

Dr Aleck: Unless the multiplicity involved was inconsistent with the safety outcomes, in which case we could say we cannot tolerate more than one. But then the question is: who gets to play in that space?

Mr Monahan: That is a flow reg we have on airlines that come in and out of this country. There is a certain volume and over time those systems work out for the equity of access to the airspace, so that it is not just one RPT operator who gets the airspace at a time. That is something we are not allowed to do. It will be problematic, and it will be something we will have to look at, when two operators want to use the same space, and we will have to address it.

We are thinking about it now. We think about density and deconfliction quite a bit,

especially at lower altitude, and volume, because the barrier to entry is quite a bit lower. It is cheaper to buy a commercial RPAS than it is to buy a commercial aeroplane. We recognise that; so it is not something we are avoiding. Every time you expand it a little, it gets a little harder and a little more difficult to do it and meet all of your obligations at the same time. Part of what the group that is meeting, the multi-agency and whole-of-government group, is doing, is trying to figure out how to address that, because there are economic and commercial concerns that drive over a lot of these things and intersect.

THE CHAIR: We will have to leave it there. Thank you very much for attending today. You will be forwarded a copy of the proof transcript, and you can check it and make sure you are happy with it. Was there anything that you were going to provide to us?

Dr Aleck: The infringement notices, administrative action and briefs submitted to the prosecutor involved in ACT activities.

THE CHAIR: Please forward that. Again, thank you very much for your attendance today.

The committee adjourned at 11.01 am.