

All NATMAC Representatives

7<sup>th</sup> November 2014

*Dear Colleagues,*

**CAA DECISION LETTER**

**INTRODUCTION OF PRESTWICK CENTRE DIRECT ROUTE AIRSPACE – PHASE 1**

**1. Introduction**

- 1.1 In line with the Eurocontrol SESAR 2020 Operational concept targets and the UK CAA FAS programme, a NATS deliverable is a proposal to introduce the operation of direct routing at and above FL310 in the North West of the UK FIR. This change supports the Pilot Common Projects (PCP) Implementing Rule (IR), which consists of 6 ATM Functionalities (AFs). AF 3 aims to deploy Free Route operations at the regional level to allow airspace users to freely plan a route between fixed published entry and exit points. A sub-functionality of AF 3 is the full implementation of Direct Routing from FL310 at network level, wef 1 January 2018 across the whole ICAO EUR region. 2021 is the target date for full implementation of Free Route Airspace from FL310 at network level.
- 1.2 Free Route is a model that was introduced to provide direct routes which can be flight planned under free route airspace operations that offer major advantages both for the operators and for the network. Some of the main benefits of free route airspace are: lower fuel carriage, shorter flight times, better network and flight predictability, better flight efficiency, greater cost-effectiveness, reduced environmental impact and better air traffic management performance through more accurate traffic prediction and improved sector workload.

**2. Proposal Overview**

- 2.1 At present there are technical limitations that exist in the NATS flight-plan data processing systems in Scottish airspace that make it impossible to implement unrestricted Free Route operations from the outset. Hence a programme of phased implementations is proposed that will seek to introduce 'direct route' (DCT) operations within the Scottish FIR above flight level 255. The Direct Route Airspace (DRA) project proposes to remove all promulgated ATS routes within the area shown on the chart at Enclosure 1 on 5<sup>th</sup> March 2015. Phase 1 will remove Upper ATS Routes from the Prestwick Rathlin East, Rathlin West and Central ATC Sectors. The entry and exit points into this airspace will maintain the current waypoints and will be supplemented by additional waypoints and NOTA (Northern Oceanic Transition Area) entry/exit points to provide efficient routings for both NATS and the IAA that will be deconflicted from the enlarged EGD701 complex off the northwest coast of Scotland. Phase 1 will be restricted to direct route operations between defined points within the area.

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The direct routeings planned for Phase 1 should however accommodate the vast majority of likely DCT permutations which airline operators will require

- 2.2 As detailed in the Eurocontrol Free Route Airspace operations concept description, the aim of free route airspace includes increased airspace efficiency and enhanced flexibility that will provide financial and operational benefits to airspace users, whilst also realising increased environmental benefits. The primary justification for the DRA proposal is the environmental benefits that will result from the uplift of less fuel by operators due to the more efficient flight planned routes becoming available. This change is not being proposed to address any complexity or network efficiency issues in the PC area of operation.
- 2.3 Changes to the oceanic trans-Atlantic route system are being considered whereby the proposed introduction of Reduced Lateral Separation (RLat) will provide twice as many oceanic entry points (OEP), approximately 30nms apart from each other. Although the RLat changes are outside the scope of this proposal, DRA Phase 1 will assist the efficient operation of the RLat routes by providing direct routeing to all OEPs south of BALIX at 59 degrees north.
- 2.4 The extant night time fuel saving routes (NTFSR) will be maintained but with the compulsory RAD<sup>1</sup> element removed. During their hours of operation they will therefore be available on a non-compulsory option so that aircraft operators can flight plan either a NTFSR or a regular DCT when transiting the DRA.

