Investigation Report
Short round-trip helicopter activity at
Gold Coast Airport

Noise Complaints and Information Service
April 2018
1. **Purpose**

This investigation was conducted in response to complaints about short round-trip helicopter activity over areas surrounding Gold Coast Airport in order to:

- determine the nature and volume of the activity
- identify and assess any opportunities for noise improvements
- make recommendations if appropriate.

2. **Methodology**

The investigation included:

- analysis of issues raised by complainants
- analysis of flight data using the Airport Noise and Operations Management System (ANOMS) software
- discussion with the operator
- discussion with air traffic control at Gold Coast Airport

3. **Role of Airservices and other agencies**

Airservices is an air navigation service provider. We provide air traffic control and airport firefighting and rescue services, design flight paths in controlled airspace and manage noise complaints nationally.

Under the **Air Services Act 1995**, in exercising its functions Airservices must regard the safety of air navigation as the most important consideration (at 9(1)). Subject to this, Airservices must carry out activities to protect the environment from the effects of aircraft operations (at 9(2)).

The Air Services Act does not confer powers to stop or limit particular types of aviation activity. Therefore Airservices cannot require the helicopter activities complained of to cease, nor limit their hours of operation or the number or frequency of flights.

As the helicopter activities in question are taking place within controlled airspace, each flight is under the direction of air traffic control. Therefore, if it can be done without jeopardising safety, in theory Airservices does have the ability to change the way these flights are managed. This question will be discussed in section 5.

The Civil Aviation Safety Authority (CASA) is Australia’s safety regulator. CASA sets down rules that govern the safety-related activities of pilots, aviation operators and air traffic control. Relevant legislation and regulations include the **Civil Aviation Act 1988**, **Civil Aviation Safety Regulations 1998**, **Civil Aviation Regulations 1988** and Manual of Standards applying to air traffic management, aircraft registration, airworthiness and flight operations.

No agency is empowered to take action against aircraft that exceed a specific noise level while in flight. This is because there is no regulated maximum noise level for aircraft flying over residential areas. Similarly, no legislation or regulation specifies a maximum level of aircraft noise that a community can be exposed to.
Under the *Air Navigation (Aircraft Noise) Regulations 1984*, before an aircraft may fly in Australia it must meet international noise standards that apply to the design and production of aircraft. These standards specify the amount of noise that may be emitted by an aircraft type or model. Aircraft that do not meet these standards are prohibited from flying in Australia. Once an aircraft is certified under these standards there is no legal mechanism by which it can be required to undertake further noise investigation.

4. **Complaint analysis and investigation**

Complaint data shows that from 1 January 2017 to 20 February 2018 three residents complained about short-flight helicopter traffic – one each from Bilinga, Kirra and Coolangatta. Between 20 February and 31 March 2018, 28 complainants contacted the NCIS about this activity.

All February-March 2018 complainants reside between the runway and the coast as shown in Figure 1 below.

**Figure 1: Area in which complainants reside (orange) and location of helipad**

Issues raised by complainants included noise and annoyance related to:

- the activity occurring continuously from morning to late afternoon, seven days a week
- the brief respite between flights
- the low altitude over homes
- disturbed television viewing.
Investigations showed that the flights complained of are round-trip scenic flights of around 5 minutes duration offered by an operator based at Gold Coast Airport. They occur seven days a week when the weather permits and typically take place between 8.30 am and 4.30 pm. The helicopter arrives and departs from the helipad at the airport. Unlike helicopter training circuits, which are conducted to the west of the runway from the area known as the Western Grass, these flights involve a circuit to the east of the airport which crosses the coast and flies along the coastline over water before returning to the airport. Residents are overflown as the helicopter arrives and departs the airport.

While other helicopter activities undertaken by charter and training companies and private individuals also take place around Gold Coast Airport, including longer scenic flights and training activities, the complaints have centred on the short-duration flights due primarily to their frequency.

Helicopters must take off and land into the wind in the same way as fixed wing aircraft do. Therefore the direction of the circuit flown varies with the wind conditions. The most prevalent wind at the airport is southerly, which tends to occur around two-thirds of the time. Therefore in these conditions helicopters (and fixed-wing aircraft) take off towards the south and land from the north. In northerly wind conditions the opposite occurs.

Air traffic control manage these flights by having the helicopter either approach or depart over the grassed area parallel to the runway and taxiway, the direction depending on the wind conditions. This shown in Figure 2 below with the arrows indicating the direction taken in different wind conditions. This is discussed further in section 5.

