Consultation on revised ATS route structure over the Irish Sea

(Isle of Man and Antrim Sectors)

Issue 1.1
July 2016

Prepared by NATS Airspace Change Assurance
JB/CW

Issue	Month/ Year	Changes in this issue
Issue 1.0	July 2016	First Issue
Issue 1.1	July 2016	Suggestions from stakeholders re: classification of airspace between IOM and BOYNE (Y911 vicinity) – updated Figure 1, Figure 5, new Figure 8a, new text on page 18.

Table of Contents

1 Executive Summary

NATS is proposing changes to the ATS route structure over the Irish Sea.

We propose to introduce a system of RNAV1 routes, for flights in the Isle of Man and Antrim Sectors of NATS' Prestwick Area Control Centre.

By taking advantage of modern navigation performance the RNAV1 routes can be spaced more closely than the legacy route structure. This will allow enhanced systemisation and enable more efficient use of the airspace.

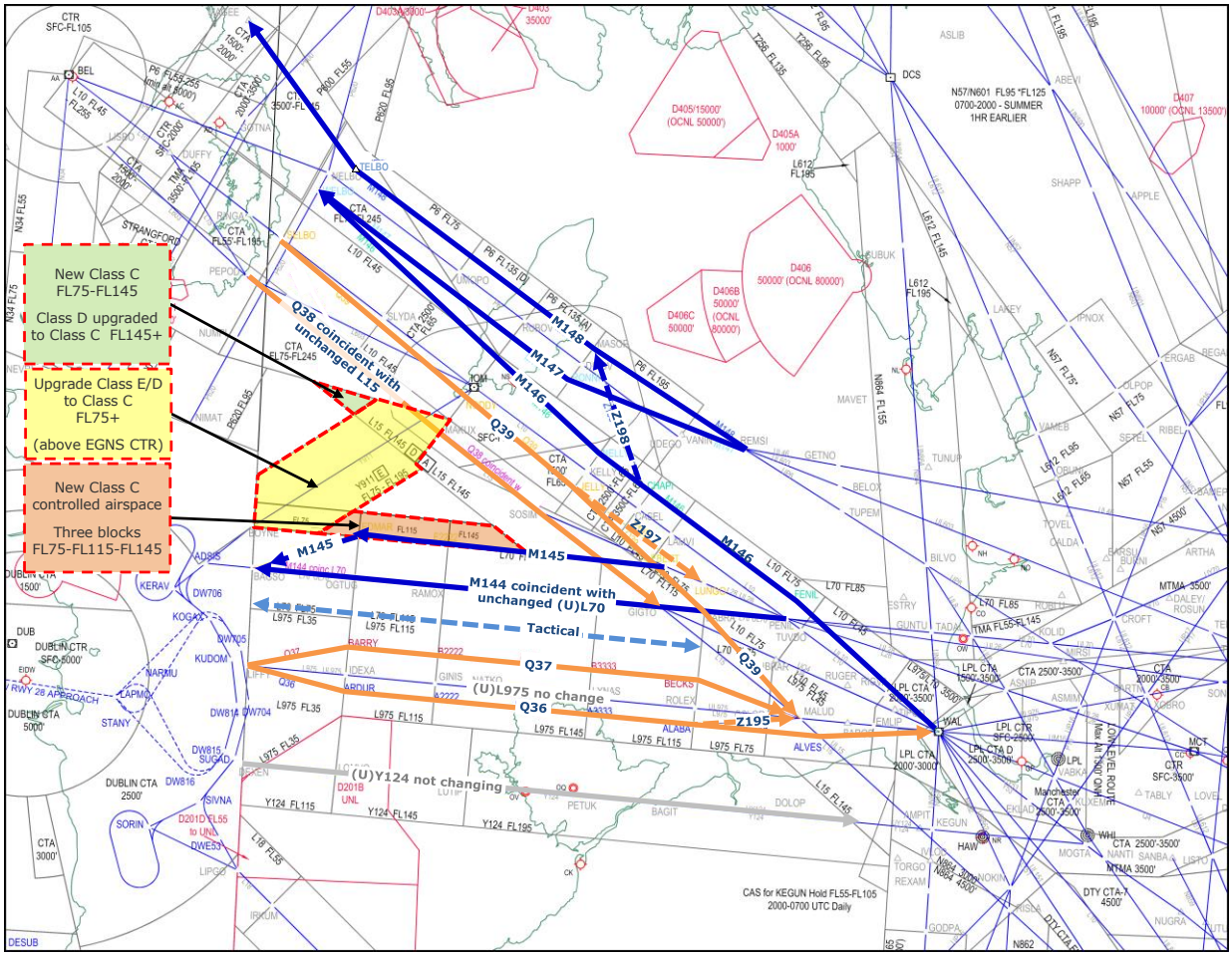

Figure 1 Proposed RNAV1 routes & Controlled Airspace
(Note a larger version of this chart is provided at Figure 5 on page 13)

The consultation begins on 4 July 2016 and ends on 30 August 2016, a period of 8 weeks. This consultation document is available at:

www.nats.aero/environment/consultations

If the proposal is approved by the CAA, implementation of the airspace change will occur not before 2 March 2017.

2 Introduction

2.1 The Isle of Man and Antrim Airspace Sectors

NATS Prestwick Centre (PC) manages all en-route air traffic in the northern half of the UK. The PC Isle of Man (IOM) sector of airspace handles the majority of air traffic between Ireland and the UK/Europe, and also much of the UK's transatlantic arrivals/departures. PC Antrim sector handles all Northern Irish traffic, and traffic routing from western Scotland to Eire.

The current network is operating at capacity in the IOM sector. This proposal would provide the additional capacity in the IOM sector, reducing the likelihood of delays in the region. It would also modernise this part of the network to take advantage of newer technology available on modern aircraft.

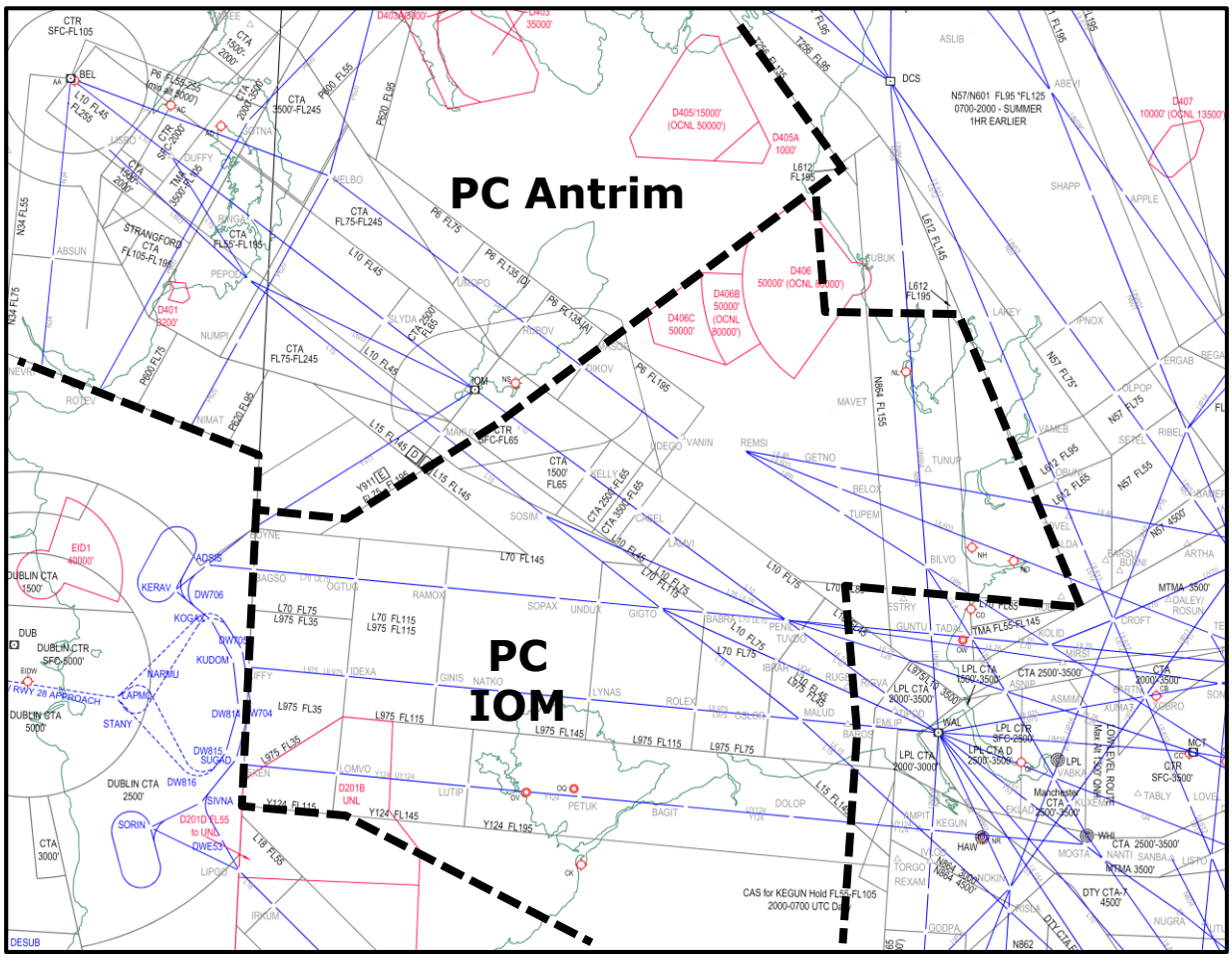

Figure 2 Prestwick Centre's Isle of Man (FL45-FL285) and Antrim (FL45-FL255) sectors.
(Only the areas of PC IOM and PC Antrim sectors relevant to this proposal are shown.)