### **3. Consultation and Military Implications**

- 3.1 As the changes are in airspace above FL255, consultation was limited to aviation stakeholders only. Although this proposal was designed such that there should be minimal impact on Military operations in the DRA Phase 1 area, the finalisation of procedures that would be introduced to satisfy both NATS and the MoD was not fully identified during the post-consultation phase. The MoD agreed to the concept of route free operation within the Phase 1 area, but there was a potential lack of clarity concerning the operational arrangements within the Hebrides Upper Transit Area (HUTA). The NATS Prestwick Centre (PC) MATS PT 2 indicates that even if GAT was off-route in the HUTA, any OAT coordination required would be effected by military controllers. From a military perspective, although they were aware of the HUTA, there was no corresponding entry in their standard operating procedures to that in the PC MATS PT 2 that specifically agreed with the HUTA coordination procedures. However, DAATM and NATS have since approved the arrangements and the HUTA will remain and be expanded southeast over the Irish Sea to fully cover the DRA Phase 1 area. The MATS PT 2 listed coordination arrangements will now be included in the revised NATS/MoD Letter of Agreement (LoA), specifically for DRA Phase 1.
- 3.2 The expanded EGD701 complex (Hebrides Range) has been approved for implementation on 5<sup>th</sup> February 2015. That area of the complex outside of the Oceanic airspace (east of 10 degrees west) sits within the DRA Phase 1 airspace. The NATS, MoD and Qinetiq consultation and implementation procedures are not part of the DRA development, but the airspace structures have had to be synchronized to ensure efficiency of GAT procedures and Military operational air traffic requirements. During the transition period 5<sup>th</sup> February 2015 until the DRA Phase 1 implementation on 5<sup>th</sup> March 2015, any activation of the

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<sup>1</sup> The Route Availability Document (RAD) is a common reference document containing the policies, procedures and description for route and traffic orientation. It also includes route network and free route airspace utilisation rules and availability.

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EGD701 complex will be coordinated with PC to best accommodate both stakeholder group's requirements whilst the Upper ATS en route structure remains in place.

- 3.3 The Irish Aviation Authority (IAA), Shannon and Dublin centres' operations, are affected by the proposed changes and they have been engaged with NATS throughout the process of development that has followed on from the Dynamic Sectorisation Operational Trial, which ended on 18<sup>th</sup> September 2014. Originally, the IAA were concerned that certain operational arrangements resulting from the introduction of Phase 1 had still to be satisfied regarding the PC Sectors/Shannon (NOTA) interface, However, this will be addressed in new letters of agreement between the 2 ANSPs and minor amendments to published material.
- 3.4 BAe Systems Warton operations are affected by the DRA proposals. However, satisfactory arrangements between NATS and BAeS Warton have been agreed that will accommodate both stakeholders' requirements. Once again, this will be reflected in a revised LoA.
- 3.5 Through NATMAC and the NATS Operational Partnership Agreement (OPA), airlines have given their full support to the proposed changes. As the changes are all above FL255, the General Aviation organisations indicated that the revised airspace would have little or no impact on their stakeholders and raised no objections to the proposals.

#### **4. Airspace Change detail**

- 4.1 The DRA covers part of the Scottish UIR and that portion of the Shannon UIR where the provision of ATS is delegated to Prestwick Centre above FL245; this area is referred to as the Donegal Fillet. All Upper ATS Routes within the DRA area, including the Donegal Fillet, will be removed and the airspace will become navigable by a series of direct routes (DCTs) between waypoints. As the base level of the revised structure will be at FL255, any underlying or associated Lower ATS Routes will have their upper level raised from FL245 to FL255 to ensure that the routes and DRA are contiguous. A small triangle of airspace in the southwest corner of the Rathlin West sector will be delegated to Shannon (see Enclosure 1). This MOLAK triangle will facilitate the efficiency of operation between Prestwick Centre and Shannon by removing the need for NAS to manage a re-entry FPL that presently exists due to the sector and FIR boundary configuration.
- 4.2 Most waypoints that exist within the revised airspace will be maintained to provide aircraft operators the opportunity to flight plan the most expeditious series of DCTs, mainly to accommodate transatlantic outbounds and inbounds. Existing Upper ATS Routes that cross into the DRA area will terminate at established waypoints on the boundary. Due to the expansion of the EGD701 Hebrides Range complex, there are additional 5LNC waypoints being introduced that will enable satisfactory deconfliction, with a required buffer, around any active modules of the range. Three new waypoints will be introduced on the Scottish UIR and NOTA boundary to facilitate more efficient routeing to and from the Oceanic entry/exit points. As a significant area of the DRA and the revised EGD701 complex are over the High Seas and outside territorial waters, the airspace developments have all been coordinated through the CAA ICAO Focal Point and letters of intent have been promulgated accordingly.
- 4.3 Any notification of intention to activate the UK Fast Jet Area southeast (FJAS) will operate in accordance with existing procedures under FUA (flexible use of airspace) arrangements. The additional waypoints will enable an efficient and expeditious routeing to be made available to airline operators whenever this area is activated for military operations.

