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15 June 2020

Director and Chief Executive
Civil Aviation Authority of New Zealand
PO Box 3555
Wellington 6140

Re: Auckland Airport Noise and Speed Restriction Request

We are community representatives on the Aircraft Noise Community Consultative Group (ANCCG) which is established under Designation 1100 of the Auckland Unitary Plan to “consider, and where appropriate, make recommendations to Auckland International Airport Limited (“AIAL”) on aircraft noise issues and concerns that arise from the operation and activities at Auckland International Airport (“Airport”)”. The ANCCG also includes industry representatives and has an Independent Chair. It meets quarterly to review noise complaints, discuss aspects of aircraft operations arriving at and departing from the Airport and make recommendations. Over recent years this has resulted in significant changes to aircraft routing and operations, particularly with the advent of ‘SMART Approaches’, with support and cooperation from Airways, AIAL and the Airlines themselves through BARNZ.

On behalf of community representatives appointed to the ANCCG, we are now seeking assistance from the Civil Aviation Authority of NZ on one aspect of aircraft operations that we believe would further mitigate noise that emanates from aircraft flying over densely populated suburbs. What we seek simply involves consistent enforcement by ATC (Air Traffic Control) of an existing ICAO (International Civil Aviation Organisation) rule at Auckland Airport.

Our concern relates to reducing avoidable speed braking noise arising from high-speed aircraft flying at relatively low altitudes over heavily built up areas. An existing general rule that applies in New Zealand, and indeed most ICAO countries, requires aircraft to maintain a speed of 250 knots or less below an altitude of 10,000ft, both in departure and arrival, unless authorised by ATC. In practice this rule is almost always waived for departures but it is also being repeatedly waived at Auckland Airport for arriving aircraft which request “no speed restriction” or when offered the waiver by the ATCO (Air Traffic Controller). While a waiver applied for sequencing purposes is entirely appropriate, a generalised pattern of automatic waivers is in our view undesirable as it needlessly increases noise levels and disturbance for Aucklanders.

Given most approach commencement points require a maximum speed of 220 knots at 5,000ft it would be a reasonable operation, and is accepted practice in many cities around the world, to reduce speed to 250 knots at 10,000ft. However, we have seen many instances of aircraft flying at high-speed downwind over the dense central suburbs of Auckland and we attach an example of a flight from Perth over the City at 5,700ft, 334 knots, (acknowledging there would be a downwind factor here too). People living and working underneath that flight would have found it extremely noisy.

From a noise perspective a high-speed operation has two major effects. Most aircraft noise in descent is that of the aircraft flying through the air, i.e. “wind noise” as the engines are in idle and relatively quiet. But high-speed, low-level operations require early and maximum speed braking

which research has been shown produces the greatest and most annoying noise. We understand from Boeing 777 pilots that most SMART approaches require the use of speed brakes to be able to achieve approach speed within the required pattern unless their speed is below the maximum stipulated for starting the procedure.

The 250 knots below 10,000ft ICAO/New Zealand rule is in place and, in our view, needs to be consistently enforced by ATC over the greater Auckland area, especially so at night. We believe habitual waiving of the slow-down requirement contributes greatly to aircraft noise disturbance over heavily populated areas.

Normally we find that if everyone is aware of the damaging effect of noise and applies this to all aspects of operation, noise can be minimised. However, to date, Airways has been unwilling to impose the speed restriction (250 knots at 10,000ft) as we have requested, thus necessitating our approach to you to explore a method of enforcing the restriction in the area that concerns us. It may simply involve CAA instructing ATC not to grant waivers unless absolutely necessary for the Auckland approach area, or a rule variation.

To summarise:

- Although air traffic is very light at present, during normal operations a considerable amount of flights from the north and west track over Auckland central suburbs.
- High-speed flying below 10,000ft causes greater noise due to a combination of aerodynamic forces and the need for drag devices to reduce speed for approach.
- While Airways' Auckland Approach Control could choose to consistently apply the ICAO/New Zealand rule and minimise the approval of high speeds below 10,000ft, we understand it would prefer CAA impose that operational policy/rule.
- We therefore request action from CAA to do so, in the interests of noise mitigation for the many people who are impacted in the Auckland area.

