

Ministry of Defence
Modernising Airspace
Consultation Document
Development of North Sea Airspace for Military Training
July 2018

Foreword

Thank you for taking time to read this document. It has been designed to contain all the information you need but without being overly long. It aims to make clear why we need to make this change, what the current airspace situation is together with the proposed changes and what we understand the impacts to be. Other than the proposed new air routes, the segregated airspace whilst a permanent structure within the AIP is only temporary in nature as it is only activated when required. Therefore, key to making this proposal work is effective Airspace Management. Your thoughts on both the design and Airspace Management are welcomed to ensure that we collectively produce the right solution to meet the UK's needs.

References

	Description	Hyperlinks
1	Stage 1a Assessment Meeting Presentation	LINK
2	Stage 1a Assessment Meeting Minutes	LINK
3	Stage 1b Design Principles	LINK
4	Stage 2a Airspace Change Design Options	LINK
5	Stage 2a Design Principle Evaluation	LINK
6	Stage 2b Options Appraisal (Phase 1 – Initial)	LINK

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Executive Summary

As a small country with a large demand for aviation that drives business, tourism and economic growth, the UK needs an efficient and effective airspace structure. The military also relies on an efficient and effective airspace structure to provide dedicated areas to be reserved for hazardous activities like training fast jet pilots and testing munitions. With the introduction of new aircraft and systems the MOD has a requirement to conduct an airspace change to provide suitable airspace in which training and Force Generation for modern fast jet aircraft can take place safely and efficiently.

The MOD are proposing to adjust the lateral boundaries of an existing airspace structure, EGD323, to meet this requirement. The MOD are mindful of other airspace users so have worked collaboratively with the UK's Air Navigation Service Provider NATS and will use Flexible Use of Airspace Principles to produce a solution to meet MOD requirements that has the least impact on other airspace users.

1. Introduction

1.1. All types of aviation operations are time and location sensitive. Operators need confidence that they can depart from their airfield, access the required sectors of airspace when required and arrive at their destination at the times they expect. The UK State aims to optimise the efficiency and effectiveness of the airspace structure through a joint and integrated approach to air traffic management – with civil and military organisations working collaboratively to balance the competing demands for airspace with the available capacity.

1.2. The civil and military aviation sectors are working with the Government and the Civil Aviation Authority (CAA) on a major investment programme to upgrade the UK's airspace structure because it is out-dated, inefficient and most importantly reaching capacity. The initiative is known as the Future Airspace Strategy Deployment Programme.

1.3. Through the Future Airspace Strategy, an initiative was established to improve the Flexible Use of Airspace (turning airspace changes on/off and sharing airspace through agreements) across a broad community of stakeholders by enabling civil and military organisations to exploit the airspace as efficiently and equitably as possible. This initiative is known as the Flexible Use of Airspace State Programme (FSP). Chaired by the CAA, the FSP has, through a collaborative framework, introduced benefits to the UK air traffic system by changing airspace designs, improving airspace management processes and influencing policy updates.

1.4. Through its activities, the FSP completed a Feasibility and Options study to investigate military airspace requirements for the near future and to provide a view of the airspace design concepts out to 2025/2030. This study identified that, to satisfy the immediate short-term requirement to develop airspace suitable for modern combat aircraft (such as Typhoon and F35 Lightning), a change to a Danger Area complexes in the North Sea (known as EGD323) would be the most suitable option.

1.5. The MOD has submitted a Statement of Need to the CAA to propose a change in airspace design to EGD323 in accordance with the regulatory processes as laid out in Civil Aviation Publication (CAP) 1616. This consultation is your chance to contribute and is a key part of Stage 3 of the airspace change process.

2. Background

2.1. It is widely reported that the UK airspace is congested and commercial air transport flights are increasing globally year on year; the Future Airspace Strategy has been established to ensure developments take place that increase the capacity of the network, reduce delays and improve the efficiency of flight paths. Military aviation activities are also expected to grow significantly between 2019 and 2025, driven principally by the increase in numbers of existing platforms (Typhoon) and the introduction of new aircraft (for example F35 Lightning). The operation of modern combat aircraft with their longer-range sensors and weapon systems also requires larger volumes of airspace in which to train and become proficient.

3. What this consultation is about

3.1. Prior to the change of any airspace it is important for us as the originators of the ACP request to understand the full effects of the proposed changes on not just ourselves but of all those who may be effected. We can only achieve this through effective consultation and asking you for your opinions. We are interested in understanding your views on the change proposal, including any objections or comments you may have. This will therefore enable us to understand the impact of this request. Where necessary we will provide further clarification of what we are asking to do, to help you fully determine if this will affect you. This understanding will then be used to determine the initial viability of the request and if deemed viable frame the design of the ACP.