PC IOM and PC Antrim sectors lie beneath PC Rathlin, Swanwick Centre's Sector 7 (SWN S7) and Sector 4 (SWN S4), these are not shown here due to chart complexity. There are also interfaces with the IAA's Dublin and Shannon units, and other SWN/PC sectors.

3 Justification and Objectives for this proposal

3.1 Justification

Capacity limitations in the IOM sector often result in the application of short-term ATC measures[1] (STAMs). Lack of capacity in IOM can result in STAMs being applied. This occurs most commonly at Dublin airport, but also at other airports in the UK. A typical example is where Dublin will declare dual runway operations, which enables them to expedite first rotation departures. The majority of these departures route through IOM sector in the climb to cruising levels. This situation quickly leads to the IOM and Antrim sectors reaching their maximum capacity, which then result in STAMs being applied.

If traffic continues to increase as forecast, increasing levels of delay in the IOM sector are predicted. This will be further exacerbated by the fast rate of growth of traffic to/from Dublin and its planned introduction of an additional parallel runway.

NATS is obliged through its operating licence to 'avail on a continuing basis any reasonable level of overall demand' and it specifies this in terms of the provision of 'core services'.

The delays justify the necessity to make changes to the airspace to increase ATC capacity.

3.2 Objectives

The current Monitor Value[2] for the IOM sector is 43. The objective is to increase this by 10% to 47. This will enable the region to operate with fewer flow restrictions being applied and hence less delay to air traffic.

We would achieve this objective by:

a. Increasing the number of parallel east-west routes over the Irish Sea and the number of routes oriented northwest-southeast linking Northern Ireland and the mainland via the Isle of Man, increasing ATC capacity;
b. Optimising the route spacing in accordance with updated guidance from the CAA taking advantage of modern navigation performance; and
c. Minimising the additional controlled airspace (CAS) required to contain these routes.

3.3 PC Antrim

PC Antrim interacts very closely with the adjacent PC IOM. The proposed route changes to PC Antrim are required to deliver the increased ATC capacity and improved Monitor Value in PC IOM. PC Antrim sector would naturally benefit, but the specific justification for the changes to Antrim remain the forecast delay reduction in the adjacent IOM sector.

3.4 Alignment with the CAA's Future Airspace Strategy (FAS) Principles

A contiguous design of routes in these sectors would improve systemisation. Systemisation is the aim of most future airspace designs.
The CAA's Future Airspace Strategy (FAS) is the UK's strategy for modernising the air route infrastructure, see para 4.2 (p7) for more information.
The UK-Ireland Functional Airspace Block (FAB) would benefit from this proposal, see para 6.7 (p20) for more information.

---

[1] STAMs include Minimum Departure Intervals (MDIs), Miles in Trail (MIT), Airfield Reasonable Departure Separation (ARDS), Average Departure Interval (ADI), all of which are measures that can be applied to regulate the flow of traffic departing from airports.
[2] Monitor Value is a guide value for the maximum recommended number of aircraft able to pass through a sector per hour.

3.5 Enabler for network changes in Manchester TMA and Scottish TMA

The proposed IOM & Antrim changes are part of the Prestwick Lower Airspace Systemisation (PLAS) programme of changes. As such the changes described herein will serve as an enabler for further changes planned to the ATS network in the Manchester and Scottish TMAs. These changes will bring further efficiencies across the network.

4 Current Airspace

4.1 Parallel Flight in the current air traffic services (ATS) environment

Parallel routes are common in the ATS route network. PC IOM currently has a structure incorporating three east-west parallel ATS routes which are separated by 12nm. Two of these routes, (U)L70 and (U)L975, are highlighted in Figure 3. The third, (U)Y124[3], is further south (shown in grey because it is not affected by this proposal).

Currently ATC uses (U)L70 and (U)L975 for flight planning and navigation. To allow for climbs and descents, conflicting aircraft are often vectored[4] off the flight-plan ATS routes by at least 5nm, creating sets of parallel tracks within the existing CAS volumes that are offset from the route centrelines.

This requires the controller to be constantly monitoring the aircraft headings to ensure 5nm radar separation is maintained between all flights – a relatively intense task - but it makes far more efficient use of the available airspace. Parallel vectoring means more aircraft can be simultaneously climbed and descended to their desired levels than if all flights follow the centre of the two ATS routes, in trail. This system of vectoring has evolved over many years as demand has grown. If controllers stopped this practice of parallel vectoring then delays would quickly build.

The proposed routes will remove the extra workload created by initiating these tactical turns and the subsequent monitoring required.

There is a way to replicate the greater efficiency of parallel vectoring whilst simultaneously reducing controller workload by using systemised[5] separation instead.
Two things are required: modernising the air route infrastructure, and revising the minimum radar separation.

4.2 Modernising the air route infrastructure

The UK en-route ATS route infrastructure is still mainly based on the RNAV5 navigation standard. This is safe, and more efficient than older 'conventional' navigation standards, but is not as efficient as it could be[6].

Most commercial aircraft already have the ability to conform to a more efficient standard known as RNAV1. The equipage rate for aircraft which are RNAV1 capable in the IOM sector is currently 92%[7]. The CAA's Future Airspace Strategy (FAS)[8] also recommends that the ATS route network is improved, to take advantage of available technology such as RNAV1.

This proposal is based on utilising RNAV1 for new routes.

---

[3] Y124 is a conditional route only available when the military are not using the airspace (usually not available Mon-Friday 8am-6pm local time).
[4] Vectoring is where the controller passes navigation heading instructions to each pilot, rather than allowing them all to fly along the route centreline sequentially
[5] Systemised separation is where the design of the routes themselves ensures adequate separation between self-navigating flights without the need for constant controller activity.
[6] RNAV5 requires that the aircraft can navigate within +/- 5nm of a route centreline for at least 95% of the time, whereas RNAV1 requires +/- 1nm accuracy for at least 95% of the time.
[7] NATS PBN equipage survey July 2015.
[8] Civil Aviation Authority, Future Airspace Strategy for the United Kingdom 2011 to 2030
www.caa.co.uk/FAS

4.3 Revision of minimum radar separation

Today, the PC IOM sector's radar environment allows ATC to vector two aircraft no closer than 5nm laterally[9]. IOM controllers aim to vector aircraft on parallel headings at least 5nm apart. This is safe and increases the efficiency of the airspace but creates workload for the controller. A project is already underway to safely reduce this minimum radar separation to 3nm for a large volume of airspace under PC's control. That project is separate but on-going, and is a prerequisite for the success of this proposal.

The charts on the next page illustrate the current ATS route structure from a flight-planning point of view, and then how the airspace volume is used in practice.

