

Post Implementation Review of Greater Wash and Humber Gateway Transponder Mandatory Zones (TMZ) Airspace Change

CAP 1794



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Executive Summary

1. The CAA The CAA's airspace change process is a seven-stage mechanism that is set out in detail in CAP 725. Under this process NATS submitted proposals to the CAA to establish Transponder Mandatory Airspace (TMZ) encompassing the Greater Wash and Humber Gateway wind farm complexes. Stage 7 of this process is a Post Implementation Review (PIR) that normally begins one year after implementation of the change.
2. However as a consequence of delays in the completion of the windfarm complexes, implementation dates of the two TMZs were delayed beyond that envisaged in the Decision Document (see Annex A). The new Humber Gateway TMZ (containing the Westernmost Rough and Humber Gateway windfarms) was implemented on 1st May 2014. The Greater Wash TMZ (containing the Race Bank, Triton Knoll, Dudgeon and Sheringham Shoal windfarms) was implemented on 13th October 2016. Consequently, this PIR has considered separate review periods for each initiative. The period under review for the Humber Gateway TMZ is 1st May 2014 to 30th April 2016 (i.e.24 months from the implementation date). The period under review for the Greater Wash TMZ is 13th October 2016 to 12th October 2018 (also 24 months from the implementation date). Competing priorities for the allocation of resources resulted in a delay to us starting this particular review. The CAA commenced the PIR of the impact of its decision and the implemented change on 25th September 2018. The content and outcome of that review process by the CAA is discussed in this report including its annexes.
3. On 2 January 2018 the CAA introduced a new process for making a decision whether or not to approve proposals to change airspace design. Irrespective of whether the CAA decision to approve the change was made under the previous process (set out in CAP 725), we will conduct all Post Implementation Reviews in accordance with the process requirements of CAP1616. However, when assessing the expected impacts against the actual impacts we will use the methodology adopted at the time of the original CAA decision in order to do so.
4. During the review process, the CAA considered responses from the Sponsor following requests for information/data.
5. As a result the CAA has reached the following conclusions:

The CAA is satisfied that the establishment of Transponder Mandatory

- Airspace (TMZs) encompassing the Greater Wash and the Humber Gateway wind farm complexes satisfactorily achieved the objective stated in the CAA's decision document, and the changes are confirmed.
6. This report, and its annexes, provide a summary of the information the CAA has reviewed and taken into account before reaching these conclusions. However, information the CAA has taken into account will be published on our website/portal

Scope and Background of the PIR

What is a Post Implementation Review

7. The CAA's approach to decision-making in relation to proposals to approve changes to airspace is explained in its Guidance on the Application of the Airspace Change Process, CAP [725/1616]. This detailed Guidance provides that the seventh and last stage of the process is a review of the implementation of the decision, particularly from an operational perspective, known as a Post Implementation Review (PIR).
8. The Guidance states that the purpose of a PIR "is for the change sponsor to carry out a rigorous assessment, and the CAA to evaluate, whether the anticipated impacts and benefits in the original proposal and published decision are as expected, and where there are differences, what steps (if any) are required to be taken."
9. If the impacts are not as predicted, the CAA will require the change sponsor to investigate why, and consider possible mitigations or modifications for impacts that vary from those which were anticipated to meet the terms of the original decision.
10. A PIR is therefore focused on the effects of a particular airspace change proposal. It is not a review of the decision on the airspace change proposal, and neither is it a re-run of the original decision process.

Background to our conclusions in this PIR Decision

11. On the 27th March 2012 the CAA approved the establishment of Transponder Mandatory Airspace (TMZs) encompassing the Greater Wash and Humber Gateway wind farm complexes. In our Decision document dated 27th March 2012, we provided factual information and background to the change. We recommend readers of this report read that document in conjunction with this document. The Decision Document can be found at Annex A.
12. However as a consequence of delays in the completion of the windfarm complexes, implementation of the two TMZs were delayed beyond the date anticipated in the Decision Document. The new Humber Gateway TMZ (containing the Westernmost Rough and Humber Gateway windfarms) was implemented on 1st May 2014. The new Greater Wash TMZ (containing the Race Bank, Triton Knoll, Dudgeon and Sheringham Shoal windfarms)

was implemented on 13th October 2016. Consequently, this PIR has considered separate review periods for each initiative. The period under review for the Humber Gateway TMZ is 1st May 2014 to 30th April 2016 (i.e. 24 months from the implementation date). The period under review for the Greater Wash TMZ is 13th October 2016 to 12th October 2018 also 24 months from the implementation date).