3.2. The MOD wishes to ensure that it considers the views of other airspace users and the wider community in the development of the proposal for changes to the North Sea training airspace. This consultation is being conducted in accordance with the processes for airspace changes as stated in the CAA document on airspace design ([CAP1616](#)), which sets out the requirements for community engagement and consultation by the sponsor of airspace changes.

3.3. This consultation will run for 6 weeks from 30 Jul 18 until 9 Sep 18. As discussed in the consultation strategy this will, if approved, allow the proposed airspace to be introduced during the 28 Feb 19 AIRAC. The introduction date is slightly earlier in 2019 than originally envisaged but this is driven by the requirement for NATS to sequence this proposed change with other system upgrades that will require the same resources to implement. The timing also meets MOD requirements; any significant delay will have a detrimental impact upon the MOD's ability to train to the standards required by the Government's Security Strategy.

4. Justification and Objectives

4.1. The UK has invested significantly in new aircraft and capabilities that will contribute to safeguarding the nation's interests both around the UK and globally. In addition, our close partner nation, the US, is also investing in aircraft and capability based within the UK that not only contribute to the defence of our mutual interests, but which also benefits local and the national economies. For combat aircraft to be operationally effective they need to be able to practice procedures and tactics and to train new aircrew. For this training and practice to be truly effective sufficient segregated airspace is required to allow modern sensors and tactics to be realistically practised. Therefore, this proposed change directly supports and is essential for the MOD to maintain and generate Government directed military activity.

4.2. The objective of this ACP is to provide a suitable portion of segregated airspace within routine reach of the Main Operation Bases at RAF Marham, RAF Lakenheath and RAF Coningsby in which to permit modern combat aircraft to train. The minimum dimensions required to facilitate the most demanding routine training requirement is 120nm x 60nm. There is also a requirement

for a small overland portion such that there can be interaction with land based assets. There is no requirement for segregated airspace below 15000ft overland.

5. Current Airspace

5.1. The location identified as most suitable to meet this requirement is over the North Sea and a small part of the Yorkshire coastline. This is currently the location of Danger Area EGD323. This Danger Area was established in circa 2003 and replaced the Aircraft Combat Manoeuvring Instrument range. The North Sea and East Coast has historically been used by RAF and USAFE aircraft for training due to the proximity to the Main Operating Bases many of which were established during the Second World War.

