
2017 Taranaki Airspace Review

Final airspace changes

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Introduction

This review has comprised all of the airspace detailed on the C6 visual navigation chart covering the area westward of a line from Tirua Point to Waiinu Beach.

Initial notification of the review was made in June 2016 and users were invited to make submission for desired airspace changes by 5 September 2016.

There was one submission received by the cut-off date. A summary of the submission from the Taranaki Gliding Club was published on 5 December 2016.

At the time submissions closed, Airways was still designing the PBN procedures and was unable to provide final design changes, if any, to existing controlled airspace.

Airways' first submission was received on 19 January 2017 but before it could be sent out to users for comment, Airways advised that it was being updated. The amended submission was received on 3 February and version 2 was sent to users for comment on 10 February 2017. Cut-off for submissions was 30 March 2017.

Due to circumstances, a consultation meeting with users was not able to be held until 28 March at Stratford Aero Club rooms. Because of this delay, the cut-off date for submissions was extended to 6 April.

Following Airways' Taranaki PBN Scoping meeting with users on 28 February, further amendments were made by Airways to the proposed airspace changes. Version 3 was received late March, but was amended to version 4 which was sent to CAA on 25 March.

This was sent to users on 27 March, just prior to the consultation meeting. Changes were made to the proposed controlled airspace to the east and south of Mt Taranaki/Egmont.

A copy of Airways' petition is available on the Airspace Review website at the following link: <http://www.caa.govt.nz/airspace/airspace-review/>.

Overview of submissions

As stated above, there was one submission received from the Taranaki Gliding Club to establish general aviation areas on the north and eastern sides of Mt Taranaki/Egmont.

When the initial submission was received, this was forwarded to Airways to be considered as part of the re-design of controlled airspace. Airways and the Taranaki Gliding Club have been discussing options to provide airspace for gliding activity.

Taranaki Gliding Club subsequently updated its submission to align with the proposed controlled airspace changes.

The proposed changes to controlled airspace have also been analysed by CAA technical specialists.

Version 4 of Airways petition also included a new proposal to the controlled airspace to the west of the existing control areas to accommodate the move of the Raglan Sector, which provides a surveillance control service in the airspace above 6500 ft north of New Plymouth, from Christchurch to Auckland later this year.

Airspace changes

Controlled airspace

Controlled airspace is designated in portions of airspace where the Director has determined that an air traffic control service is required to be provided in accordance with the airspace classification – Classes A, B, C, D and E¹.

- A control zone (CTR) is controlled airspace extending upwards from the surface to a specified upper limit.
- A control area (CTA) is controlled airspace extending upwards from a specified lower limit above the earth.

The boundaries of controlled airspace are designed solely to protect IFR routes and procedures.

Controlled aerodromes are established where the Director determines an aerodrome control service is required. Aerodrome control service is an air traffic control service for all aerodrome traffic.

Note — the term ‘controlled aerodrome’ indicates that air traffic control service is provided to aerodrome traffic but does not necessarily imply that a control zone exists.

- **aerodrome traffic** means—
 - (a) all traffic in the manoeuvring area of an aerodrome; and
 - (b) all aircraft flying in the *vicinity of an aerodrome*
- **aircraft flying in the vicinity of an aerodrome** means any aircraft that is in, entering, or leaving an *aerodrome traffic circuit*
- **aerodrome traffic circuit** means the pattern flown by aircraft operating in the *vicinity of an aerodrome*

Aircraft operating at a controlled aerodrome are issued clearances, instructions and information to prevent collisions between aircraft flying in the vicinity of an aerodrome and between aircraft and vehicles, personnel and objects on the manoeuvring area.

Rule 71.55 allows the Director to designate a control zone around an aerodrome if an aerodrome control service or an aerodrome and approach control service is required if

¹ CAR 71.51(a), ICAO Annex 11, Doc 4444

the traffic density and pattern requires the controlled airspace. Primarily this is done where the number of regular passenger transport operations takes place over service level thresholds.

Rule 71.55(b) requires the CTR to be as small as practicable to protect the flight paths of IFR flights arriving at and departing from the aerodrome.

Additionally, the lateral limits of a CTR must –

- Encompass the paths of IFR aircraft arriving and departing under IMC
- Extend at least 5 NM from the centre of the aerodrome, in the direction from which instrument approaches may be made
- Take into account the category of IFR aircraft using the aerodrome.

CTRs are not designed to protect VFR flight paths and procedures. IFR aircraft conducting a visual approach are not flying an instrument procedure and pilots are responsible for their own containment within controlled airspace.