Figure 2: Grassed area and helipad location with arrows showing directions of approach to pad in southerly winds (pink) and departure from pad in northerly wind conditions (orange)
Figure 3 shows short round-trip activity underway on two separate days. On 15 March the wind was southerly so flights were taking off towards the south and landing from the north. On 26 March the wind was northerly so the opposite was occurring – flights took off towards the north and landed from the south. These were the busiest days of the month for these flights with 47 flights on each day.

Figure 3: Short round trip helicopter fights – 15 March (pink – departure towards the south) and 26 March (orange – departure towards the north)

In the above image each track is one flight. The variation in the size and shape of each flight is notable. This has the effect of creating some degree of spread. Also notable is the difference between the circuits beginning towards the south (pink) compared to those starting towards the north (orange). This can be due to:

- the fact that northerly circuits take off over the grassed area and land via the runways or taxiways, with the opposite the case for southerly circuits
- air traffic control requirements, for example a pilot may need to fly an enlarged circuit to remain out of the way of other traffic if directed to do so
- some flights are shorter than others and as such the circuit will be smaller
- variation can always be expected in how a pilot flies.

Table 1 shows the results of our data analysis of the volume of short helicopter flights. These figures do not include longer round-trip flights, training flights or helicopter arrivals and departures to and from other destinations. This approach
has been taken because the complaints centre on the short flights, and because there is much more variation in the communities affected by other types of helicopter flights as they approach and depart the airport in many different directions rather than the same pattern each trip.

Table 1: Operational statistics for short round-trip flights

<table>
<thead>
<tr>
<th></th>
<th>1 – 31 March 2017</th>
<th>1 – 31 March 2018</th>
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</thead>
<tbody>
<tr>
<td>Total number of short round-trip flights</td>
<td>502</td>
<td>733</td>
</tr>
<tr>
<td>Maximum number of flights per day</td>
<td>36</td>
<td>47</td>
</tr>
<tr>
<td>Minimum number of flights per day</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Average number of flights per day</td>
<td>16</td>
<td>24</td>
</tr>
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Residents voiced a number of misconceptions about the activity. There was a belief that this is a training activity. This is not the case – helicopter circuit training is generally conducted on the western side of the airport.

Some complainants cited beliefs that helicopters are required to stay 300 metres or 600 metres away from homes, or that they were flying at levels below the minimum altitude. Three hundred metres roughly equates to 1000 feet, so this may stem from Civil Aviation Regulation 157 (CAR 157) which pertains to minimum altitudes. CAR 157 states that:

The pilot in command of an aircraft must not fly the aircraft over:

(a) any city, town or populous area at a height lower than 1,000 feet; or

(b) any other area at a height lower than 500 feet.

Unless: … …

(e) the aircraft is flying in the course of actually taking-off or landing at an aerodrome;

Paragraph (e) exempts aircraft that are arriving or departing an airport from this minimum altitude. The helicopters concerned have either just taken off or are approaching to land and therefore paragraph (e) applies. A survey of altitudes over a randomly chosen point on Pacific Parade indicated that the average altitude for departing helicopters was 452 feet and for arriving helicopters was 729 feet.

Some residents felt that helicopters were taking a short cut over homes. This view may have risen from the fact that this helicopter traffic is flying a different approach to the airport than the jet aircraft. This is because there are standard, published flight paths for jet aircraft. However there is no standard flight path for a helicopter performing this type of coastal circuit.

A concern was raised that the operator is not using the helipad for these flights however this was found to be incorrect.

Some complainants were concerned that this type of helicopter operation presents a safety risk. Aviation is heavily regulated in Australia by the Civil Aviation Safety Authority. This type of activity is permitted under CASA’s rules and therefore the regulator does not consider it to be a safety risk as such. There are many airports and aerodromes around Australia where aircraft operate safely in residential areas. Questions about the safety of specific operations fall into the remit of CASA and are outside the scope of this investigation.
Complainants asked why the helicopter must fly over houses to land, and why can’t the operation move to the other side of the airport. These issues will be discussed in section 5.

5. **Air traffic management**

The role of air traffic control is to safely and efficiently manage air traffic into and out of airports, both in the air and on the ground. Broadly, this includes managing the flow of traffic in and out of the airspace of airports, movements on the ground to and from runways, taxiways and helipads and including airport vehicles, guiding pilots during take-off and landing, and monitoring flights end route, all while ensuring that safe separation between each aircraft is maintained at all times. Air traffic controllers will instruct pilots to ascend or descend to a certain level, to turn right or left and to change speeds as necessary.