[9] or vertically by 1,000ft

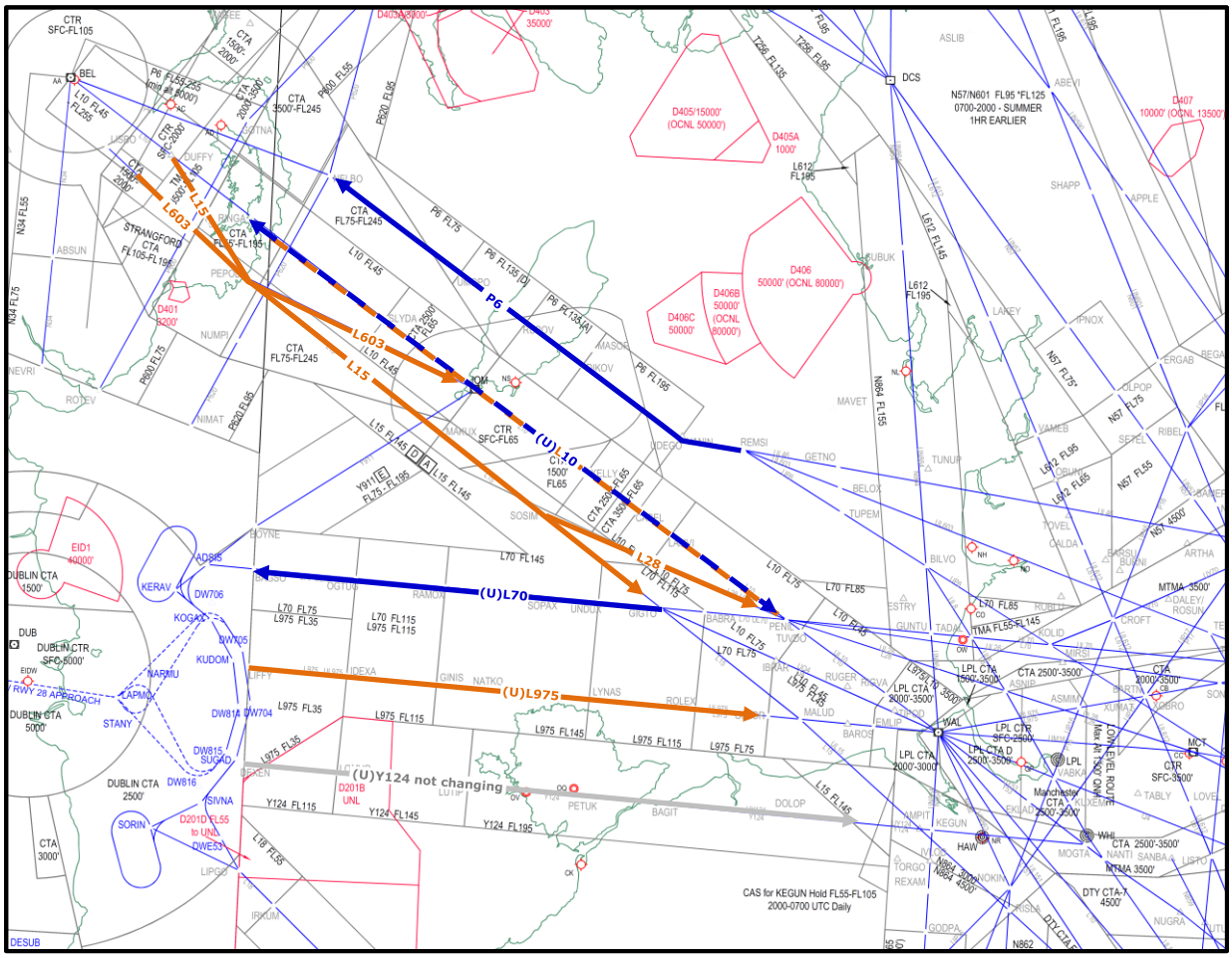

Figure 3 IOM and Antrim existing RNAV5 routes & CAS

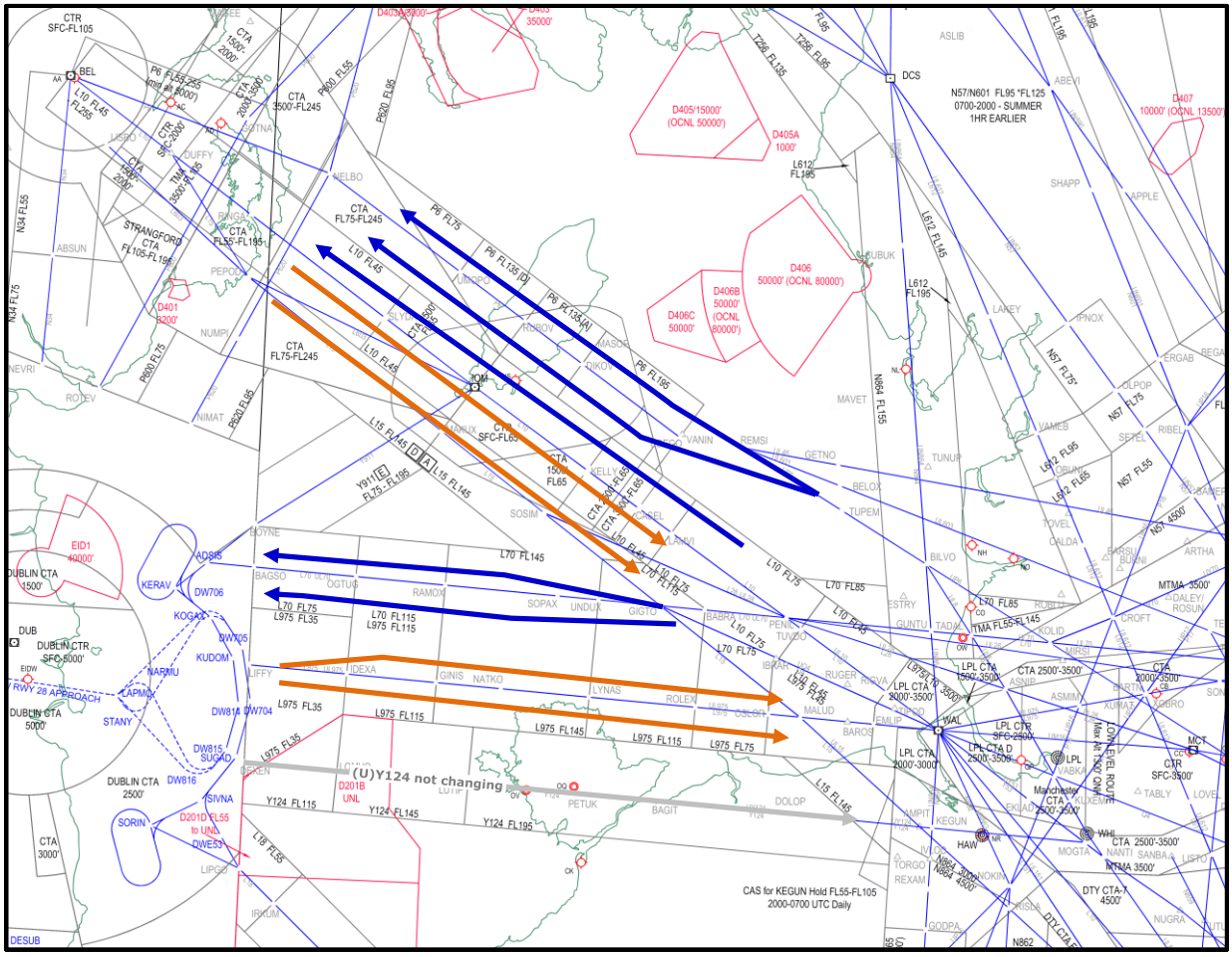

Figure 4 IOM and Antrim current day tactical vectoring system used by controllers
(westbound, eastbound tactical vectoring)

5 Proposed Airspace

5.1 Requirements

The main requirements can be summarized as follows:-

- Maintain or improve the level of safety in the affected and neighbouring sectors;
- Reduce ATC workload (per flight);
- Increase sector capacity (measured by sector monitor value);
- Minimise additional controlled airspace required for changes;
- Have negligible/no impact on military operations.

5.2 Design Principles

The proposed routes have been designed in accordance with the CAA PBN enhanced route spacing guidance (CAP1385). They also take into account the constraints of the neighbouring sectors, which require flights to be separated by at least 5nm (or 1,000ft) on handover – new sector procedures will ensure the safe, efficient interactions when transiting between sectors. The proposed design has been based on the current day vectoring practices with the proposed aircraft flows being positioned in the same general areas as today.

5.3 Parallel Flight in the PBN environment

In April 2016 the CAA published updated guidance on performance-based navigation (PBN) route spacing[10]. That guidance document provides criteria that allow ATS routes to be safely separated by less than was previously permitted, given the improved navigation performance capabilities of modern systems. This allows the airspace to be made more efficient for the airlines as a result of their investment in this technology.

Flight planning rules ensure that aircraft are flight planned to follow the appropriate route, and each route will automatically keep aircraft separated safely when they are established on the parallel sections. ATC will continue to monitor the traffic flows but intervention will be required much less often.

The current RNAV5 routes will need to remain because they provide flight-planning connectivity for non RNAV1 capable aircraft within the IOM sector. These routes may also be used at high level (above FL285) for overflying aircraft where there is no requirement to join the new route structure.

The IOM sector will have a radar separation environment of 3nm (see para 4.3). The overlying Swanwick Sector 7 and the IAA's Shannon sector have 5nm radar separation environments. Hence (for example) traffic climbing from IOM into SWN S7 must be separated by more than 5nm. For this reason the proposed eastbound routes, Q36 & Q37, are spaced 5.5nm apart since traffic on these routes will typically climb into the overlying sector. The route spacing has been optimised to take account of the differing radar separation, ensuring that transfer to the next sector would always give the required 5nm radar separation.

[10] http://publicapps.caa.co.uk/docs/33/CAP%201385%20APR16.pdf or search online for "CAP1385"

Likewise on the proposed westbound routes M144 & M145, aircraft will be descending from SWN S7 into the 3nm separation environment of IOM. So these routes are separated by 5nm.