An approach control service is an ATC service for arriving and departing controlled flights.

A controlled flight is a flight requiring an ATC clearance.

The Director has determined that approach control services are required for aircraft arriving at and departing from New Plymouth aerodrome. An approach control procedural service within controlled airspace below 6500 ft is provided by New Plymouth Tower. Taranaki and Bay Sector, based in Christchurch, provide an area control surveillance service in CTA above 6500 ft.

New Plymouth Tower is certificated to provide aerodrome and approach control procedural services only.

The CTR and CTA in the Taranaki review area is Class D airspace below 9500 ft. Within Class D airspace, the air traffic service is provided to IFR and VFR aircraft is shown in Table 1 below:

Table 1 – air traffic service provision in Class D airspace

Type of flight	Separation provided	Service provided	ATC clearance required
IFR	IFR from IFR	Air traffic control service, traffic information about VFR flights (and traffic avoidance advice on request)	Yes

VFR	Nil	IFR/VFR and VFR/VFR traffic information (and traffic avoidance advice on request)	Yes
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As shown in Table 1, VFR aircraft are not separated from either IFR or VFR aircraft within Class D airspace.

While a flight information service is an intrinsic component of ATC service, ATC functions have overall priority.

1. New Plymouth control zone

There has been no negative feedback to the proposed changes to the smaller New Plymouth CTR. At the user consultation meeting, it was noted that the new boundary will allow an aircraft to remain clear of the CTR when tracking between Urenui and Oakura on days when the cloud base is low.

2. New Plymouth control areas

1. New control area lower limit 1500 ft around New Plymouth CTR

There have been no submissions received about this airspace.

CAA comment: *The reduction in the size of the New Plymouth CTR has required this airspace to be established for continued containment of instrument arrival and departure procedures. Some of the new control area does lower the level of controlled airspace from 2500 ft to 1500 ft in a few locations, but this will have a negligible effect on VFR tracks as most of the changes is over the sea to the north of the existing CTR.*

2. New control areas west of Taranaki/Mt Egmont

There has been no specific feedback concerning the proposed lowering of controlled airspace on the western side of the mountain.

CAA comment: *The control areas with lower levels 3000 ft, 4500 ft and 6500 ft have been requested to contain new PBN arrivals and departures that track west around the mountain and will be used regularly by departures to Christchurch and Wellington.*

3. Control areas east of Taranaki/Mt Egmont

The concerns raised in the submissions from the Taranaki Gliding Club and those raised at the user meeting held in Stratford were primarily about the lowering of controlled airspace over Inglewood and Norfolk aerodrome areas.

During the review of the controlled airspace, it was found that existing CTA north and east of the mountain do not fully contain the current instrument flight paths and that pilots of scheduled passenger services were unaware that a portion of some procedures actually tracked below NZA349 (lower limit 6500 ft) north of the mountain.

Following feedback from users at and after Airways' meeting in February, the proposed CTA in version 2 of Airways petition was amended to split the 4500 ft lower limit sector into two sectors with 4500 ft and 5500 ft lower limits. The original 5500 ft lower limit sector was removed, and the majority of the 4500 ft lower limit sector raised to 5500 ft.

CAA comment: As stated in earlier in the document, the Director has designated controlled airspace to protect routes and procedures for IFR aircraft arriving at, and departing from, New Plymouth aerodrome. The controlled airspace at New Plymouth has not been reviewed for many years and does not provide the protection necessary.

Pilot and operator expectation is that the IFR procedures are contained. Even if aware of not being contained, the time taken for transition from controlled airspace to uncontrolled and then re-entering controlled airspace with pilot workload during the climb or descent would not make it practicable for radio calls to be made in Class G airspace.

The proximity of Norfolk aerodrome to the boundary between the new 2500 ft and 4500 ft lower limits of controlled airspace will have an effect on operations. Currently the lower limit directly overhead the aerodrome is 6500 ft, with the 2500 ft approximately 1.4 NM east, which falls within the circuit area, and 4 NM north. The amended airspace would place Norfolk aerodrome just under the lower limit of 4500 ft CTA, but against the boundary with the lower limit of 2500 ft CTA.

Careful consideration has been given to the situation with users' concerns in mind. However it is concluded that a longstanding omission to airspace protection has only now been identified necessitating corrective action to ensure safe air navigation, along with protection of new PBN procedures. Aircraft performance, based primarily on higher performing turbo-prop passenger transport aeroplanes, means that higher climb, or steeper descent, gradients are not practicable.