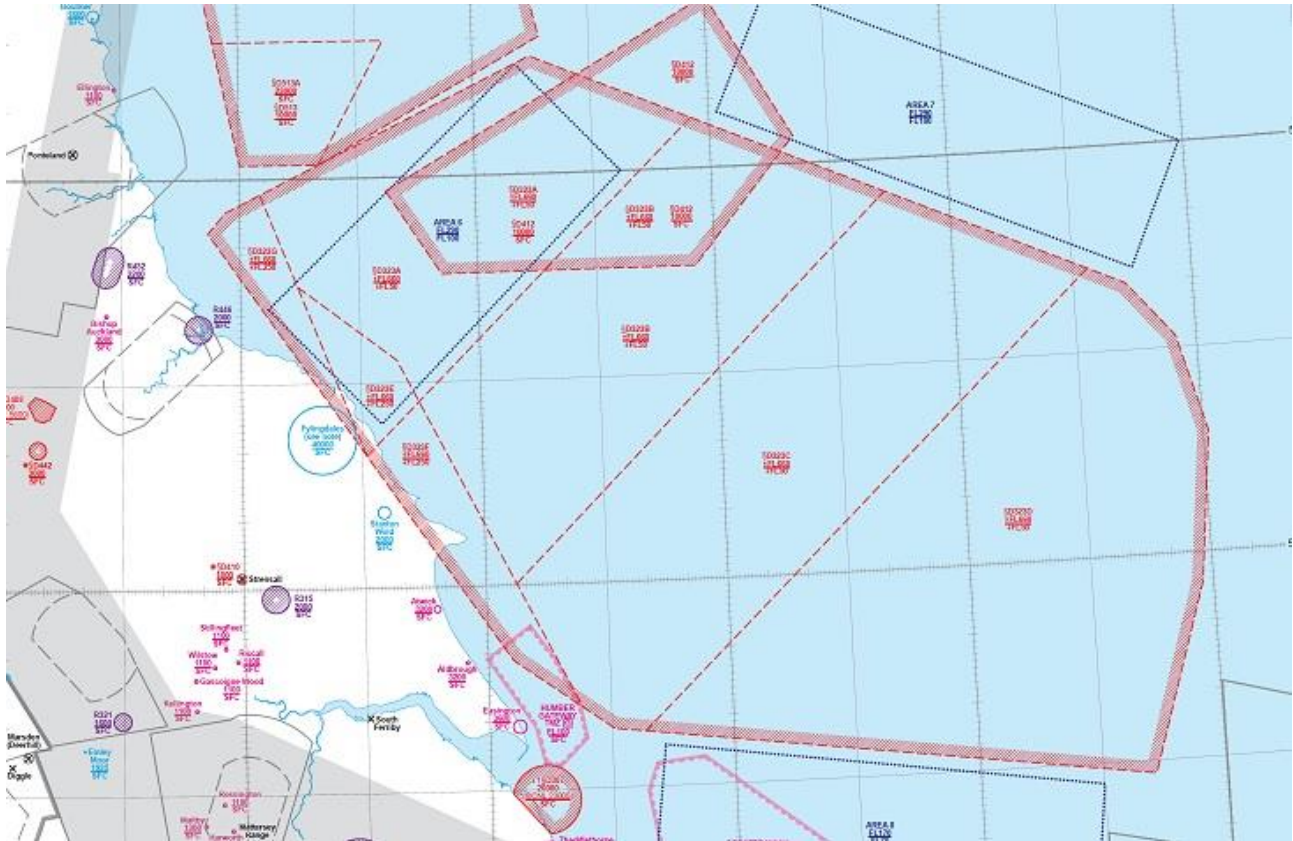


Fig 1 EGD323

5.2. EGD323 is the large area depicted by the red shaded lines. Most of the area is bookable from FL50 to FL660. It is activated by NOTAM and is managed by the Military Airspace Booking & Coordination Cell. Activity is published the day before which allows for a civil air traffic routes either around or through the airspace to be planned. These routes can be seen in Fig 2