This matter was considered at the 8 June 2020 meeting of the ANCCG with Local Board and Community members present endorsing the initiative of writing to CAA and seeking your assistance and action as outlined above.

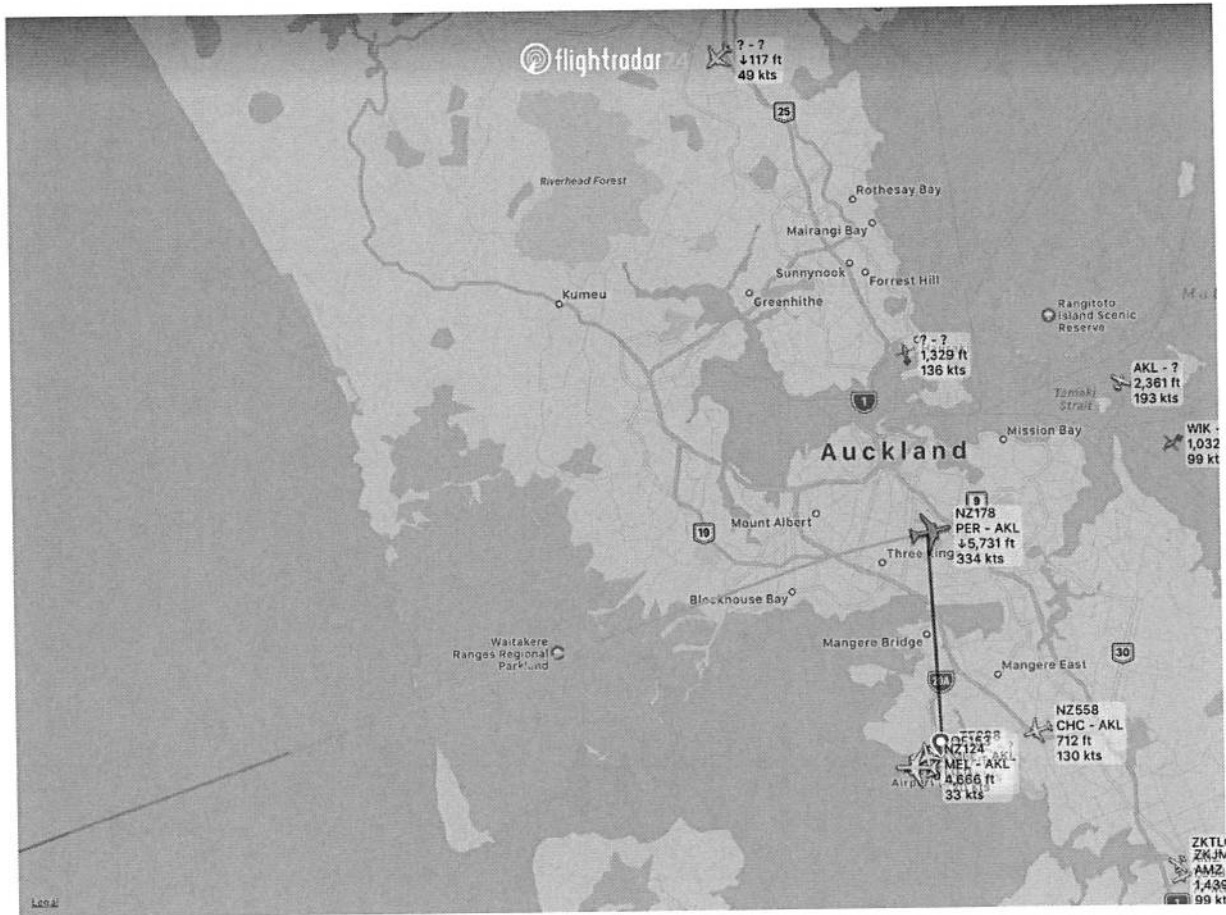
If you have any queries, please contact Mark Easson in the first instance (ph 021 747 401 email eassonmark@gmail.com). We look forward to hearing from you in relation to the process and timing for addressing our request.