The other alternative of re-routing aircraft would result in an unacceptable increase in track miles flown and subsequent increased fuel burn. It would also negate the expected efficiencies gained by the implementation of PBN procedures, including the designed separation of arriving and departing flight paths.

One of the main issues for the powered aircraft based at Norfolk aerodrome was the ability to obtain a clearance when requested, and possible Airways' charges for entering these control areas.

With regard to charges for VFR aircraft within CTA, Page 20 of Airways 'Standard Terms & Conditions for the Provision of Airways' Services' document (<http://www.airways.co.nz/assets/Documents/Standard-Terms-Conditions-July-2016.pdf>) stipulates that controlled VFR transit flights are only charged when operating within a CTR, not a CTA. This is confirmed in the explanatory document – refer page 6 (<http://www.airways.co.nz/assets/Documents/StandardTCsExplanatory-July.pdf>)

As stated earlier, VFR aircraft are not separated from IFR aircraft in Class D airspace specification, and a clearance to enter controlled airspace is primarily required to enable mutual traffic information to be passed to the pilots of controlled flights.

There will be some effect for glider operations with accessing areas of thermal lift on the eastern side of the mountain. Refer to the uncontrolled airspace section below for the most appropriate solution able to be implemented.

To the east of Norfolk aerodrome, CTA base lowers from 4500 ft to 2500 ft in the vicinity of the Urenui River- Pouiatoa Forest area.

The request for a 3500 ft lower limit sector of CTA in the southern portion of the 2500 ft sector has been deliberated and at this stage it is considered that it would add too much complexity to the airspace for a small area. This may be reviewed next year.

4. Lowering of CTA 21 NM west of New Plymouth

This was briefly discussed at the user consultation meeting. There is very little, if any, VFR activity at this distance from the coast and there were no concerns about this airspace raised.

Uncontrolled airspace

1. Proposed general aviation area

Once the first request was made for establishment of new general aviation areas in the initial submission phase, Airways and the Taranaki Gliding Club have discussed what could be possible with the proposed amended CTA.

The requested GAA would be used by gliders during strong south-westerly conditions and is expected to be used approximately 25 afternoons a year for wave-flying.

A final design has been submitted by Airways which should enable portions of the controlled airspace east of the mountain to be released as Class G under certain conditions.

Airways provided the following feedback regarding the establishment of a new GAA:

'RWY 05 procedures were not considered in the draft GAA design, and in fact would require significant extra track miles and delays for all arrivals from the south, as all traffic would need to track overhead NP and join the approach from the northwest. This would put those flights in conflict with arrivals from the north as well, resulting in regularly occurring delays.

- As the GAA is not feasible for use when RW05 is in use, having it activated by notification is also unfeasible, and any GAA would need to be by ATC approval for this reason alone.*
- The restrictions posed on both PBN and conventional traffic (see below), and the added complexity for the NP TWR controllers, may be acceptable when considering the GAA should be in use approximately 25 afternoons per year, probably on weekends. However, if it were used significantly more than that this would be an entirely more difficult proposal.*

- *Significantly, as the GAA has only been considered for use when RW23 is in use, there must be some mechanism in place to close the area when needed, and have an assurance that the area is vacant when it is closed, in the event of a wind (and therefore, runway) change. In the absence of such an option, the GAA would have to be denied whenever the possibility exists of a westerly wind changing to easterly throughout the day.*

Effects on PBN (RNP1) traffic

- *Minor impact on arrivals from the south, slight tracking change requiring a different STAR issued but no additional track miles flown (may actually be less)*
- *Moderate impact on NP-WN flights, which will be required to track west of the mountain for additional track miles (not fully assessed but estimate approximately 10 NM more if full SID and flight plan flown, less if direct tracking given under radar)*
- *Moderate impact on departures to the southeast (predominantly WU/OH/PM), now required to fly further upwind before turning right over the water and climbing above arrivals before turning south. Not assessed but would be greater than 10 NM.*
- *Effects on conventional IFR traffic*
- *Significant impact on all southbound departures – with the possible exception of a left visual departure, all departures will need to make a right turn and set heading overhead NP VOR, in addition to any other requirements.*
 - *Note that a left visual departure would not resolve the issue for NP-WN flights, as the Y738 PADMU track they intercept would take them through the GAA, and the climb rate to get above the GAA is not feasible. A left visual departure in that case would still need to be on to a diversionary climb.*
- *All southbound departures via PADMU (predominantly NP-WN) or OMKUN (WU/PM/OH) will need a diversionary climb, which may be as far east as climbing outbound on H205 (the NP-RUGVI track) until above 10,000 ft or a distance as determined by Aeropath.*
 - *There is a significant issue with this option: the PADMU track (Y738) sits within a portion of the NP VORSEC chart that ends at A110/25DME and has no further terrain reference beyond this to the south (see below). This means there is no terrain reference for any IFR flight planning NP-WN below A130, which occurs regularly for hospital flights etc, if they need to be given a diversionary climb around the GAA to the southeast.*
- *All non-PBN inbounds from the southeast (via H499 OMKUN) will need to be re-routed to come in on the H205 RUGVI track, or laterally separated radial as determined by ADD later. This would require the radar controllers on NAK to*