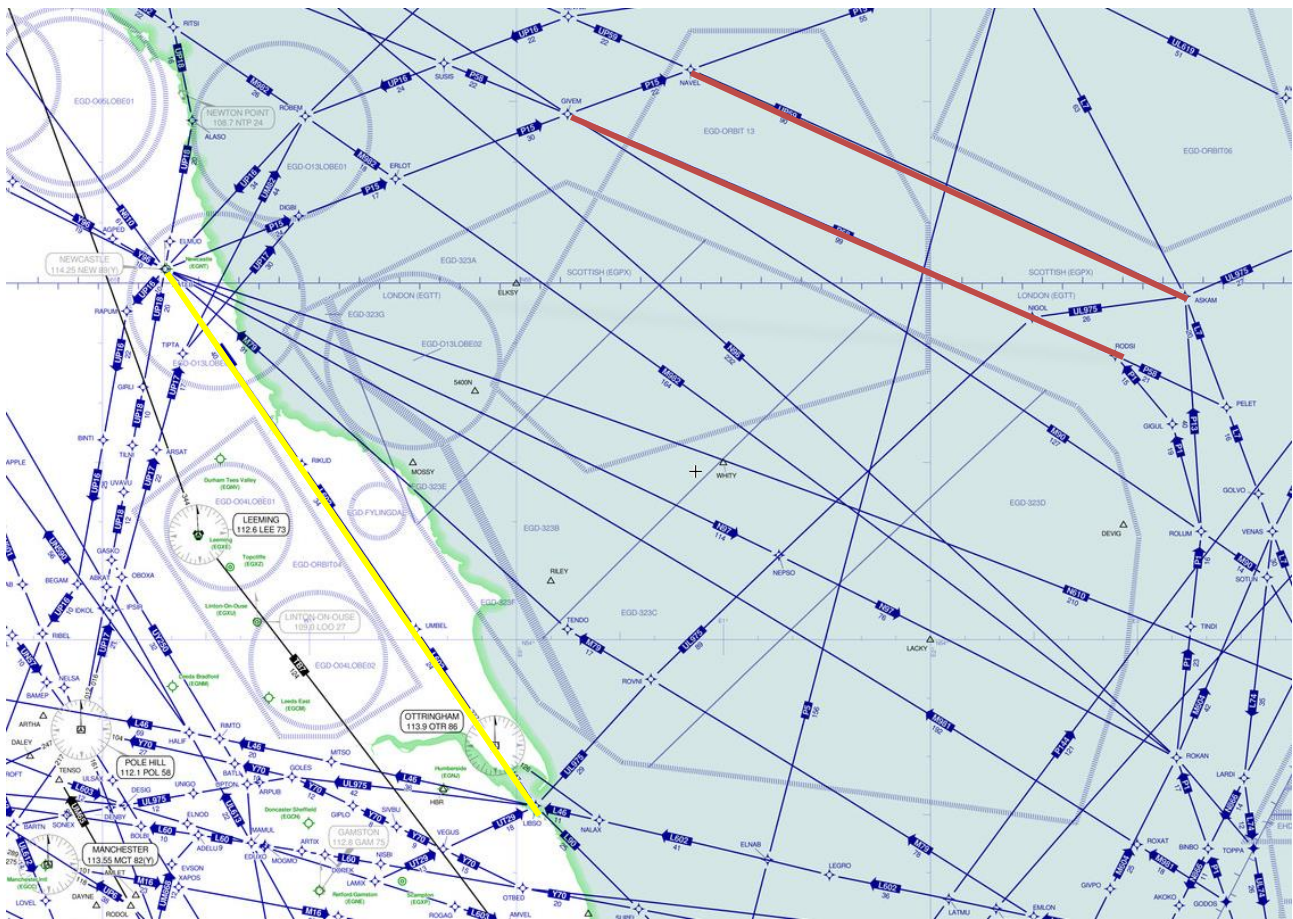


Fig 2 Impacted Air Routes surrounding EGD323

5.3. As can be seen in Fig 2, several Civil Air Routes shown in blue interact with the Danger Area and are available through Flight Planning or tactically when the Danger Area is not active. Of interest to this ACP are Air routes P58 and P59, in red, to the North-East of EGD323 which are used primarily for traffic routing to/from Europe to North America. They are also used by traffic routing to/from Europe to Iceland. L602, shown in yellow, to the west of EGD323 is used by both overflight traffic and traffic routing into and out of the Scottish Terminal Manoeuvring Area. All 3 of these routes are FL245 and above.

6. Airspace Management & Flexible Use of Airspace

6.1. The MOD are very mindful that when airspace is segregated for essential military training it potentially prevents other airspace users, such as General Aviation, Commercial Traffic or even other military traffic from utilising that airspace. This is why the current EGD323 and other areas are managed by the Military Airspace Booking and Coordination Cell and are only activated by NOTAM when required. The MOD also seek to only segregate the minimum volume of airspace commensurate with the task. In support of this proposal the MOD are suggesting the use of Flexible Use of Airspace principles to ensure the airspace is used as efficiently as possible and that all airspace users' needs are accommodated where possible. To achieve this the MOD will enhance its current Airspace Management capability and enter into some Collaborative Decision making with NATS, particularly for the proposed segregated airspace that conflicts with P58 and P59. Also, to ensure that any segregated airspace is used and released when not required or when activity is completed the MOD have been trialling an additional level of tactical airspace management known as Level 3. Whilst the trial is still ongoing early results indicate that over one month a total of 125 additional hours of pre-booked EGD323 complex segregated airspace was released for use for other airspace users when compared with the previous month. Given that the complex is divided into 7 separate areas this means that over the 21 military flying days within that month, a total of 17.8 hours were available when civil traffic could route through the entire EGD323

complex when compared with the previous month. Full results and more detailed analysis will be produced when the trial completes.

6.2 The key to the successful application of Flexible use of Airspace and subsequent efficient airspace use is proactive and effective Airspace Management. The MOD has invested in UK Airspace Management through the Military Airspace Booking and Coordination Cell and via the UK Airspace Management Cell. This proposal is underpinned by this Airspace Management, so rather than wait 12 months for a Post Implementation Review, the MOD propose that if the ACP is approved, that 3 monthly reviews are conducted such that Airspace Management protocols or agreements can be adjusted to ensure optimum airspace usage for the UK. It is intended that these reviews would involve all airspace stakeholders in addition to the MOD and NATS.