Air traffic control systems and processes are designed to minimise complexity for air traffic controllers and pilots as far as possible. This is because increased complexity increases the likelihood of error, and therefore decreases safety. In air traffic management, “complexity” is created by factors such as:

- the number of times a controller must communicate with a pilot – especially when there are many aircraft in the area, the more times a controller must speak to a pilot the higher the workload is

- the number of times a controller must communicate with another controller in order to co-ordinate hand-over of aircraft between the sectors of airspace or the areas of responsibility each control

- the volume of aircraft in the airspace or seeking to enter the airspace – the more aircraft there are, the more work there is in ensuring all remain safely separated. There will be more pilots to speak to and there will be more need to co-ordinate with other controllers

- whether or not aircraft are flying on standard, published flight paths – standard flight paths are procedures that contain detail on where to fly and at what altitude or range of altitudes an aircraft should be in at a given point. This reduces the need for controllers to speak to pilots to tell them when to turn, how high to be, or what speed to be flying at, because all pilots already have the same instructions

- the mix of aircraft in the airspace – this influences how aircraft are managed in a number of ways. For example, speed limitations need to be taken into account: non-jets will be slower than jets and may have to be moved out of the way of faster aircraft, or faster aircraft may need to be slowed down, all of which requires additional communications with pilots. Wake turbulence from heavy jets means that increased separation is required to protect other aircraft from this effect.

One of the key ways that complexity is controlled in air traffic control is by using standard procedures that are published and predictable for both pilots and controllers.

5.1 **How short round-trip flights are managed**

Helicopter flights arrive and depart the helipad rather than the runways. The controller responsible for the helipad is the “aerodrome controller”.

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Short round-trip helicopter activity at Gold Coast Airport
April 2018

Page 7 of 14
Air traffic control management of helicopter flights begins from the hangar. The pilot must first talk to the "ground controller" who controls ground movements to ask for clearance to move from the hangar to the helipad. The helipad is under the control of a different controller, the "aerodrome controller". Before the ground controller can instruct the pilot to move to the helipad, he or she must co-ordinate with the aerodrome controller to determine what other aircraft are in the vicinity. If there are other aircraft the aerodrome controller needs to specify what and where these movements are. The ground controller must ensure the helicopter does not overfly taxiing aircraft (including avoidance of any jet blast from taxiing jet aircraft), and other operations on the ground. Once the decision is made to provide clearance for the helicopter to move to the pad, this may need to be relayed to airport ground vehicles or other aircraft on the ground or in the air, as well as to the helicopter pilot.

Once the helicopter reaches the pad the pilot must seek clearance to depart from the aerodrome controller. Before departure clearance can be given the aerodrome controller must ensure that the departure path into the wind remains clear of the active runway, other taxiing and airborne aircraft, and from the wake turbulence of jet aircraft. If the helicopter will overfly a taxiway (which depends on the departure direction), the aerodrome controller must co-ordinate again with the ground controller before clearing the helicopter for take-off.

The controller will then advise the pilot they are cleared to depart from the helipad subject to airborne tracking instructions. Because there are no standard flight paths for short, round-trip helicopter flights and the flight remains in controlled airspace, the aircraft must fly as progressively cleared by air traffic control.

When the pilot is ready to return to the airport they will request clearance from air traffic control to land on the helipad. Again, the aerodrome controller must ensure there is no conflict with airborne aircraft and co-ordinate with the ground controller to ensure there is no conflict with ground movements. The helicopter may be required to hold north or south of the helipad while waiting for clearance to be given. Once clearance is given the pilot will land on the helipad before contacting the ground controller again to arrange clearance to return to the hangar.

This illustrates that, for air traffic control purposes, each round-trip helicopter flight must be processed by controllers twice – once when it leaves the helipad and again when it returns. Therefore the workload associated with these flights is double that for arrivals or departures that originate from or end at another airport. The amount of co-ordination required between controllers for helicopter flights is also doubled, as this must occur at both ends of the flight.

### 5.2 Complexity

From an air traffic management perspective, processing helicopter flights in conjunction with the regular public transport flights is very complex at Gold Coast Airport for the reasons discussed in the following sections.