The proposed routes Q37 and M144 are spaced 8.5 nm apart. The distance between these routes is required to provide an area which can be utilised flexibly for tactical vectoring. The flexibility that this affords will give resilience against weather events, imbalances in traffic flows etc:

a. M144 (co-incident with L70) will be used for MTMA departures which climb to FL280. These have to be separated from Dublin arrivals which will use route M145. However, it will be a regular occurrence for SWN S7 to position Dublin arrivals south of track (potentially as far south as L70). In these instances, the MTMA departures will also have to be positioned south of track, which makes the space between L70 and Q37 important.

b. There will be instances when Dublin will transfer traffic to the IOM sector on parallel headings (roughly either side of LIFFY.) If this coincides with other traffic incoming to the IOM sector from Shannon via Q37, the traffic from Shannon will need to be positioned north of track, which makes the space between M144/L70 and Q37 important.

c. Traffic routing to Shannon's airspace via BAGSO, and from Shannon via LIFFY, are on adjacent routes from Shannon's point of view. Shannon requires these routes to be as far apart as possible.

d. SWN S7 will continue to use L70 westbound for overflights, and lower-level Dublin arrivals will continue to use the BAGSO STAR.

e. The central "tactical track" allows for the airspace to be systemised for the majority of traffic, but will allow for vectoring flexibility when required. This is the first piece of en-route RNAV1 "systemised airspace" in the UK, however it is still completely surrounded by non-systemised airspace, and includes a proportion of traffic which is not yet RNAV1 capable. The tactical track provides the flexibility needed to deal with aircraft transitioning between the two types of airspace. As the wider network is optimised and systemised over time, the need for tactical vectoring will diminish, however in the near term a degree of tactical intervention will be essential.

Aircraft will continue to be monitored by ATC to ensure separation. If necessary ATC will intervene to ensure that separation is maintained during the sections of each route that converge (or diverge), until they are established on the parallel stretches.

By introducing these self-flown parallel routes the ATC workload would reduce for the same volume of traffic, thus capacity of PC IOM and PC Antrim airspace can be safely increased and the forecast delays will be prevented or mitigated before they happen.

5.4 The proposal put forward for consultation

This proposal would:

a. introduce four parallel RNAV1 routes over the Irish Sea between Wallasey (WAL) and Dublin above FL170[11];
b. introduce five RNAV1 routes in the current airspace volume between WAL and Belfast (BEL), used in a similar way;
c. introduce three RNAV1 link routes to ensure network connectivity is maintained or improved;
d. keep the existing RNAV5 routes;
e. amend the STARs for Manchester and Liverpool airports to align with the proposed routes (see Appendix B: STAR Truncations); and
f. require a small strip of additional CAS over the Irish Sea (all of which would be at least 15nm from any land and none below FL75).

Introducing these new routes would increase capacity of PC IOM and, by extension, reduce the pressure on adjacent sectors that feed or receive traffic.

The proposed routes require one additional fillet of controlled airspace (CAS) in the middle of the Irish Sea on the north side of existing ATS route L70. This 3nm wide fillet would ensure the proposed routes are adequately contained within CAS.

The use of PBN navigation technology is in line with the Government's recommendations and facilitates the most efficient use of the valuable airspace asset.

As discussed above, the current system in PC IOM and PC Antrim uses RNAV5 ATS routes for flight-plan connectivity, and often flights are manually vectored onto a parallel track system.

This proposal will allow aircraft to self-fly parallel tracks safely, reducing the need for controller vectoring, giving PC IOM sector additional capacity as described in Section 3.

The charts on the following page illustrate the proposed route structure/associated CAS, and a draft schematic of how the routes could be used. Note the similarity between today's vectoring system (Figure 4 on page 3) and the proposed route system.

[11] The RNAV1 routes would be from the declared CAS base up. The RNAV5 routes would be RAD restricted from FL175 to FL285 in the IOM sector so RNAV5 aircraft could only file at FL170 or below. Above IOM sector in SWN S7/S4 there would be no restriction.