7. Proposed Airspace

7.1. This proposal extends EGD323 to the east (areas K-Q) and adds an additional fillet overland (F-J) as shown in Fig 3

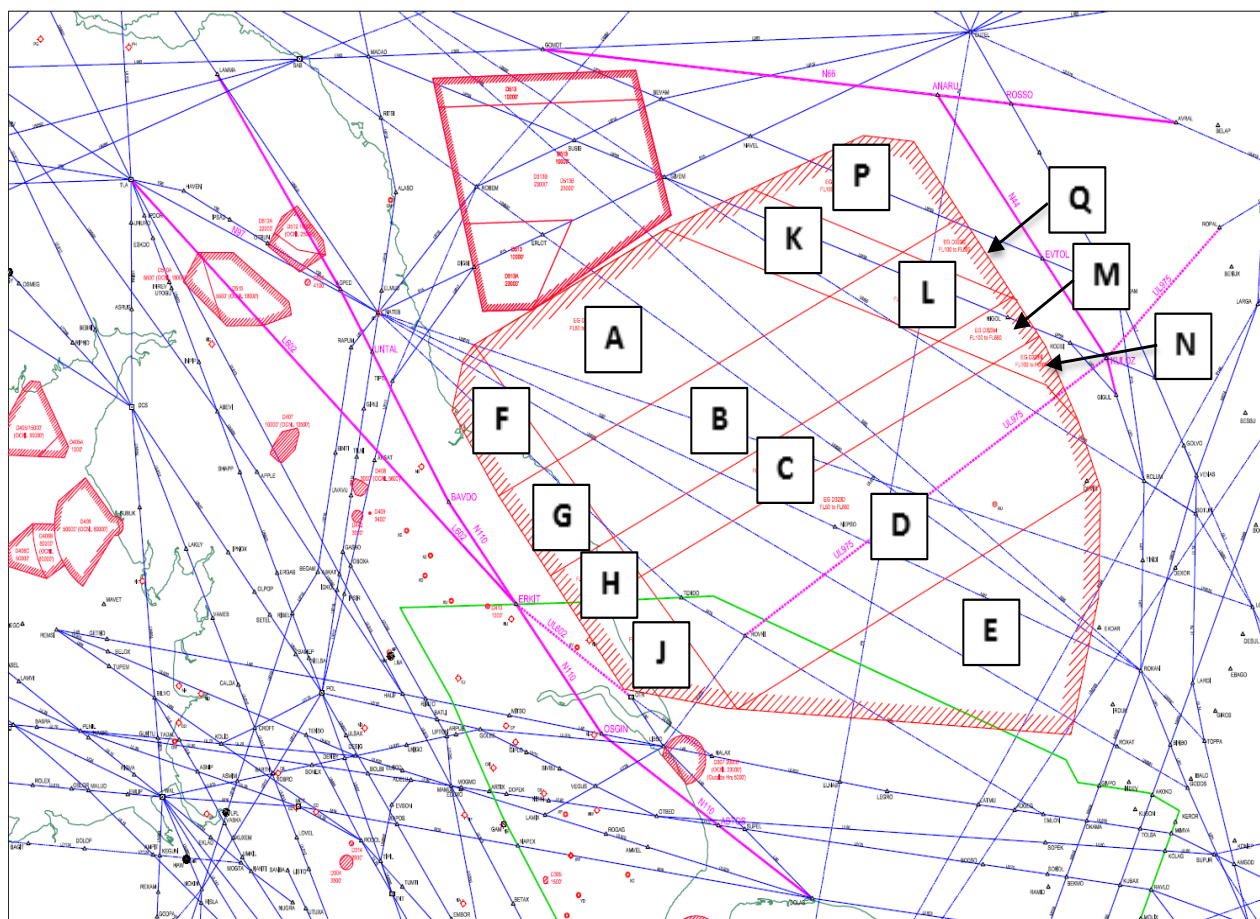


Fig 3 EGD323 Proposed expansion.

7.2. Activation availability times by NOTAM.

Mon-Fri 24 Hrs – Not Sat/Sun/PHs

7.3. Areas A,B,C,D,E bookable FL50 to FL660
Areas K,L,M,N,P,Q bookable FL100 to FL660
Areas F,G,H,J bookable FL150 to FL660

7.4. The upper limit booked will be only that required for the training sortie. Likewise, for areas F,G,H,J the base level will also only be booked to that required. The MOD propose to utilise 3 options for the base level of this airspace: FL150, FL195 and FL245.

7.5. The Danger Area has been sub-divided to permit Airspace Management sharing agreements to be implemented and to enable military aircraft to book just the lateral size of airspace required. This frees up airspace for other users.

7.6. The proposal also introduces several upper air routes above FL245 to ensure that civil traffic can continue to flow when the whole or parts of the Danger Area are active.