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## 5. Safety

- 5.1 In certain areas of UK airspace the practice of providing direct routeings to GAT above FL245 is commonplace. NATS has determined that the introduction of DRA operations should provide additional safety benefits as a consequence of the fact there will be closer correlation between flight plan information and actual trajectories flown. Within the Scottish FIR at present there is no medium term conflict detection procedure in place and this will remain unchanged until iTEC is fully integrated into the system, predicted for late 2016. Due to the improved correlation of flights and flight plans, conflict points between aircraft flying DCTs will be more accurately identified.
- 5.2 My primary duty is to maintain a high standard of safety in the provision of air traffic services and this takes primacy over all other duties.<sup>2</sup> Development of the DRA was coordinated throughout with SARG Air Traffic Standards; therefore safety assurance has been undertaken in an incremental manner. NATS Directorate of Safety is commissioned to produce a safety case for the establishment of DRA operations within the Scottish UIR and this will then be reviewed by the SARG ATM/ATS prior to implementation. Based on extant operations, where SARG ATS has determined that the DRA Phase 1 largely formalises and supports practises that have been in place tactically for some time, it is considered that NATS will be able to produce a satisfactory safety case as required and on time.

## 6. Environmental and economic impacts

- 6.1 Analysis of the benefit of DCTs against that of routeing via the established Upper ATS Route structure would provide a quantifiable gain. However, the DRA concept enabled benefits are not realised though tactical routeings already given against a DCT network, but fuel savings are established from reduced fuel uplift and reduced aircraft weight resulting from a shorter flight plan route. As the changes to flight profiles are all above FL255, I am satisfied that there are no local environmental impacts of changes in noise, tranquillity, visual intrusion, local air quality or biodiversity.
- 6.2 As there is no established methodology that is widely accepted as providing a complete and robust economic valuation of the environmental impacts of changes to airspace structure. NATS has therefore not based the case for change on an economic valuation of environmental impact.

## 7. International obligations

- 7.1 I am required to take into account any international obligations entered into by the UK and notified by the Secretary of State.<sup>3</sup> No new international obligations arise as a result of the proposal. The revised airspace structure is in accordance with national regulatory requirements and meets extant international requirements originating from ICAO or the European Commission.

## 8. Regulatory decisions

- 8.1 Based on the information received from my staff, I am content that the proposed airspace development can be safely implemented and that the interaction between the established route structure and that of the route free DCT operation in the DRA, will be managed efficiently. The extensive rationalisation of the EGD701 Hebrides Range complex has been

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<sup>2</sup> Transport Act 2000, Section 70(1).

<sup>3</sup> Transport Act 2000, Section 70(2)(g).

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coordinated with the NATS DRA development and this has enabled satisfactory contingency measures to be introduced that will guarantee effective FUA arrangements can be maintained in any scenario. I am content that airspace efficiency will be enhanced and the needs of all airspace users will be met.

- 8.2 Overall, I am satisfied that the all regulatory requirements have been met, there are environmental gains realised from a reduction in flight plan mileage, and that this Direct Route Airspace development contributes to the SESAR and CAA FAS principles of working towards the introduction of Free Route operations.
- 8.3 The intention is that the revised airspace will become effective from 5<sup>th</sup> March 2015 (AIRAC03/2015). My staff will review the effectiveness of the arrangements 12 months after introduction and the results of this review will be published.
- 8.4 If you have any queries, the SARG Project Leader is Mac Mackay, who can be contacted on 020 7453 6552 or [Mac.Mackay@caa.co.uk](mailto:Mac.Mackay@caa.co.uk) .