Air traffic control are not able to refuse a pilot that wishes to arrive or depart. If other aircraft are also wishing to arrive or depart they must sequence these according to a priority list published in the Aeronautical Information Package, holding other aircraft on the ground or in the air as required.

#### 5.2.1 The volume of helicopter flights and the short duration between arrivals

The number of helicopter flights has increased. Table 2 shows the increase in round-trip helicopter flights (including short and longer flights) by comparing these
movements in March of each year from 2014 to 2018. Note that these figures differ from those in Table 1 because all round-trip helicopter flights are included, not just short flights.

Table 2: Number of round-trip flights compared to annual average

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of flights in March</th>
<th>Annual monthly average</th>
</tr>
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<tbody>
<tr>
<td>2014</td>
<td>190</td>
<td>241</td>
</tr>
<tr>
<td>2015</td>
<td>322</td>
<td>229</td>
</tr>
<tr>
<td>2016</td>
<td>329</td>
<td>341</td>
</tr>
<tr>
<td>2017</td>
<td>623</td>
<td>548</td>
</tr>
<tr>
<td>2018</td>
<td>809 (quarter 1 2018 only)</td>
<td>631</td>
</tr>
</tbody>
</table>

Given that round-trip flights need to be processed as both a departure and an arrival by air traffic control, and the large amount of co-ordination between controllers that is required to manage these flights as described in 5.1, the effect of an increase in flight numbers is greater than if jet arrivals or departures increased by the same amount. When there were ten helicopter round-trip flights a day this was manageable, but at nearly 50 flights a day on top of the regular public transport and other operations this substantially increases workload and complexity. Further, the growth in short-flight helicopter activity shortens the duration between movements, meaning that the workload increase occurs over a sustained period each day.

An analysis of the gap between all flights was conducted to provide an indication of the degree of complexity for air traffic control in managing the mix of regular public transport, private and commercial traffic at the airport. Flight data analysis showed that 26 March 2018 was one of the two busiest days for helicopter flights that originated and ended at Gold Coast Airport, and was selected for analysis on this basis. The results are shown in Table 3.

Table 3: All movements - gap between movements, 26 March 2018

<table>
<thead>
<tr>
<th>Gap between movements</th>
<th>Number of occasions</th>
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<tbody>
<tr>
<td>1 minute or less</td>
<td>112</td>
</tr>
<tr>
<td>2 minutes</td>
<td>89</td>
</tr>
<tr>
<td>3 minutes</td>
<td>47</td>
</tr>
<tr>
<td>4 minutes</td>
<td>18</td>
</tr>
<tr>
<td>5 minutes</td>
<td>15</td>
</tr>
<tr>
<td>6 to 10 minutes</td>
<td>24</td>
</tr>
<tr>
<td>More than 10 minutes</td>
<td>13</td>
</tr>
</tbody>
</table>

Of the 112 instances of one minute or less gaps between movements, 102 occurred between 8.30 am and 4.30 pm, coinciding with the typical hours of short round-trip helicopter flights.

Still considering all movements, there were peaks of 32 movements an hour between 1 pm and 2 pm and again between 3 pm and 4 pm. From 11 am to 12 pm
and 2 pm to 3 pm there were 31 movements per hour, with 30 movements between 12 pm and 1 pm. From 10 am to 11 am there were 28 movements and there were 26 each hour between 9 am and 10 am and 4 pm and 5 pm.

Between 5 pm and 10 pm hourly movements ranged from one to nine. The mornings were busier than the evenings with 13 to 26 movements per hour between 6 am and 10 am.

5.2.2 The location of the helipad
The location of the helipad restricts how the flights can be managed and makes it more difficult to ensure an efficient flow of all traffic that needs to use the airport.

Operations to and from the helipad cannot be directed east of the tower or south of taxiway Golf due to the presence of fuel storage units (Local Instructions ATS-PROC-0130). This means that helicopters must fly down the runway or the parallel taxiway when approaching from or departing towards the south. The taxiway or runway must be clear of other traffic for this to occur.

When approaching from the north, controllers require helicopters to remain east of the runway strip and fly down the grassed area to the helipad as shown in pink in Figure 2 in order to minimise the disruption to the flow of jet traffic as far as possible. However due to the close proximity of the helipad to the runway and the need to ensure helicopters are not subject to jet blast, the efficient flow of traffic to the runway from the air and from the taxiways is often compromised, as is the flow of helicopter movements.