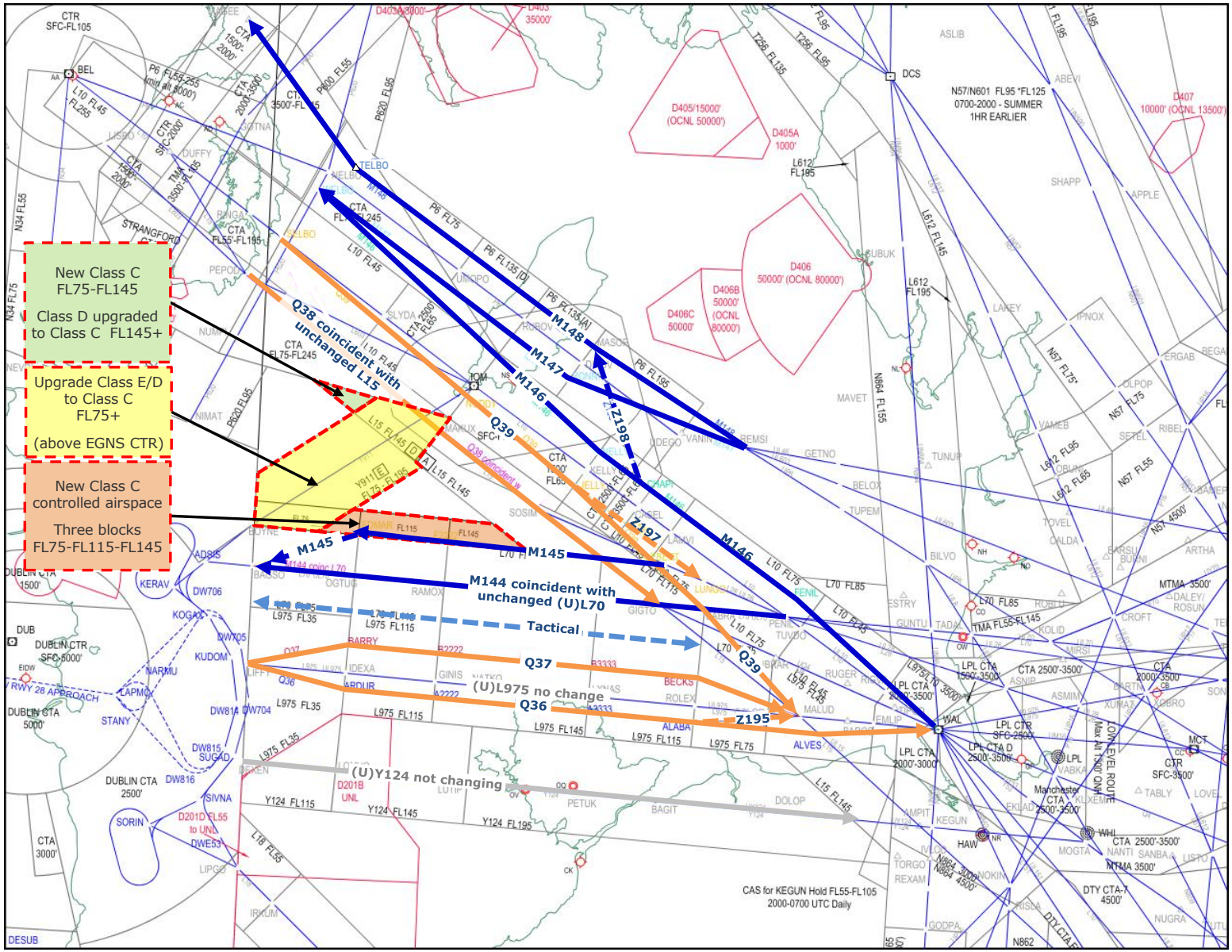

Figure 5 Proposed RNAV1 routes and CAS

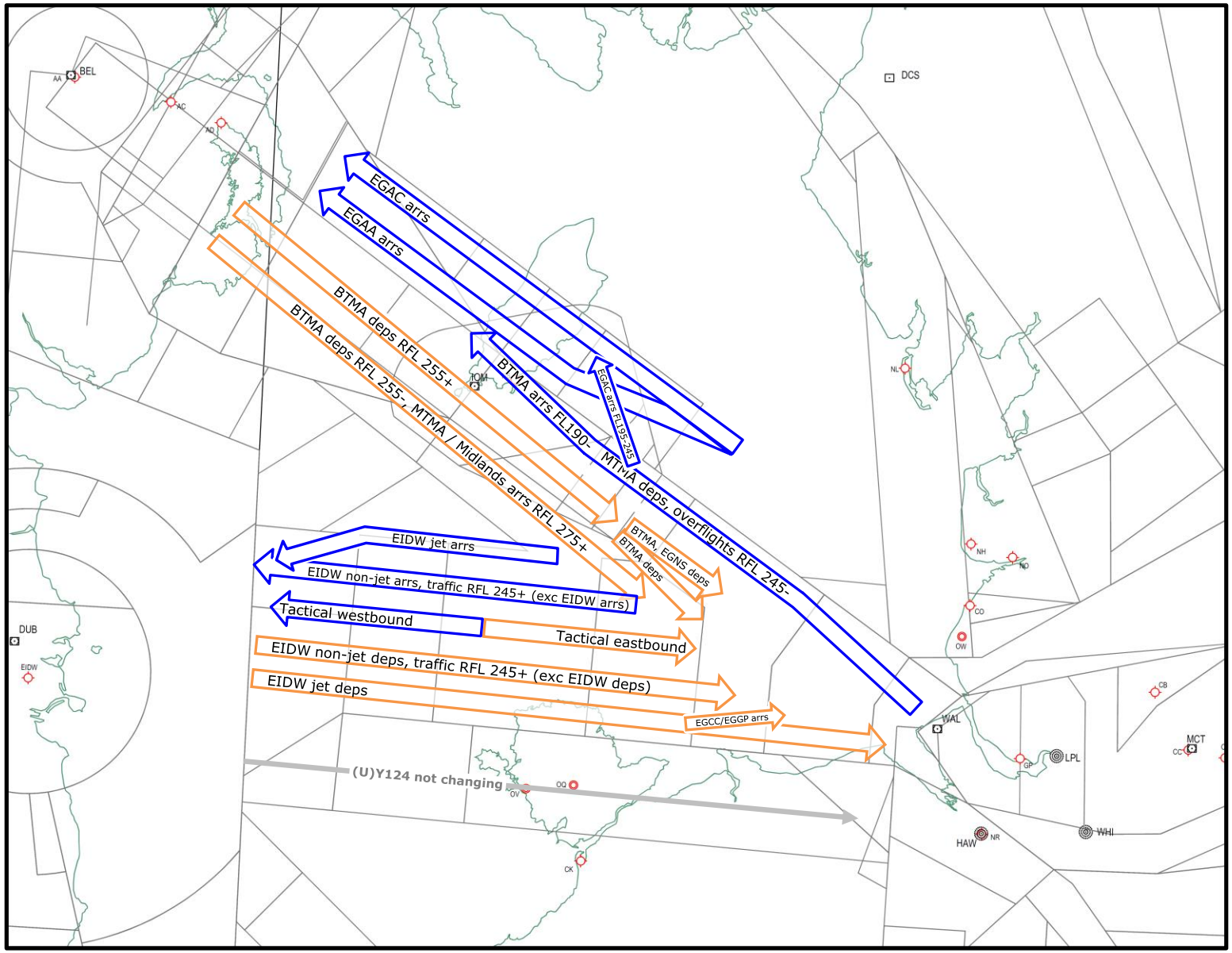

Figure 6 Schematic of proposed route usage

5.5 Design criteria

Table 1 shows the CAA minimum route spacing as recommended[12] by CAP1385, and also shows the route separations used for this proposal.

	CAP1385 minimum route spacing	Proposed route spacing	Additional buffer
Same Direction Parallel (Straight Route Segments)	3.8nm	Q36-Q37: 5.0nm M144-M145: 5.5nm	1.2nm 1.7nm
Opposite Direction Parallel (Straight Route Segments)	4.2nm	8.5nm	4.3nm

Table 1 Route spacing minima (CAP1385) vs proposed route spacing

The stated route separations were selected because, in addition to exceeding the required minimum route spacing, they enable traffic to be separated automatically when presented to the adjacent sectors.

The opposite-direction route spacing also includes the tactical vectoring track, making the airspace more efficient because it allows both systemisation and flexible vectoring in the smallest CAS volume.

5.6 RNAV equipage

The equipage rate for aircraft which are RNAV1 capable in the IOM sector is currently 92%[13].

RNAV5 aircraft would flight-plan the existing RNAV5 routes L70 and L975 but would be monitored by ATC to ensure radar separation is maintained from all other traffic.

Restrictions would apply to the retained RNAV5 routes in order to reduce the overall complexity of the network.

5.7 Route allocation

The draft flight-plan route allocation is shown on Figure 6 on page 14.

This procedural route allocation system would not preclude controllers from vectoring flights if they perceive an advantage in flexibility or efficiency.

The overall requirement for vectoring would, however, be reduced, so the IOM sector capacity would increase as described in Section 3.

[12] The CAA guidance does not currently extend to the FLs, speeds and traffic mix that would be implemented by this change. NATS is conducting a High Level High Speed trial which will provide further data to support the proposed changes.
[13] NATS PBN equipage survey July 2015.

5.8 Design options considered

5.8.1 New Coordination points (COPs) at UK/Ireland FIR boundary (rejected)

The current route structure links to the coordination points (COPs) BAGSO and LIFFY at the UK/Ireland FIR boundary. New COPs had been considered, as has using current COP BOYNE in a different way, however the IAA has requested that the proposed IOM routes terminate at COPs BAGSO and LIFFY so that the Dublin SIDs & STARs will be unchanged. When the planned Dublin new parallel runway is brought into service, provisionally in 2020, the SIDs & STARs for Dublin will be changed, and at that time it is proposed to introduce more COPs and review the interface with the IOM routes, potentially changing the use of current COP BOYNE. (Note: this could provide a small amount of additional capacity when it is introduced.)

5.8.2 CAS containment options (3nm and 2.5nm progressed, 2nm rejected)

Variations of the minimum CAS containment have been considered. The first is based on the extant minimum CAS containment, i.e. 3nm distance between the outer-most route centre-line and the edge of CAS. This requires a greater overall volume of CAS, however it is in line with extant CAA guidelines. 3nm containment has been used for all new routes except to the NE of P6 in the Antrim sector, where this would require an additional 0.5nm wide strip of CAS to accommodate the proposed M148.

In order to avoid adding this 0.5nm fillet, 2.5nm CAS containment is the preferred option in this area. A full safety case is being undertaken to ensure the viability of this option. Current vectoring practices support the safety case.

CAS containment of 2.0nm has also been considered, but has not been progressed.

5.8.3 Closer route spacing, to CAP1385 minima (rejected)

If the minimum route separations as described in CAP1385 (given in Table 1 on page 15) were used between the routes shown in Figure 5, they could be spaced closer together (as close as 3.8nm). The reason for choosing 5nm/5.5nm spacing instead of 3.8nm (or 4.2nm) spacing is due to the 5nm radar separation environment of the adjacent sectors as discussed in section 5.3.

This design option for route separations of less than 5nm was therefore not progressed.

5.8.4 Place RNAV1 route(s) coincident with original RNAV5 routes (partially progressed)

One option considered involved overlaying the IOM sector's extant RNAV5 routes (L975 and L70) with RNAV1 routes, and inserting two new RNAV1 routes between them. This would require that the minimum route spacing as per CAP1385 were utilised. This option was not progressed for the reasons in 5.8.3 above.

However in the proposed route structure the existing IOM RNAV5 route L70 would be partly overlaid with a new RNAV1 route (M144), and the Antrim RNAV5 route L15 would be partly overlaid with a new RNAV1 route (Q38). It is possible to have coincident route segments (with different designators) using the same waypoints, one RNAV5 and the other RNAV1.

Hence whilst we are not seeking to overlay all the RNAV5 routes with RNAV1 routes, there are two instances of this in the proposed design.

5.8.5 Additional airspace south of L975 (rejected)

One option considered extending the airspace to the south of L975. This was discounted due to the impact on military operations in the North Wales Military Training Area (NWMTA).

5.8.6 Airspace Classification (Class C favoured over Class A)

PC IOM is a mix of Class C (at all levels) and Class A (below FL195). PC Antrim is a mix of Class C (above FL195), and Classes E, D and A (below FL195). See Figure 7.

These CAS volumes are all defined in UK AIP ENR3.1 via ATS routes, airway widths, intersections and complex additional volumes.