7.7. To accommodate traffic when Areas K,L,M,N,P,Q are active 2 new routes are proposed – See Fig 4.

N44: GIGUL – KULOZ – EVTOL – ANARU

N66: AVRAL – ROSSO – ANARU – GOMOT

7.8. In addition, Conditional Route UL975 will be slightly re-routed – see Fig 4 and 5.

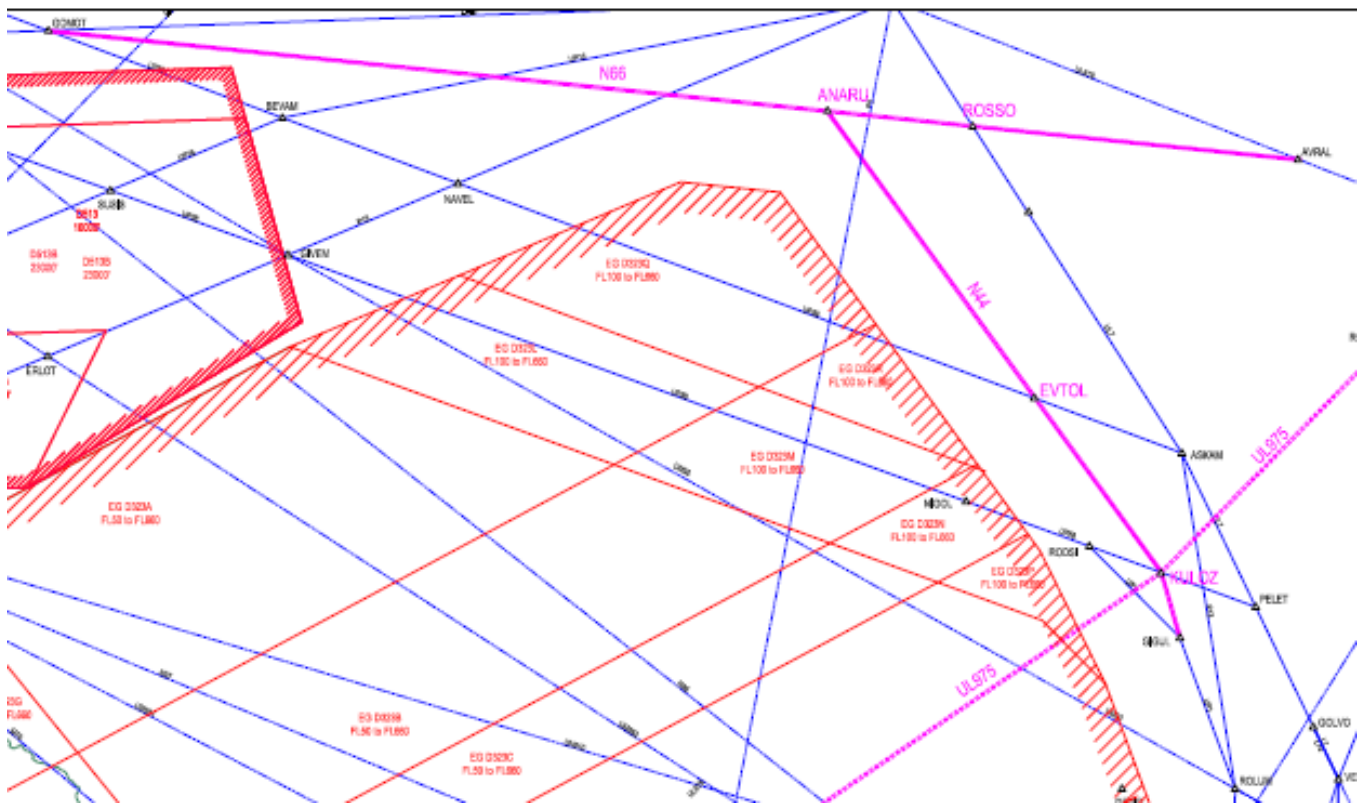


Fig 4 New Routes N44 an N66 – shown in Pink

7.9. To facilitate the activation of Areas F,G,H,J which conflict with UL602 it is proposed to re-route UL602 and establish a new air route N110 – See Fig 5.