The prevailing southerly wind combined with the location of the helipad most of the time prevents helicopters from tracking direct to the helipad from over the water instead of via the grassed area from the north or via the runway or taxiway from the south. Even if this could occur, this would require overflight of homes.

5.3 Potential to manage flights differently
Independently of this investigation, air traffic control managers met with Gold Coast Airport in mid-March to discuss the increased complexity and workload being experienced as a result of the increase in short round-trip helicopter activity. The suggestion of moving the activity to the western side of the airport was discussed however there is no infrastructure on that side of the airport to allow transport of passengers (no road exists) and safe embarkation and disembarkation. No solution could be identified.

A number of suggestions that arose in this investigation or which were made by complainants were put to air traffic control for consideration.

5.3.1 Use the standard flight paths
It was suggested that helicopter flights could be required to approach the runway using the standard flight paths. Air traffic control did not consider this to be a feasible option because it would mean the helicopters would need to be sequenced between the jet traffic on the final approach. Given the different speeds of each type of aircraft, wake turbulence standards and separation requirements this would create further complexity in an environment which is already very complex.

5.3.2 Opportunities to use runway or taxiways
When asked if any opportunities exist for helicopters to be processed from the north via the runway or taxiway rather than the grassed area, air traffic control's
view was that there would be very few such opportunities, if any, in the course of a normal day, for reasons of complexity, priorities required under the Aeronautical Information Package and efficiency as previously discussed. This is discussed further at 6.1.

5.3.3 Load at hangar and cross to western side for departure

Would it be feasible for the helicopters to load passengers at the hangar on the eastern side of the airport, and then air taxi across the taxiways and runway to depart from the western grass area? This was also considered to be unfeasible. The need to cross the active runway on arrival and departure would create further complexity and potential loss of efficiency. There would also be a safety concern – to cross over the main taxiways that lead to the domestic and international aprons, helicopters would need to enter a known and designated runway incursion “hot spot”. “Hot spots” are so designated and published in aeronautical documents where there is an increased potential for aircraft to inadvertently enter the active runway.

It was also suggested that helicopters are very difficult to manage when operating close to the ground, and an operator may not wish to carry the additional risk of performing that manoeuvre twice for each flight with passengers aboard.

6. Discussion and findings

6.1 Changes to air traffic management

Air traffic control consider that there is no action they can currently take to manage these flights in a way that avoids overflight of homes or minimises the noise impact while the flights continue on the eastern side of the airport.

The only potential opportunity identified in this investigation is that air traffic control could try and process flights from the north via the runway or taxiway when the opportunity presents in order to move the helicopters further away from the boundary fence and avoid overflight of residents between the runway and the coast. However, the data collected in Table 3 indicates that there would be few, if any, opportunities to do this during the hours the flights take place. Further, this would move the noise impact to residents to the north of the runway end who are already overflown by fixed wing traffic on final approach and who also live in designated noise sensitive areas (discussed in the next section). Finally, it would increase complexity by requiring controllers to manage these flights in a non-standard way (that is, differently to all the other helicopter flights). This is not desirable for the reasons explained in section 5. For these reasons, this is not considered to be a safe, feasible or practical option.

The volume of traffic at Gold Coast Airport overall, the fleet mix that needs to be managed, the concentration of a large volume of short flights between 8.30 am and 4.30 pm, the short space of time between flights, the short duration of each flight, and the additional controller workload and complexity presented by helicopter flights means that no blanket solutions involving changes to the way air traffic control manages these flights have been identified in this investigation.

Finding 1

No safe, practical and feasible changes to the way air traffic control manage short helicopter flights could be identified.
6.2 **Noise Abatement Procedures**

Noise Abatement Procedures (NAP) are published in the Aeronautical Information package (AIP). They are devised and implemented by Airservices. They apply to pilots and air traffic controllers but their use is not mandatory and is subject to weather conditions and aircraft requirements.

The Gold Coast NAP make no explicit reference to helicopter activity.

In section 3 of the NAP covering Preferred flight paths, 3.1 applies to Arriving aircraft. A map indicating noise sensitive areas is included and pilots are asked to “either avoid these areas where possible, or minimise noise whilst overflying them.” However elsewhere in the AIP (in the End Route Supplement) it provides that preferred flight paths apply only for aircraft above a maximum take-off weight of 5700 kg – this excludes most helicopters as the maximum take-off weight is below this level. Figure 3 below shows that the noise sensitive areas include the area in which the complainants reside, as well as areas immediately to the north and south of the runway.