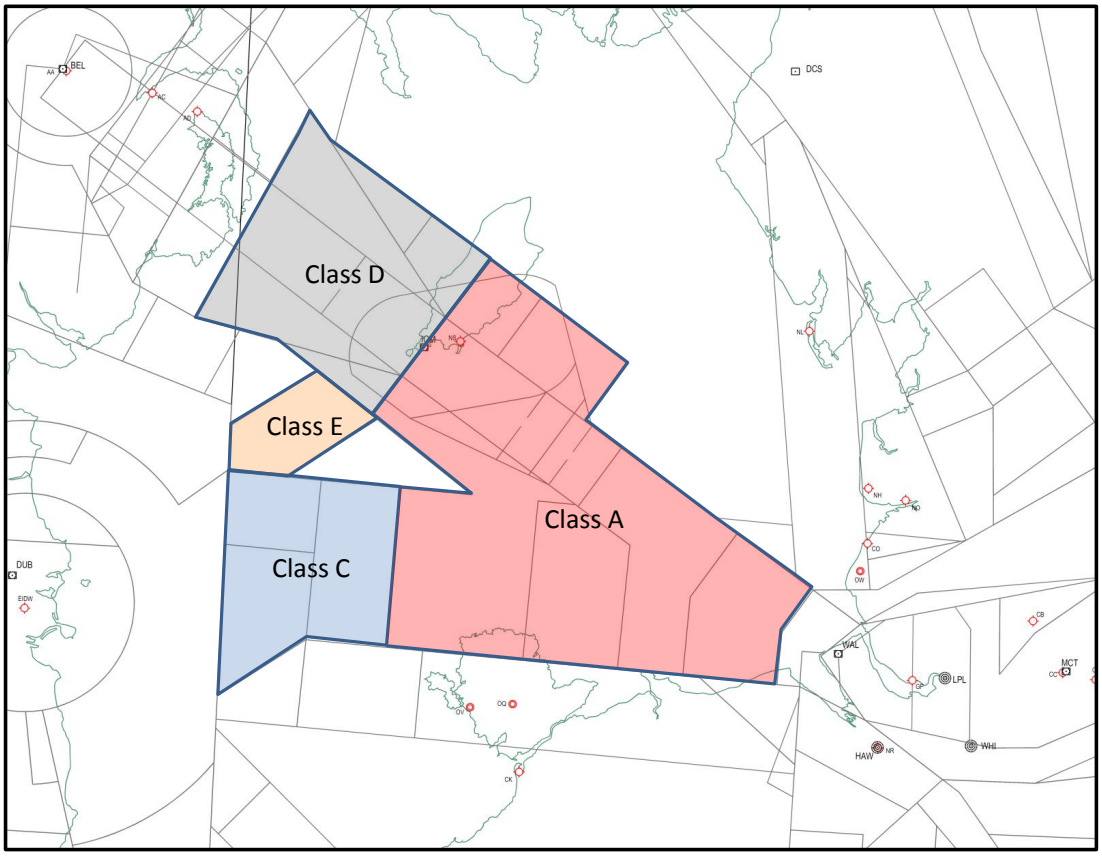

Figure 7 Extant airspace classification

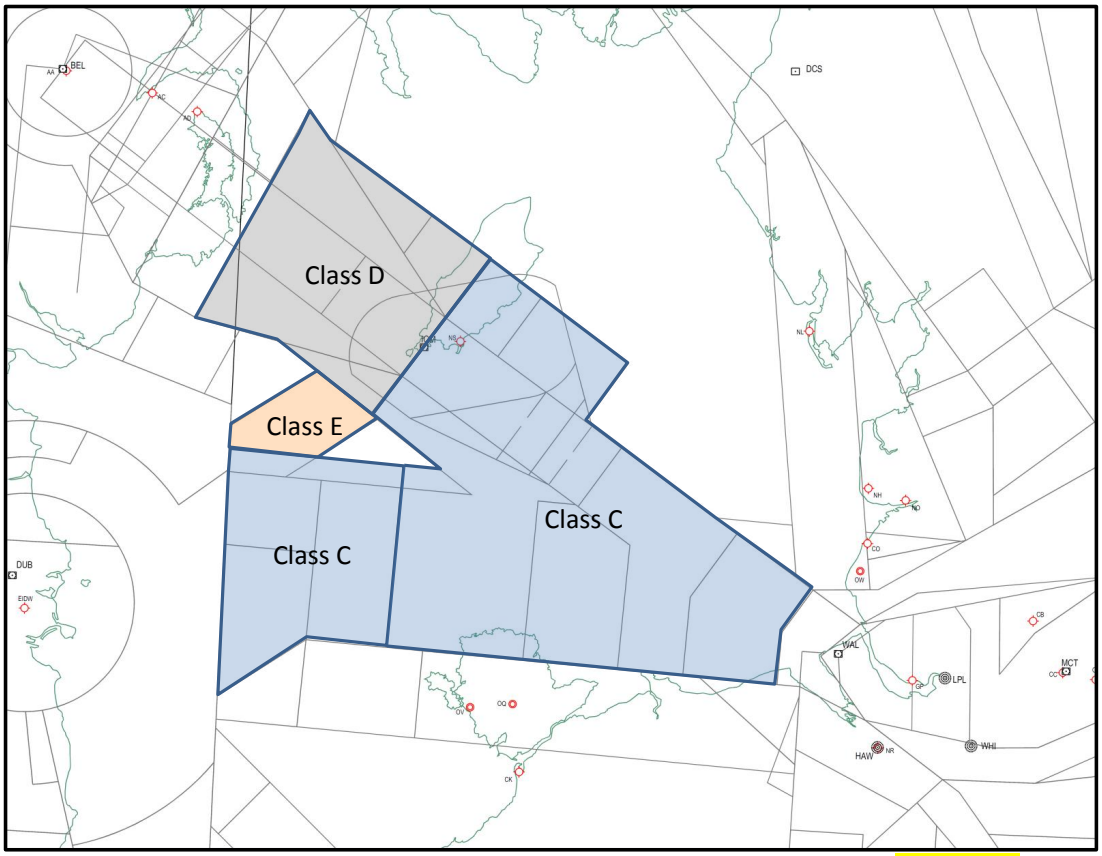

Figure 8 Proposed airspace classification – NOT PREFERRED – SEE Figure 8a below

We propose that, for PC IOM and PC Antrim:

- ATS-route Class A definitions are changed to Class C in UK AIP ENR3.1;
- Matching Class C CTAs are established, defined in UK AIP ENR2.1 (incorporating the additional 3nm fillet described in para 5.4) so that, in time, CAS defined by ATS routes can be withdrawn leaving the CTAs in place, with ATS route centrelines moving to UK AIP ENR3.3;
- Matching Class D CTAs are established, unchanged in extents from today for the same reason.

Updated information:

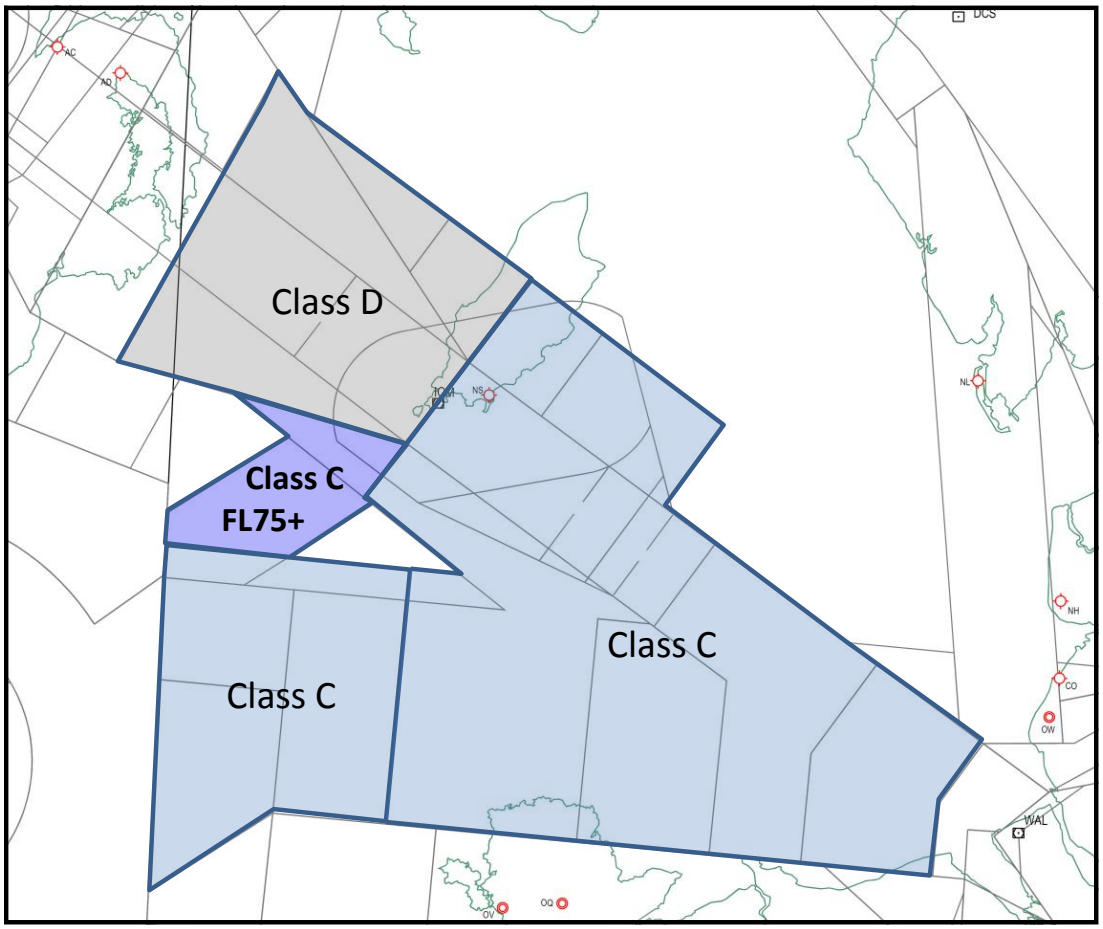

Figure 8a Proposed airspace classification - PREFERRED

We received two separate comments during the first week of consultation, both about ATS route Y911's classification.

Figure 8 has been superseded by Figure 8a as NATS' preferred CAS arrangement.

Two stakeholders saw the opportunity for homogenisation in a complex conjunction of Classes A, C, D and E for ATS route Y911.