UL602 Conditional Route OTR – ERKIT

UL602 ERKIT – TLA

N110 DOLAS – OSGIN – ERKIT – BAVDO – UNTAL – LAMMA

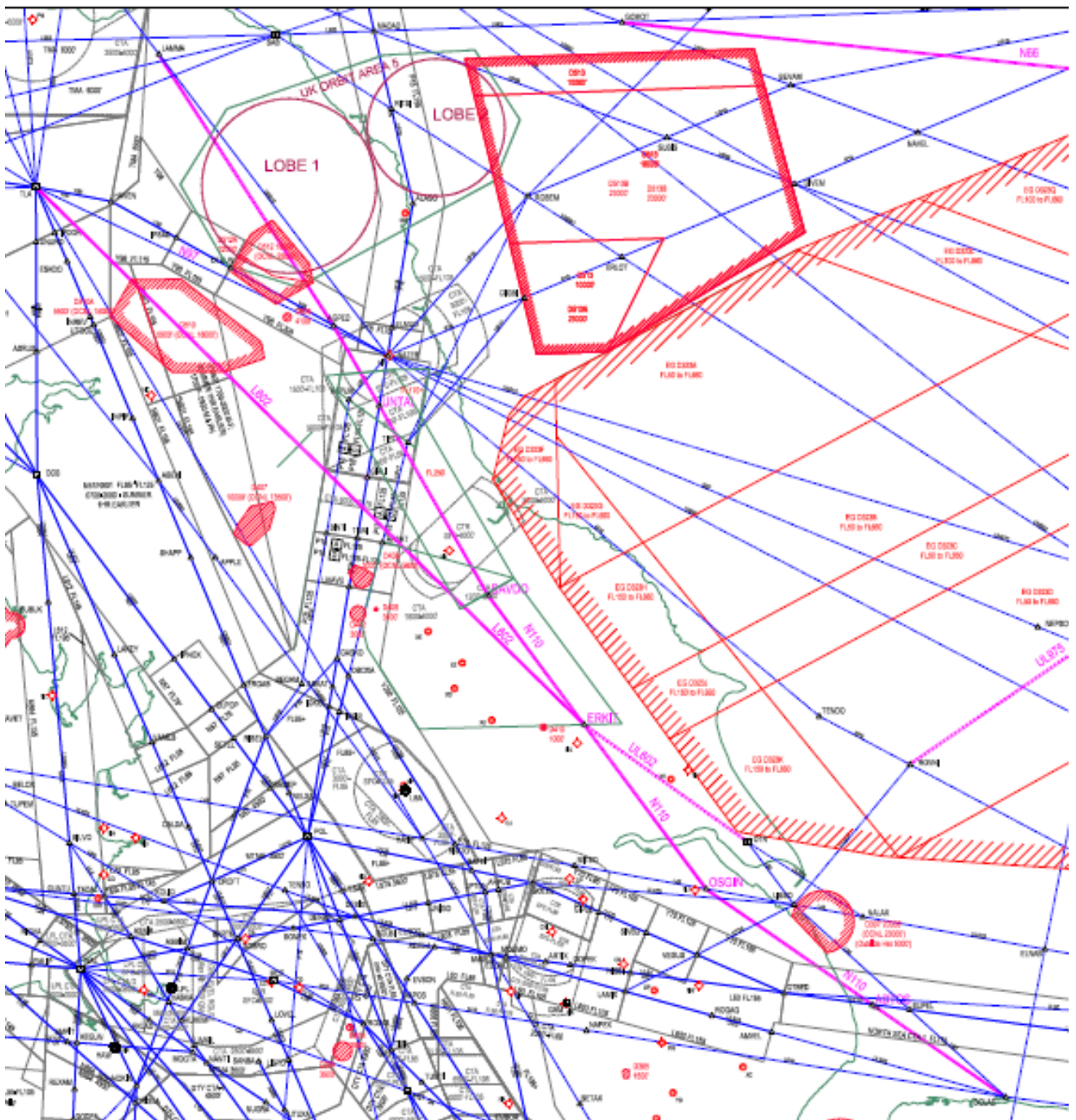


Fig 5 N110 and UL602 – shown in Pink

7.11. For ease of viewing the overland portion of the proposed airspace, is depicted in Fig 7 below. Base level for these elements will be FL150.



Fig 7 Overland portion of proposal. Minimum base level FL150

7.12. A North Sea Reduced Coordination area is also being considered which will deem all civil aircraft operating above FL245, subject to the vertical limits of EGD323, as being on-route for coordination purposes. This will potentially allow civil traffic more optimal routing when there is no military activity or activity cancels.

Dimensions.

Vertical: FL245 to FL660

Lateral: Bounded by the following co-ordinates:

CUTEL 555309N 0022228E
ROKAN 533948N 0031120E
NALAX 532900N 0002406E
ARSAT 543206N 0014419W
BEVAM 554353N 0001503E

ASKAM 545747N 0031350E
OKAMA 531015N 0024622E
RIMTO 534303N 0012559W
INPIP 545236N 0025346W
CUTEL 555309N 0022228E

VENAS 541820N 0033908E
LEGRO 531935N 0013046E
OBOXA 541036N 0015420W
OTBUN 551650N 0022600W

8. Impacts of this Proposal

The identified impacts of this proposal have been captured below together with suggested mitigation. If you identify any impact we have not considered we would be keen to hear from you.

8.1 Areas K to Q affect upper air routes P58 & P59 when active.

Mitigation:

Areas not bookable for segregation between 1000-1500 above FL 300 when North Atlantic tracks are 'Northerly' (civil primacy). A metric for 'Northerly' is being developed between MOD & NATS. Also, two new routes N44 & N66 to the north-east bypassing the new segregated airspace which add 18nm to the route.

8.2 Areas F to J affect upper air route L602.

Mitigation:

Re-route L602 and add new route N110 to the west of segregated airspace. For over flight traffic track distance changes are -0.2nm northbound and +2nm southbound. Decreasing to -4.3nm northbound and -4.2nm southbound if utilising the CDR portion of L602 (OTR to ERKIT).

For traffic into/out of the Scottish TMA track distance changes are +5nm northbound and +3.2nm southbound, reducing to +1nm northbound and +0.9nm southbound if utilising the CDR portion of L602.

8.3 Areas F to J affect 'off route' traffic.

Some civilian traffic selects to route 'off-route' through airspace that will be impacted by Areas F to J using what are called 'derogated services' provided by the MOD on a best efforts basis. Though these services are currently significantly reduced we are accounting for them.

Mitigation:

When the services become available again, dependent upon level and segregated airspace activation these aircraft may not be affected, if transit times and levels clash with segregated airspace activation then this 'off route' traffic will be able to route to the west of the segregated airspace adding approx. 5nm to the routing. LOAs for aircraft using these derogated services into and out of Newcastle and Durham Tees Valley airports will be amended to reflect routing via ERKIT. Furthermore, the MOD do not see this proposal has prohibiting any future airspace developments in this area.

8.4 NATS simulation has demonstrated that AEW Orbit Area 4 (FL290-FL330) is not viable with re-routed L602 and N110.

Mitigation:

Remove UK AEW Orbit Area 4. An additional lobe to AEW Orbit Area 5 (FL290-FL330) will be introduced to compensate – See Fig 6.

8.5 Tactical military high level (FL260-FL280) tanker route not compatible with L602 and N110.

Mitigation:

Move tanker route to the east through areas F to J and de-conflict segregated activity from tanker times.

8.6. Humberside and Durham Tees Valley traffic patterns adjacent and below proposed segregated airspace sections F to J. Engagement has identified concern that military aircraft could leave segregated airspace into conflict with airport traffic.