**Figure 2: Extract from map of noise sensitive areas in Noise Abatement Procedures**

Air traffic control do not have the power to refuse an aircraft clearance to fly over NAP-designated noise sensitive areas if the pilot requests to do so. It is not clear what options a helicopter pilot would have to minimise noise while overflying the area in question given that the aircraft will either be ascending or descending at that phase of its flight. In discussions held in the course of this investigation with the primary operator of short helicopter flights, the company agreed that they would try to vary their tracks wherever possible within the bounds of the clearance given by air traffic control. However given a spread already exists it seems unlikely that this would have a significant impact.

Theoretically it would be possible to amend the NAP to require all short flights to take place on the western side of the airport. However considerable difficulties exist. Firstly, if passengers were to be loaded and unloaded on the western side, the airport would need to build infrastructure such as a road and hangar. Alternatively if the operation remained based in a hangar on the eastern side the
potential safety and efficiency concerns of having helicopters regularly crossing the active runway and taxiways may be insurmountable.

Secondly, while there is vacant land to the west of the airport, sound does carry over open spaces. This could move the noise impacts to residents in areas such as Tweed Heads West, the Coraki Broadwater Village and Currumbin Waters. Airservices does not normally consider moving noise from one location to another to be an overall noise improvement for the community unless it can be clearly demonstrated that the newly affected population is significantly smaller than the existing impacted population.

Thirdly, given that most of these flights are undertaken by one operator, that operator could consider that such a clause unfairly targets their business and may seek to challenge such a provision. Considerable consultation with the operator and the airport would be required before this solution could be adopted. However, given that the nature of the flights is scenic, it is perhaps unlikely the operator would agree to move the location of the flights away from the coast when the activity is legal and contributing to the local economy. It would not be appropriate for Airservices to seek unilaterally to impose this solution on the operator given the nature of the business and that the infrastructure required for the business to operate does not exist on the western side of the airport. As airport infrastructure is provided by the airport, this is not a solution that Airservices can progress.

Finding 2

Amending the NAP to move short helicopter flights to the western side of the airport is not feasible at this time due to the lack of infrastructure that would be required to support this activity.

6.3 Other potential solutions

Given that the main issue for air traffic control is to ensure that complexity and workload is minimised, it may appear that a reasonable solution to the workload problem could be to roster more staff. Unfortunately, the air traffic control context is very different from other industries. In air traffic control each controller has a designated role in the management of the airspace. These roles are standard across every Tower and Terminal Control Unit. Controllers must train, and meet required standards, for the specific role they perform.

If a role was to be split in two, a safety case would need to be made and there would be a requirement to delineate the responsibilities of each controller and their role. In large Towers, such as Sydney, there are two ground controllers and two aerodrome controllers, one for each of the two parallel runways. This is a logical split of responsibilities between the two controllers and co-ordination between the two is able to be minimised. As the Gold Coast has only one active runway, a logical split is not immediately obvious. If the split was that one controller handled the helipad operations and another handled the arrivals and departures, they would still need to be constantly co-ordinating with each other, and with the ground controller, because the helipad operations still must be separated with arrivals, departures, circuit and other air traffic, as well as taxiing traffic, vehicles and other ground operations. As such it is likely that the issues of workload and complexity would not easily be solved in this way.

No other potential solution that could be implemented by Airservices was found in this investigation. For example:
• creating a standard flight path for these flights may alleviate some complexity for air traffic control but this would not assist with reducing the high level of co-ordination required between aerodrome and ground controllers. It would also increase the concentration of traffic over residents under the flight path, whereas at present there is some degree of spread

• requiring all or part of the flights to be conducted to the north and/or south of the runway in order to avoid the affected community is not safe or feasible because this would require the helicopter to cross the inbound and/or outbound flight path. It would also transfer the noise impact to other parts of the community

• moving the helipad to another location is not within Airservices ability to implement, and this also would move the noise impact to another part of the community

• as outlined in section 3, Airservices has no powers to require particular types of activities to reduce or cease.

7. Conclusions

While the noise impact of short round-trip helicopter flights is acknowledged, the situation is a complex one and there are no easy answers. This investigation has not found any solution that can be implemented by Airservices. Should a potential way of improving the noise situation for residents come to light in the future, Airservices will investigate whether it is safe and feasible. However at this time, Airservices is regrettably unable to offer residents a solution.