Conditions attached to the CAA's decision to approve the change.

13. It was a condition of the decision that records relating to the number of transits of the TMZs, occasions where aircraft have necessarily had to avoid such airspace and TMZ infringements, will be maintained and subject to scrutiny by [CAA] staff at intervals of 6 months post the introduction of each TMZ.
14. The data for the Humber Gateway TMZ can be seen at Annex C.
15. The data for the Greater Wash TMZ can be seen at Annex D.
16. It was a condition of the decision that approval was granted to Anglia Radar to provide an SSR-only service within the TMZs prior to implementation of the TMZs and that such approval included the provision for the blanking out of the primary returns within the TMZs to eliminate clutter generated by the wind turbines.
17. Sponsor's Comment: The two ATC instructions written to update the Aberdeen MATS Part 2 (SI 010.14 and SI 022.16) both stated that the service provision within the TMZ must be SSR-only. Both SIs were made available to SARG for review with the required 30 days notice, and no objections were raised by SARG. Therefore approval to provide an SSR-only service was assumed.
18. It was a condition of the decision that LATCC (Mil) ATC were approved to provide radar services within the TMZ(s) using SSR alone.
CAA Comment: *At the time of writing this report RAF(U) Swanwick had not provided confirmation of the date when approval was granted to provide radar service within the TMZs. However the CAA is satisfied that the TMZs have been operating satisfactorily following implementation. When RAF(U) Swanwick provide confirmation of the dates, that evidence will be published on our website.*
19. It was a condition of the decision that an Interim Review will be made in Q2 2013 on the planned operational date for the Humber Gateway wind farm, the first of the subject wind farms expected to be operational, with traffic

statistic reviews at intervals of 6 months for the first two years of operation, the subsequent full Review would be delayed until April 2015, or later, when the subsequent Westernmost Rough, Race Bank, and Dudgeon developments were planned to be operational.

CAA Comment: *There is no evidence that this Interim Review was conducted. It is presumed that the delays to implementation of the two TMZs rendered this condition obsolete.*

Relevant events since change (if any)

20. The Sponsor reports that following implementation of the Humber Gateway TMZ there were no significant increase or decrease in aircraft movements and/or change in the type of aircraft overflying these areas, (nor any) other relevant event during the period of the review (1 May 2014 – 30th April 2016).
21. The Sponsor reports that following implementation of the Greater Wash TMZ there were no significant increase or decrease in aircraft movements and/or change in the type of aircraft overflying these areas, (nor any) other relevant event during the period of the review (13 October 2016 – 12th October 2018).

Data collected for the purpose of the PIR

Sources of Information

Change Sponsor

22. In response to a number of email requests sent by the CAA to the Sponsor (NATS) between 25th September 2018 and 10th February 2020 the Sponsor provided the analysis/data required to complete this report. Information the CAA has taken into account will be published on our website/portal

Other data we have considered

Given the nature of this airspace change the CAA concluded that it was not necessary to seek other sources of information to conduct this review.

Objectives and Anticipated Impacts

The original proposal and its objectives

23. The objective of this ACP was to negate the impact of increasing levels of wind turbine-generated primary surveillance radar (PSR) clutter, specifically that caused by the Greater Wash and Humber Gateway developments. In support of the ACP, NATS provided evidence indicating that proposed Greater Wash and Humber Gateway turbines will create PSR clutter on NATS En Route PLC (NERL) Claxby and Cromer PSRs. It was assessed that, when operational, the wind farms within each of the two complexes would collectively create a level of radar clutter that, without mitigation, would:

- Create significant difficulties associated with the ability of *Anglia Radar*'s controllers to maintain aircraft track identity, both in respect of known and unknown traffic.
- Limit *Anglia Radar* controllers' ability to provide the full gamut of ATSOCAS.
- Require routing of traffic away and clear of radar clutter, thus involving a significant increase in track mileage.
- Reduce the volume of airspace available for use by *Anglia Radar* controllers to vector CAT off shore oil and gas support helicopters particularly in protecting traffic operating within Class G airspace (whilst under the control of *Anglia Radar* or *Swanwick Mil* (LATCC(Mil))) from unknown traffic operating in the same volume / classification of airspace.
- Generically precipitate a "less safe" operating environment than was currently the case.
- The Sponsor reports that these objectives have been met by the implemented change.