monitor these flights until they intercept the RUGVI track, prior to release to NP TWR.

Other impacts not covered above

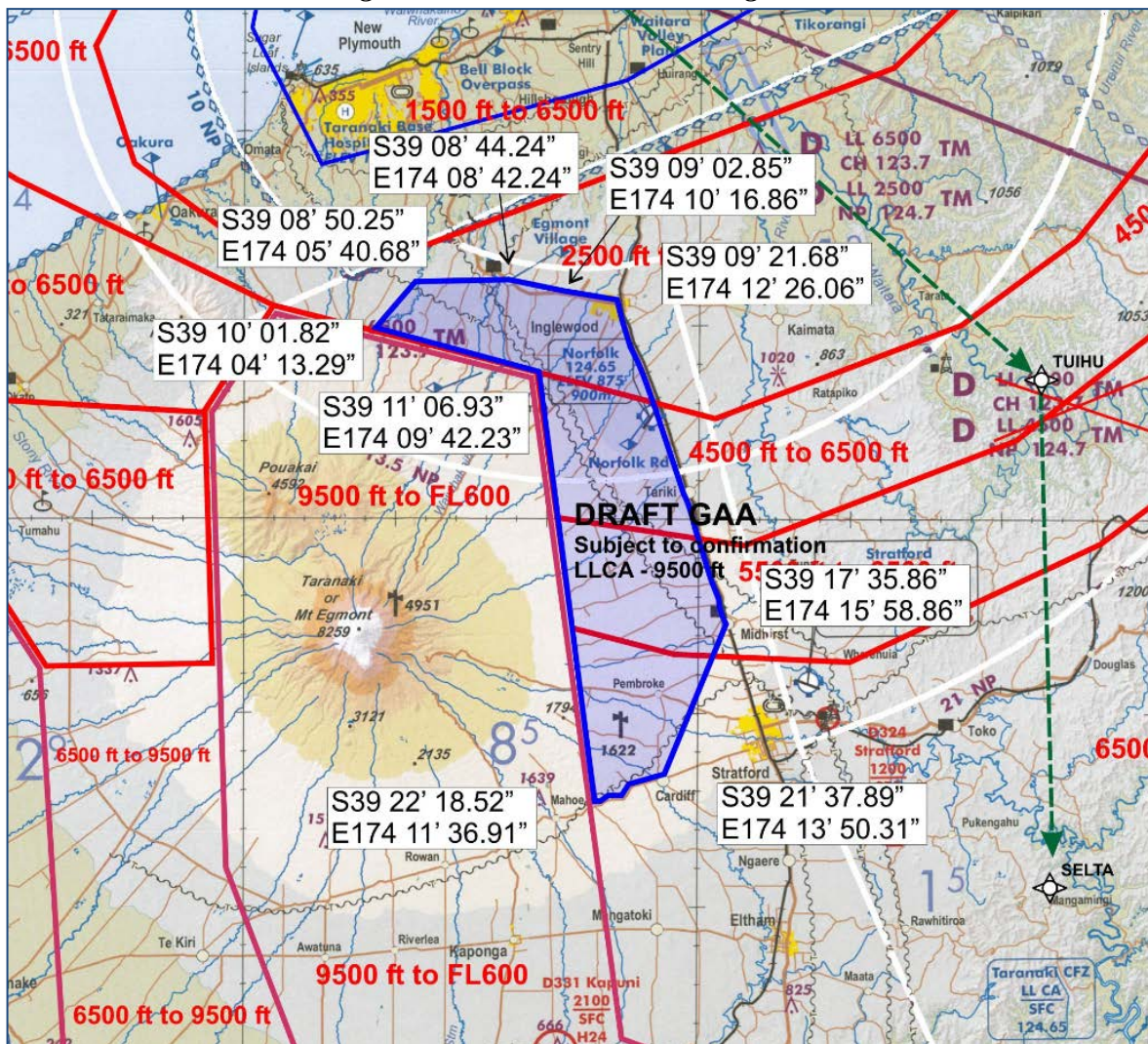
- IFR aircraft operating outside controlled airspace south of NP may plan to enter NP airspace on tracks that infringe on the GAA. In this case, the NP TWR controllers would need to deny the clearance (unless the pilot has expressly advised intention to operate through the active GAA, or requested to maintain their own separation from it) – how would these aircraft transit on to an acceptable route e.g. H205 when outside controlled airspace?*
- Hospital flights between NP and WN are common, and it is not likely that these aircraft will be RNP1 capable come November. In the event of a priority aircraft, diversionary climbs around the GAA will create some delay to the priority aircraft, and likewise priority arrivals into NZNP would have extra flight time to intercept a separated inbound track.*
- Any aircraft overflying NP below A100 will require routing around the GAA. Reasonably easily achieved under radar as only 2NM separation needed, and overflights that low are rare, but still something to be considered.*
- In the event of an aircraft making a missed approach from either a conventional or PBN approach and subsequently requesting to divert back to the south, there may be difficulty in getting the aircraft from the missed approach hold and back on to a track that avoids the GAA, precisely the sort of complexity pilots would rather avoid when in a high workload environment.*