Mitigation:

Military aircraft operating in areas F-J not allowed to leave segregated airspace into class G airspace unless under an ATS.

8.7. Potential difficulty for north/south transiting military traffic ivo NATEB. When Areas F to J are active there is a potential bottle neck for military traffic transiting north-south ivo NATEB.

Mitigation:

The MOD will propose amending the design by sub-dividing the north-westerly corner of area F which will only be activated when required and when supported by improved co-ordination procedures anticipated with controller equipment upgrades. A potential sub-divide is shown in Fig 5.

8.8. Yorkshire TRA(G) and Spadeadam TRA(G) above FL245 available Sat/Sun/PH, iaw BGA/NATS LOA, interacts with proposed routes L602 and N110.

Mitigation:

NATS have stated that as Areas F to J are not activated on the weekend or PH, then the TRA(G) activity can be accommodated as it is now. Propose to amend LOA to reflect this.

8.9. Occasional glider flying takes place above FL150 within the airspace covered by Areas F-J

Mitigation:

To ensure that gliders can still access this airspace when the weather conditions are forecast to be suitable. If required, the MOD are content to produce an LOA with the BGA whereby they can engage with the Military Airspace Booking and Coordination Cell to de-conflict military and gliding activity.

8.10 Noise and visual intrusion

The proposed changes are all above 7,000ft and over the sea. There would be no noise or visual intrusion impact to stakeholders on the ground.

9. Reversion Statement

9.1 The MOD considers that the proposal in this consultation is essential to meeting government-directed requirements; the 'do nothing' option is not a feasible solution. There would be a serious impact to MOD capability should the proposal not be implemented or if access to the segregated airspace could not be permitted.

9.2 Should the proposal be approved and implemented, it would be difficult and undesirable to revert to the pre-implementation state. Therefore, any safety or operational concerns regarding the larger EGD323 could be managed through activation protocols and airspace management procedures. Additionally, as is the case now, the proposal states that the segregated airspace is

sub-divided such that undesirable situations can be mitigated through Level 1 and 2 airspace management activities.

10. Consultation Participation

10.1. How to respond

This consultation commences on Monday 30th July 2018 and ends on Monday 10th September 2018; a period of 6 weeks.

This consultation is being conducted by the MOD. The Civil Aviation Authority's Safety and Airspace Regulation Group (SARG) will oversee the consultation and ensure that it adheres to the CAP1616 process and government guidelines.

The MOD is conducting this consultation via Citizen Space an online consultation portal used by the CAA, a link to the portal will be provided by initial and subsequent emails and via Skywise the CAA's notification system. This portal is also where responses to this consultation can be submitted through a feedback questionnaire. On submission, your views will be analysed by the MOD and shared with the CAA.

Please note that when submitting feedback, you will be asked to provide the following information:

- Your name, and your role if you are responding on behalf of an organisation
- Your contact details
- Your views on the following aspects of this proposal:
 - Post implementation review periodicity and participation.
 - The requirement for a flexible base level for the overland portion of segregated airspace.
 - Impact on other airspace users that may not have been captured.
 - Any further mitigation or accommodation for other airspace users that could be considered
- Your general feedback comments with an opportunity to provide more detailed comments on the above specific aspects. There will also be the opportunity to upload a document containing further information relevant to your feedback.

10.2 Whilst the preference is for responses to be submitted via the online portal, the MOD will accept your response in written form, correspondence should be sent to:

DAATM Consultation
CAA House 7th Floor
Defence Airspace and Air Traffic Management
45-49 Kingsway
London
WC2B 6TE

All responses will be analysed, with any common themes extracted and summarised. The MOD will actively monitor the consultation portal and will formally respond back to any queries, alongside including any generic queries under a FAQ section. All responses will be passed on to the CAA.

10.3 What happens with the responses, and what happens next?

Responses will be managed and uploaded to the Citizen Space consultation platform as appropriate. However, should any responses contain commercially sensitive data then we would expect the CAA to redact that information as part of the CAA's moderating practice.

On completion of the consultation, we will analyse the feedback and produce a feedback report, summarising themes arising from the feedback, alongside the MOD's response to any issues raised. The feedback report will be uploaded and available via Citizen Space. Any new requirements identified will be considered in the on-going design process, leading to the production of a formal airspace change proposal (ACP).

Subject to achieving approval, we plan to implement the final version of this proposal on 28th February 2019. This is slightly earlier than originally envisaged to deconflict with NATS equipment programmes that require the same resources for training and implementation.

11. Summary

11.1 This Airspace Change Proposal is essential to ensure that the UK's modern Combat Air fast jet aircraft can train effectively. The MOD has made every effort to minimise impact upon other airspace users, through design, vertical limits, airspace priority agreements and enhanced airspace management. Your views are critical to ensuring that collectively we reach the optimum solution for the nation.