Yours sincerely

Mark Easson
ANCCG Community Representative
and retired Air NZ Captain

Graeme Easte
Albert-Eden Local Board Member
Auckland Council

Attachment: Flight from Perth over Auckland



From: Shelley Turner [REDACTED]
Date: Mon, 13 Jul 2020 at 09:08
Subject: Auckland Airport Noise and Speed Restriction Request
To: Mark Easson [REDACTED]

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Dear Mark

Thank you for your letter of 15 June 2020 highlighting the concerns of the Aircraft Noise Community Consultative Group (ANCCG). I appreciate you raising this matter with me.

In your letter you refer to a speed limitation of 250 knots for flights below 10,000 feet. I am advised by Civil Aviation Authority (CAA) staff that requirements for noise abatement in respect of aircraft flying into and from Auckland airport are contained in Civil Aviation Rule (CAR) Part 93, *Special Aerodrome Traffic Rules and Noise Abatement Procedures*. These requirements do not contain speed restrictions; rather they more generally refer to aircraft power setting and departure and arrival flight path.

CAR Part 91, *General Operating and Flight Rules*, at 91.237, does contain a speed limitation of 250 knots for aircraft flying below 10,000 feet. However for aircraft operating in Class C airspace this only applies to Visual Flight Rule (VFR) flights. The Auckland Control Zone and Control Area are Class C airspace. This means the 250 knot limitation in CAR 91.237 does not apply to Instrument Flight Rule (IFR) flights arriving into and departing from Auckland. The flights referred to in your letter are generally IFR operations and hence not subject to the 250 knot limitation.

Notwithstanding the above, I will be ensuring that CAA staff advise Airways Corporation and airlines of the need to operate in a considerate manner that takes into account the concerns you have raised and that they fully apply the appropriate noise abatement procedures contained in CAR 93.

If you would like to discuss these matters in more detail, please contact Sean Rogers, the CAA Manager Aeronautical Services on ats@caa.govt.nz

Thank you again for raising your concerns with me.

Yours sincerely

Shelley Turner | Acting Chief Executive and Director of Civil Aviation

Civil Aviation Authority of New Zealand → Aviation Security Service

Te Mana Rererangi Tūmatanui o Aotearoa | Kaiwhakamaru Rererangi

✉ Level 15, Asteron Centre, 55 Featherston Street, PO Box 3555, Wellington, 6140, New Zealand

♻️ Please consider the environment before printing this e-mail





From: Mark Easson [redacted]
Sent: Monday, 13 July 2020 2:44 PM
To: Shelley Turner [redacted]
Subject: Re: Auckland Airport Noise and Speed Restriction Request

Dear Shelley

Thank you very much for your letter in reply to mine concerning aircraft speed and noise. The rule you quote is a general rule regarding Class C airspace but I would like to draw your attention to the specific rule attached regarding arrivals into Auckland as per the NZAIP Auckland Arrivals 31.3-4

I do reiterate that in most major countries in the World this is a normal speed restriction and is rarely waived (never in the USA)

Regards

MARK

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Arrival Procedures

Refer also Auckland STARS.

Arrival Manager for IFR Flights

Arrival Manager (AMAN) is an advisory ATM tool used by controllers to manage the sequence and timing of arriving flights. AMAN is being introduced initially for flights that will carry out an IFR approach into Auckland (NZAA).

When traffic levels warrant it, IFR flights into NZAA can expect a Required Time of Arrival (RTA) issued with the STAR. Flights are expected to comply with the RTA or advise otherwise.

Required Time of Arrival (RTA) is defined as a nominated time at a specific point assigned by ATC to an aircraft to assist with ATM.