Whilst Airways believe we can operate to avoid the GAA, the restrictions on other traffic, workload on the tower and extra risks involved (especially around whether the GAA can be closed at short notice in the event of a weather change) may mean that the GAA is denied more often than not.'

NZG351 Egmont will be designated, LLCA to 9500 ft, active by ATC approval only. It is strongly suggested that the Taranaki Gliding Club and Airways establish a memorandum of understanding to clarify conditions of use.

This area is shown in Figure 1.

Figure 1 – new GAA NZG351 Egmont



2. Common frequency zones

The existing boundaries of Taranaki and Maui CFZs which are aligned with the New Plymouth CTR boundary will be amended to be adjacent to the amended CTR.

While there was some discussion at the consultation meeting about extending the northern boundary up to White Cliffs or beyond, it was explained that there is now insufficient time to include the proposal for implementation in November 2017.

If Taranaki airspace users want the northern boundary to be amended, a submission should be received at CAA by end of January 2018 to allow time for consultation to be undertaken prior to for the next available VNC amendment effective November 2018 publisher cut-off of late April 2018.

Consultation

This document will be sent directly to the organisations listed below. It would be appreciated if you would kindly forward the document to your members for comment and consideration.

Aerodrome operators (charted aerodromes only)

- Hawera aerodrome (Hawera Aero Club)
- Maui A and B heliports (Helicopters New Zealand Ltd)
- New Plymouth aerodrome (New Plymouth District Council)
- Norfolk aerodrome
- Stratford aerodrome (Stratford District Council)
- Taranaki Base Hospital heliport (Taranaki Health)

Operators, Organisations and User Groups

The following major operators, organisations and users have been identified:

- Air New Zealand Group – includes Mount Cook and Air Nelson
- Aircraft Owners and Pilots Association
- Airways Corporation of New Zealand
- Balloon Association of New Zealand
- CTC Aviation
- Gliding New Zealand
- Hawera Aero Club
- Helicopters New Zealand Ltd
- Jetstar Regional
- Massey School of Aviation
- Model Flying New Zealand
- New Zealand Agricultural Aviation Association
- New Zealand Airline Pilots Association
- New Zealand Aviation Federation
- New Zealand Hang Gliding and Paragliding Association

- New Zealand Helicopter Association
- New Zealand Parachute Federation
- New Zealand Parachute Industry Association
- Recreational Aircraft Association of New Zealand
- Royal New Zealand Air Force
- Sport Aircraft Association New Zealand
- Sport Aviation Corp
- Stratford Sports Flyers

This document is also available on the CAA website at the following link:

<http://www.caa.govt.nz/airspace/airspace-review/>

Notifications will be sent to CAA email notification subscribers to Airspace Notifications – Briefing Area 3.

If there are any further questions regarding the review process, please contact Paula Moore – contact details below.

Final submissions

Prior to making a designation or classification of airspace, Civil Aviation Rule 71.9 requires the Director to consult with all parties that may be affected within the aviation industry.

This document forms part of the consultation process. Final comment and submissions on new proposals included in this document are sought from any interested person, organisation or representative group.

Submissions are accepted either electronically or via mail.

Please address submissions to:

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Reference: 2017 Taranaki Airspace Review – final airspace changes

Closing date for final submissions to these proposals is **Wednesday 19 April 2017**.

Further information

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