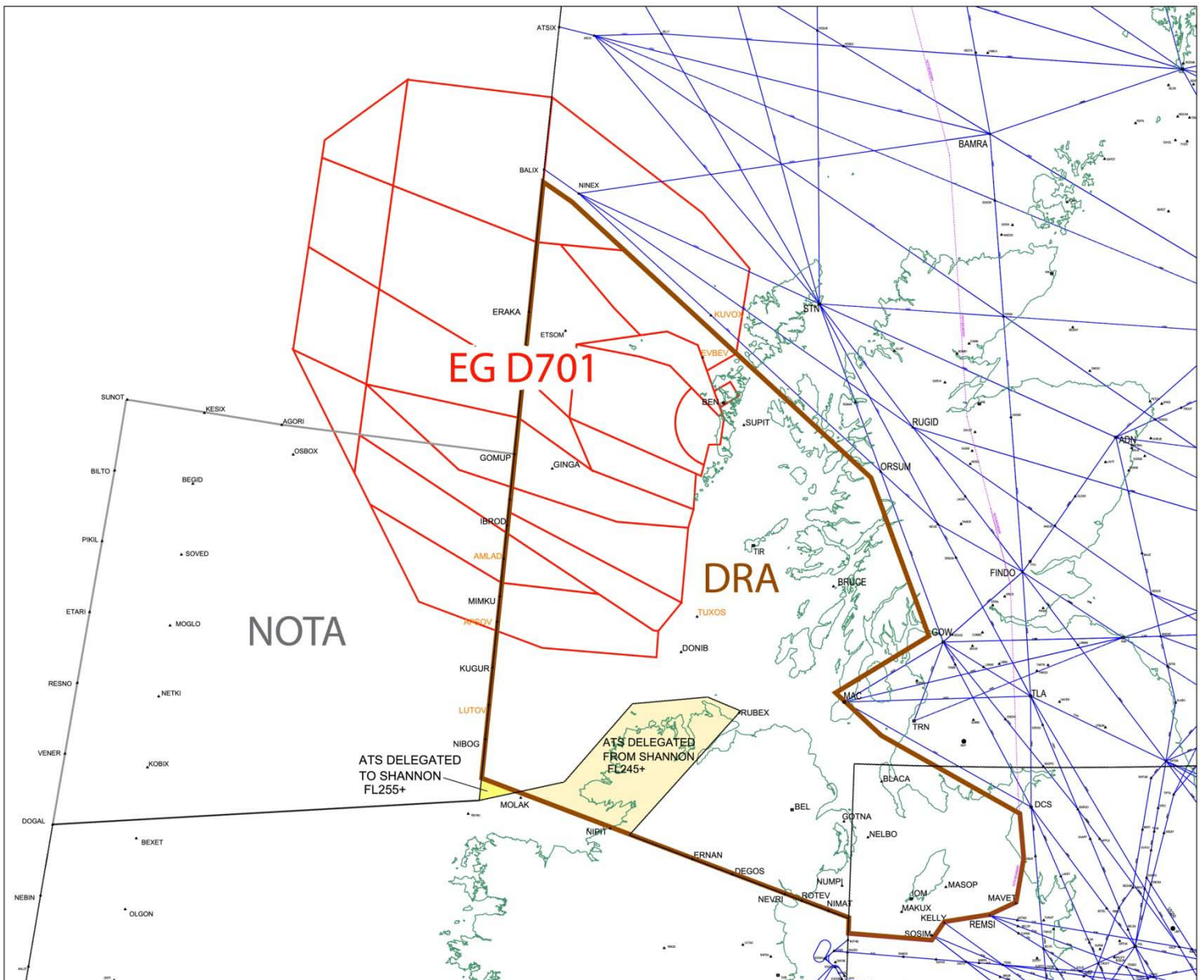
A handwritten signature in black ink that reads "Mark Swan". The signature is written in a cursive style and is underlined with a single horizontal line.

M Swan

Group Director, Safety and Airspace Regulation

Enclosure:

1. DRA area of operation and interface with EGD701 and the NOTA



**DRA area of operation and interface with EGD701 and the NOTA**