Originally we covered this possibility when we wrote:

We are open to suggestions regarding the classification of Y911's Class E volume between IOM and BOYNE, which could be reviewed as part of this ACP. The main user of this route is Stobart Air.

This updated arrangement also would simplify the CTA boundaries and classifications in this area, across to BOYNE where Class C already exists today, making the base uniform at FL75. A small triangular infill would be required beneath L15 south of the Strangford CTA (see the green shaded area in Figure 5 on page 13).

Note that the extant Class A volumes southeast of IOM would all reduce to Class C under this proposal.

6 Impacts of this proposal

6.1 Noise, visual intrusion, the general public, stakeholders on the ground

Under this proposal all changes to flight-paths would be above FL75 (the majority would be above FL170)[14]. The great majority of the affected airspace is over the Irish Sea. The routes cross land only at the following points (see Figure 5):

- The northern edge of Anglesey (this route is 2nm south of the existing RNAV5 route, typically aircraft would be FL170 or higher).
- The south & central Isle of Man (the new routes mimic the current vectoring patterns, typically aircraft would be FL170 or higher).
- On the Strangford (WELBO) to Belfast (BEL) track of M147 (the new route mimics the current vectoring pattern, typically aircraft are FL100 in the WELBO area).

Therefore we assess that there would be no noticeable noise or visual intrusion impact to stakeholders on the ground in these areas.

6.2 CO_2 emissions & fuel burn

This proposal aims to match the proposed route structure to the current vectoring system, reducing controller workload and thus increasing capacity.

The lengths of tracks flown by aircraft using the proposed route structure are likely to be comparable to the lengths of tracks flown by aircraft using the original (current) route structure – they would simply be doing so in a more systemised way.

There will be very small differences between current and proposed flight-plan track lengths. However this is unlikely to be manifested in actual changes in fuel burnt compared to today, due to the similarity of flight-paths with the current vectoring system.

Therefore there is not expected to be any impact in terms of fuel burn and CO_2 emissions.

6.3 Delays to air traffic

The objective of this proposal is to systemise the proposed route structure by mimicking the current vectoring system. This will reduce controller workload and hence reduce the requirement for STAM flow regulations. See Section 3 (Justification and Objectives).

6.4 MoD and BAe Systems

The MoD (DAATM) and BAe Systems Warton were identified early on as the stakeholders having the most interest in these changes due to their operations in this area. There has been significant pre-engagement with these stakeholders (see section 6.8). Draft designs have already been discussed with them. This consultation constitutes the consolidation of the design, and we expect a formal response to this consultation from these stakeholders giving their feedback.

[14] The base of CAS in the region varies from FL45 to FL145. The lowest proposed CAS volume has a base of FL75. All proposed routes will be RAD restricted above FL80.

6.5 General Aviation (GA) airspace users

The location and altitude of the proposed CAS addition (over the Irish Sea, FL75+ with the majority FL115+) means these proposed changes would have minimal impact on GA stakeholders. The proposed changes of classification, to Class C described in Figure 8a on page 18, would be a benefit.

6.6 Impact on Aviation Safety

The proposed new routes take advantage of the precise navigation technology available on modern aircraft. By promulgating the routes using the RNAV1 navigation standard, aircraft will be flying according to a systemised route structure with less reliance on the human input of air traffic control. The minimum route separations as detailed in CAP1385 are based on statistical evidence of track keeping by aircraft following defined routes. This enables the risk of loss of separation to be quantified.

"In terms of loss of separation frequency, the CAA considers that a Severity Class 4 hazard is considered acceptable for frequencies of less than 10^{-5} events per operational hour per sector." CAP1385 Page 21

i.e. at the minimum route separations one loss of separation event would be anticipated on average every 11.4 years, per sector.

However the route separations being used for this project are significantly greater than the CAP1385 minima (as detailed in Table 1). Hence it is anticipated that there would be fewer cases of aircraft under their own navigation losing 3nm separation. In any case ATC monitors the track keeping of all aircraft and where a deviation from centreline occurs it is the Controller's job to intervene and prevent a loss of separation from occurring.
Note: a navigation conformance monitoring tool (PIT - Position Indication Tool) will be used in the IOM/Antrim sectors.

6.7 IAA - UK-Ireland Functional Airspace Block (FAB) Partners

NATS' UK-Ireland FAB partners the IAA were identified as a key stakeholder in the proposed changes, as PC IoM sector has a direct interface to both the IAA's Shannon and Dublin units. The IAA have actively supported this project with contributions to design workshops and simulations to ensure that the impact of the designs does not detrimentally impact the FAB airspace, and that these changes can be supported by both ANSPs. This consultation constitutes the consolidation of the design, and we expect a formal response to the consultation with feedback from the IAA. NATS and the CAA visited the IAA in March 2016 and briefed them. As a result of this meeting a workshop was set up at Prestwick Centre which was attended by IAA controllers and CAA representatives to explore and agree the detailed aspects of the IOM/Dublin/Shannon/Swanwick interface.

6.8 Stakeholder pre-engagement

The MoD, BAe Systems Warton and the IAA were identified early on as the stakeholders having the most interest in these changes due to their operations in this area. There has been significant pre-engagement with these stakeholders to ensure that there is minimal impact on their operations that they are content with the proposals. The engagement has been as follows:

6.8.1 **MoD.** Individual briefing to DAATM post framework brief.
An individual briefing has been given to Swanwick Military by NATS. A further briefing has been scheduled during the consultation period.

6.8.2 **BAe Systems Warton.** Warton attended the development simulations in December 2015, which simulated MTMA network and IOM aspects.
NATS visited Warton in March 2016 and discussed the proposals with their ATC and flight testing staff. They indicated that they had no issue with the proposed design.

6.8.3 **Airports & Airlines.** Airports have been briefed regularly via FAS Design Development Groups and airlines via the NATS Operational Partnership Agreement.

7 How to respond to this consultation

This consultation commences on 4 July 2016 and ends on 30 August 2016, a period of 8 weeks.

Consultation material is available at:

www.nats.aero/environment/consultations

The list of stakeholders targeted for this consultation is given in Appendix A. These stakeholders have been directly informed of this consultation.

The consultation is not limited to these stakeholders - anyone may respond.

To respond to this consultation, please write an email to

airspaceconsultation@nats.co.uk

Or write a letter and send it recorded-delivery to:

NATS Airspace Consultation IOM
Box 25A
4000 Parkway
Whiteley
Hampshire
PO15 7FL

Please provide the following information in your response:

- Your name, and your role if you are responding on behalf of an organisation.
- Your contact details.
- One of the following: SUPPORT OBJECT NO OBJECTION
- Your reasons for supporting or objecting to the proposal.

  (For example the impacts and benefits it may have on your flights or organisation, and how often you would be affected.)

If this proposal does not affect your operation, please respond as that fact itself is useful data.

Note that copies of all responses received will be supplied to the CAA.

8 Compliance with process, and what happens next

8.1 Compliance

If you have questions or comments regarding the conduct of the airspace change process (e.g. adherence to CAP725), please contact the CAA:

Airspace Business Coordinator
Ref: NATS IOM Consultation
Safety and Airspace Regulation Group
CAA House
45-59 Kingsway
London

WC2B 5TE

Email: airspace.policy@caa.co.uk

Note: These contact details **must not** be used for your response to this consultation. If you do so, your response may be delayed or missed out.

The 8-week consultation period was agreed with the CAA due to the significant pre-engagement with the major stakeholders, the location and altitude of the proposed changes (and associated minimal impact), and the limited opportunities to implement the proposal before 2017's forecast increase in summer traffic.

8.2 What happens next?

When the consultation period closes, we will publish a report summarising the feedback received.

We will then submit an Airspace Change Proposal to the CAA based on this consultation document and the feedback report.

The CAA will then study the proposal to decide if it has merit, and will publish a decision on its website.

If the CAA approve this proposal, we plan to implement the changes not before March 2017.