ATC Speed Requirements

Unless otherwise approved by ATC, arriving aircraft:

- must not exceed 250 kt IAS below 10,000 ft within 30 NM of Auckland International Airport and comply with speed requirements promulgated on STAR charts; and
- must fly an instrument approach at the promulgated speeds, and additionally an air traffic management requirement to fly MNM 150 kt IAS to 5 NM on final approach. If unable to comply advise ATC with preferred speed.

Domestic Arrivals

Outside the hours of 1930–2100 and 0500–0630 UTC (1830–2000 and 0400–0530 during daylight saving), when weather and traffic conditions permit, pilots will be advised as soon as possible to expect either an instrument approach or a visual approach.

During the above hours pilots can expect an instrument approach.

Runway Approach Monitoring Aid

Auckland Tower will be monitoring the approach of IFR aircraft landing at Auckland INTL Airport by the use of an Approach Monitoring Aid based on SSR radar derived information. The purpose of the monitoring is to ensure that aircraft are aligned correctly for landing. The aid will be used DURING DAYLIGHT HOURS ONLY.

Aircraft not aligned correctly at 1.0 NM from touchdown will be instructed to carry out a mandatory *GO-AROUND*.

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Allocation of STAR Procedures

- ATC will issue an appropriate STAR for the instrument approach to RWY 23L or RWY 05R.
- If the issued STAR becomes unavailable a new STAR clearance will be issued.
- Inability to accept a changed STAR procedure or to fly a VISUAL RNAV ARRIVAL or to fly the RNAV (RNP) procedure at the end should be reported to ATC as soon as possible. In such an event an alternative clearance will be co-ordinated and radar vectors provided.
- Aircraft cleared for VISUAL RNAV ARRIVAL RWY 23L or 05R or RNAV (RNP) procedure must continue to fly the appropriate STAR and associated profile.
- When using radar vectors ATC will provide estimated track miles to touch down to assist in cockpit workload and energy management.
- Pilots should not request 'CHARLIE', 'DELTA' or 'ECHO' STAR procedures as ATC will be issuing the best available arrival at the time.
- Where required plain language visual approach clearances may be given by ATC.

Visual RNAV Arrival Procedures

Clearance to fly Visual RNAV Arrival procedures for RWY 23L or 05R will be subject to the following conditions:

1. During daylight hours only, when weather conditions are equal to or better than **3000 – 8 km**.
2. ATIS report indicates conditions suitable for visual approach.
3. Subject to traffic.

RNAV (RNP) Procedures

Clearance to fly RNAV (RNP) approaches will be subject to the following:

1. RNAV (RNP) S, U, X and Y RWY 23L available between 0700 and 2200 LMT.
2. RNAV (RNP) Y RWY 05R available H24.
3. Subject to traffic.
4. Operators who have obtained CAA approval to use these procedures shall advise the Airways Duty Manager, ServiceDeliveryDutyManager@airways.co.nz

On Wed, 29 Jul 2020 at 17:07, Sean Rogers [REDACTED] wrote:

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Good Afternoon Mark,

I am responding to your email dated Monday 13 July 2020 on the subject of Auckland Airport Noise and Speed Restrictions. In reviewing your email I note the comments relating to the applicable rule elements contained within CAR 91.237 as it pertains to IFR Aircraft within Class C airspace. This is a significant part of this discussion as it establishes the legal ability for IFR aircraft to be at or above 250Kts below 10,000ft in Class C airspace.

Turning to your reference to the wording contained within the AIP, it should be acknowledged that the AIP does not supersede Civil Aviation Rules, but may provide further guidance and/or amplification to existing rules.

The AIP does contain guidance on noise abatement reference to Civil Aviation Rule Part 93 specific to Auckland Airport. Separate to the Noise Abatement guidance contained in the Auckland Aerodrome AIP Chart, is the guidance for Air Traffic Control relating to speed restrictions – which as you correctly identified requires aircraft to not exceed 250 Kts IAS below 10,000 ft within 30 NM of Auckland International Airport and comply with speed requirements promulgated on STAR charts, unless otherwise approved by ATC.