Appendix A List of Stakeholders

Airlines

Aer Lingus
Air Canada
Air France
American Airlines
Atlantic Airways
BH Airlines
British Airways
Delta
DHL
easyJet
Eurowings
Finnair
Flybe
Iberia
Jet2
KLM
Loganair
Lufthansa
Nordic Aviation
Norwegian Airlines
Qatar Airways
Ryanair
SAS
Stobart Air
Thomas Cook
Thompson
Turkish Airlines
United Airlines
Virgin Atlantic
Vueling
Wow Air

National Air Traffic Management Advisory Committee (NATMAC) Members

Aviation Environment Federation (AEF)
Airport Operators Association (AOA)
Aircraft Owners & Pilots Association (AOPA UK)
Association of Remotely Piloted Aircraft Systems (ARPAS UK)
British Airways (BA)
British Aerospace Systems (BAE Systems)
British Airline Pilots Association (BALPA)
British Air Transport Association (BATA)
British Balloon & Airship Club (BBAC)
British Business & General Aviation Assoc (BBGA)
British Gliding Association (BGA)
British Hang Gliding & Paragliding Assoc (BHPA)
British Microlight Aircraft Association (BMAA)
British Model Flying Association (BMFA)
British Parachute Association (BPA)
British Helicopter Association (BHA)
European UAV Systems Centre Ltd
General Aviation Safety Council (GASCo)
General Aviation Alliance (GAA)
Guild of Air Traffic Control Officers (GATCO)
Helicopter Club of Great Britain (HCGB)
Heathrow Airport Ltd
Heavy Airlines
Honourable Company of Air Pilots
Light Aircraft Association (LAA)
Light Airlines
Low Fares Airlines (LFA)
Ministry of Defence (MoD)
PPL/IR

Others

Civil Aviation Administration (Isle of Man)
Irish Aviation Authority (IAA)

Appendix B: STAR Truncations

The following charts illustrate STAR truncations for EGCC MIRSI and EGGP TIPOD.
The proposed ATS routes were designed to link in to existing points on these STARs to allow for continuity in the MTMA environment.

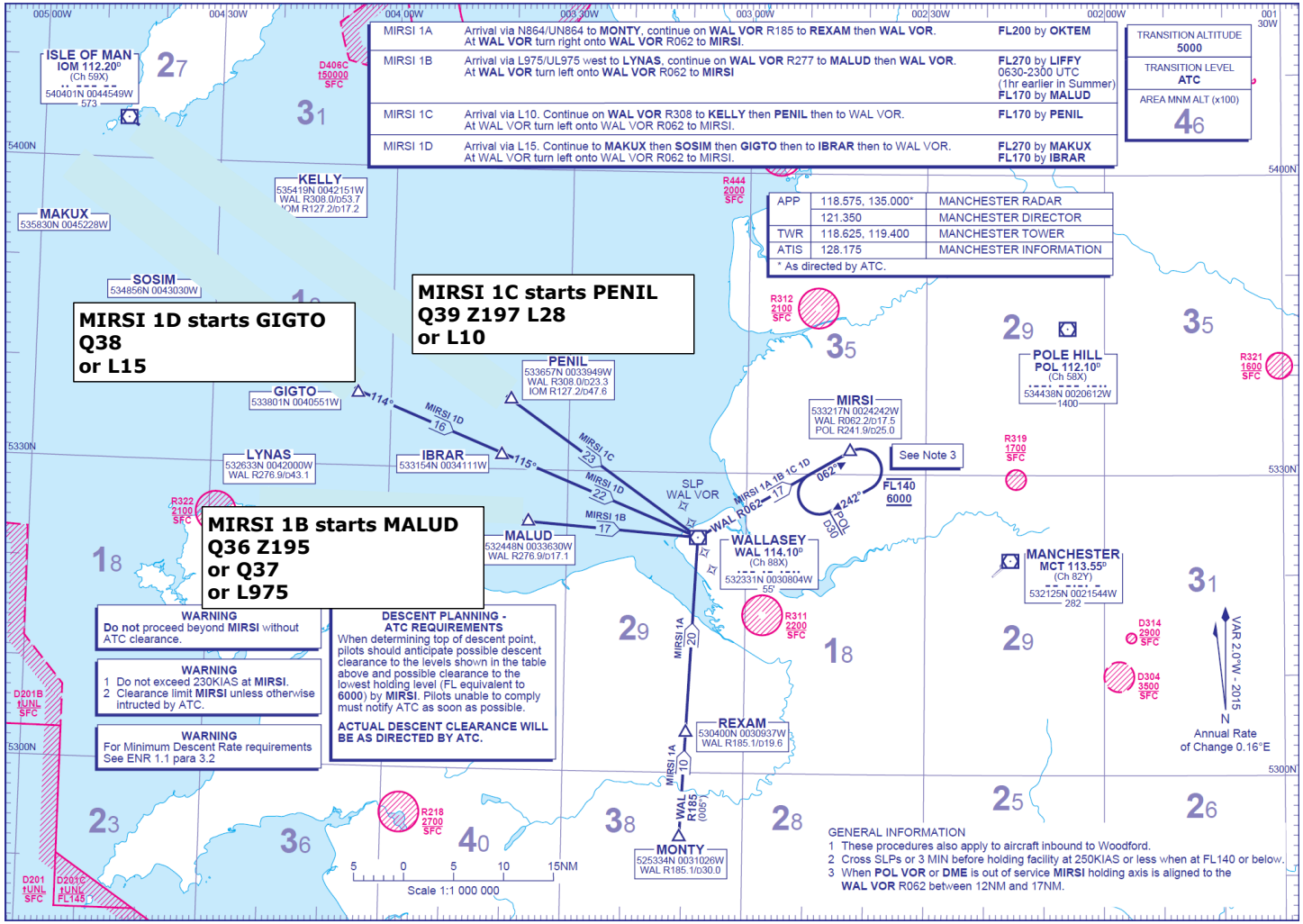

Figure 9 Illustration of Proposed STAR Truncations - MIRSI for EGCC Manchester

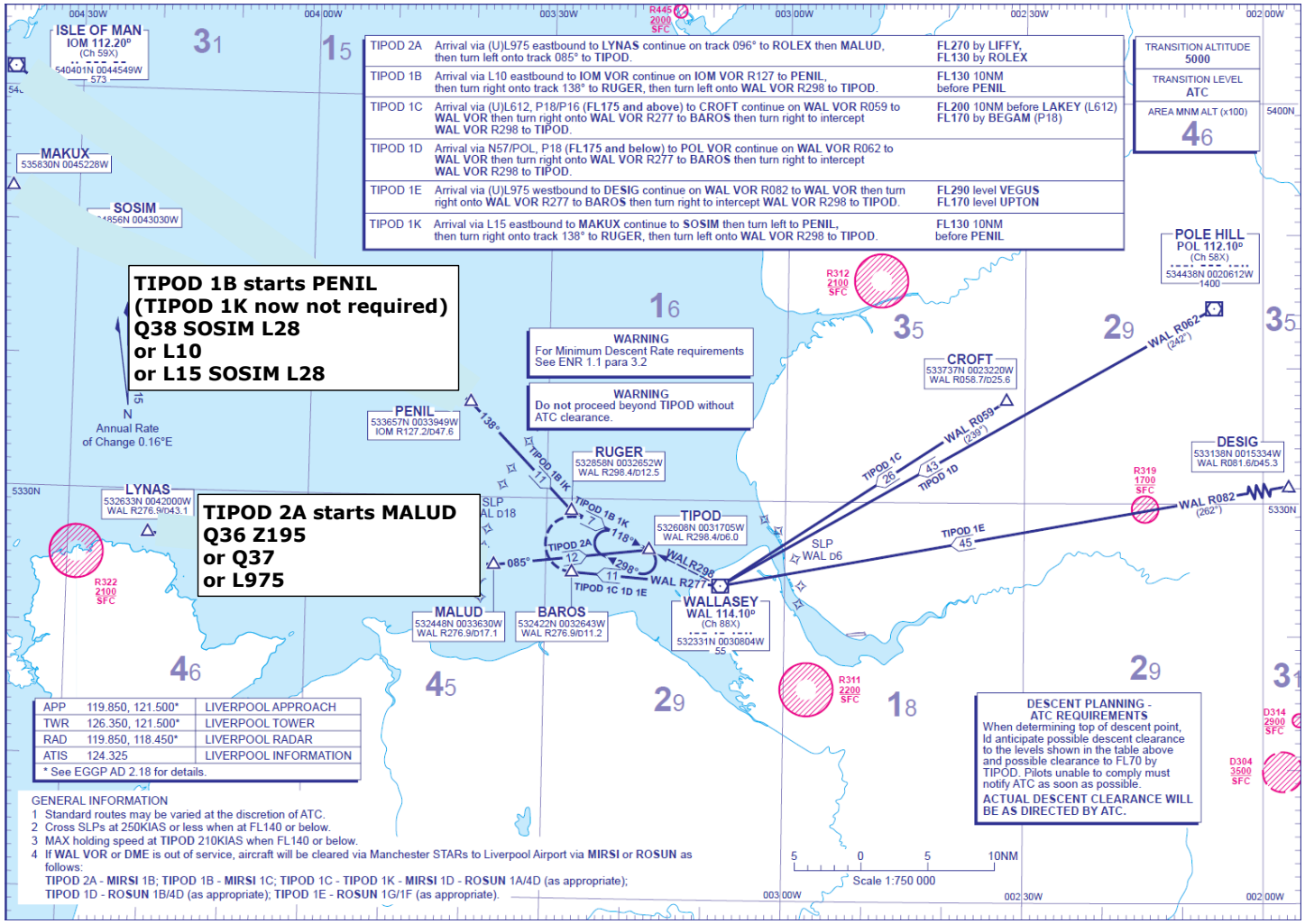

Figure 10 Illustration of Proposed STAR Truncations – TIPOD for EGGP Liverpool

End of consultation document