By inference this guidance accepts that 250Kts IAS can be acceptable, given some Arrival procedures mandate speeds above 250 Kts, within 30 NM below 10,000ft for certain portions of the instrument procedure. In addition, I have had no indication that this particular limitation was put in place for the purposes of Noise abatement, but rather for the safe and efficient manoeuvring of aircraft and sequencing of air traffic. As a useful safety tool in this context CAA would be reluctant to impose blanket enforcement of speed limitations outside of the flexibility currently afforded within the existing guidance whether in the rule or the AIP.

In consultation with our Air Transport Flight Inspectors, and additional point to note is that dependent on aircraft configuration, an aircraft at high power, high drag, high angle of attack can produce more noise than a low power, low drag but high speed aircraft.

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In reviewing your concern I have reached out to Airways NZ to provide me with data on the frequency at which aircraft are above 250 Kts below 10,000ft and within 30NM of Auckland. I would be happy to share that information with you when it arrives.

I will also reach out to both Airways and Airlines to remind them of the importance of Noise Abatement considerations when conducting flight planning into Auckland.

If you have any further questions, please don't hesitate to contact me.

Regards,

Sean Rogers

Manager Aeronautical Services

Civil Aviation Authority of New Zealand

Te Mana Rererangi Tūmatanui o Aotearoa

Level 15 | Asteron Centre | 55 Featherston Street | PO Box 3555 | Wellington | 6011

(DDI): +64 (4) 560 9522 Mobile: 027 807 4875



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----- Forwarded message -----

From: Mark Easson [REDACTED]
Date: Sun, 9 Aug 2020 at 15:12
Subject: Re: Auckland Airport Noise and Speed Restriction Request
To: Sean Rogers [REDACTED]
[REDACTED]
[REDACTED]

Hi Sean thank you so much for your reply and I apologise for not replying sooner. There are some points I would like to make and perhaps I can point out first that as a heavy jet captain of some years experience into AKL Airport and latterly as an Air NZ Flight Examiner/Simulator Instructor I am fully aware of the rules and flight procedures relating to the question.

There is no doubt in my mind that the 250kt below 10,000' restriction is a rule and not "guidance" as you infer and I reiterate that this rule is in place worldwide. I am also aware that it has never been there for noise abatement but for flight management as you say. (I should also add I started in aviation as an Air Traffic Controller.) I cannot find any arrival procedure in Auckland that calls for a speed above 250Kts below 10,000'. This would conflict with the rule.

When discussing aircraft noise I am referring to the now normal descent procedures everywhere, i.e. Flight idle thrust, clean configuration until the intermediate approach which requires speed reduction and managed descent. The comments by your Inspectors refer to level flight which is not relevant here and I am surprised they missed the point, which is that a heavy jet flying in clean configuration at 320kts, 5000' in descent is considerably noisier than the same aircraft at 220 kts. Moreover the fast aircraft would, at some point prior to setting up for the approach, need to extend speed brakes or landing gear which has been shown to produce an even bigger noise footprint. The noise I refer to here is aerodynamically induced and nothing to do with engine thrust.

My former Air NZ colleagues advise that almost all pilots leave the speed reduction somewhat late and invariably use speed brakes during the latter part of the descent.

The point I am trying to make is that if inbound aircraft are permitted to frequently fly fast below 10,000' then the noise over Greater Auckland will be more than if the rule were encouraged to be adhered to. Obviously ATC will

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always have the discretion to ask for whatever speeds are appropriate but in view of the fact that currently many arrival tracks are over heavily populated areas I would request that the speed waiver be the exception rather than the rule. The speed noise would cease to be a problem if aircraft were routed away from the built-up areas of Auckland but that is a greater discussion!

I trust this clarifies the issue.

Kind Regards

MARK