Anticipated Impacts

24. The sponsor reports that following implementation of the Humber Gateway TMZ there were no unforeseen or unintended operational impacts of the proposal during the period of the review (1 May 2014 – 30th April 2016).
25. The Sponsor reports that following implementation of the Greater Wash TMZ there were no unforeseen or unintended operational impacts of the proposal during the period of the review (13 October 2016 – 12th October 2018).

CAA Assessment

Operational Assessment

Safety

26. The Sponsor reports that Post implementation, there have been 3 infringements by non-transponding aircraft of the Humber Gateway TMZ and none of the Greater Wash TMZ. No other MORs relating to the TMZs have been filed for the period of 24 months after date of implementation.

CAA Comment: *As the timing of implementation coincided with the introduction of the hazard, there was no hazard prior to the change. Consequently there is no safety data relating to the hazard before the date of implementation. The CAA is content that these initial reports are consistent with lack of individual awareness of implementation of the Humber Gateway TMZ and do not constitute a significant concern,*

Operational Feedback

27. The Sponsor reports that there were no unforeseen or unintended operational impacts of the proposal during the discrete review periods for each of the TMZs.

Air Navigation Service Provision

28. The Sponsor reports that no additional resources were required to support the operation of the Humber Gateway TMZ during the period of the review (1 May 2014 – 30th April 2016).
29. The Sponsor reports that no additional resources were required to support the operation of the Greater Wash TMZ during the period of the review (13 October 2016 – 12th October 2018).

Utilisation, Track Keeping and Traffic

30. Not applicable due to the type of airspace.

Infringements and Denied Access

31. The Sponsor reports that there were three recorded infringements of the Humber Gateway TMZ during the review period (1st May 2014 to 30th April 2016). Details of those infringements can be found at Annex C.

32. The Sponsor has no record of infringements of the Greater Wash TMZ during the period of the review (13 October 2016 – 12th October 2018).

Letters of Agreement

33. The Sponsor reports a new Letter of Agreement was established between LATCC MIL originally effective from 1st May 2014. This was reviewed prior to implementation of the Greater Wash TMZ, and LATCC Mil name was changed to RAF(U) Swanwick. No other changes required. Effective 13/10/16.

Environmental Assessment

34. **CAA Comment.** It is noted that the Director's Decision letter makes no reference to environmental considerations. Consequently, no post-implementation environmental analysis was considered necessary. Given the nature of the changes and the airspace in which the TMZs sit it would have been unlikely to have been considered appropriate as this was not linked to an increase in traffic but to afford protection to aircraft already there.

International Obligations

35. The Sponsor reports that North Sea Helicopter operators were briefed at Southern North Sea safety meetings and by e-mail. NOTAM and AICs considered sufficient for other airspace users. As the TMZs were subject to a Letter of Agreement (LoA) with LATCC Mil, it was assumed that they would brief military airspace users.

CAA Comment. *We are content that this activity was sufficient notification to inform relevant International operators of the airspace changes.*

Ministry of Defence Operations

36. The Sponsor reports that following implementation of the Humber Gateway TMZ no Ministry of Defence feedback was received by Anglia Radar during the period of the review (1 May 2014 – 30th April 2016).
37. The Sponsor reports that following implementation of the Greater Wash TMZ no Ministry of Defence feedback was received by Anglia Radar during the period of the review (13 October 2016 – 12th October 2018).

Any other impacts

38. The Sponsor reports that following implementation of the Humber Gateway TMZ no significant issues were noted during the period of the review (1 May 2014 – 30th April 2016).
39. The Sponsor reports that following implementation of the Greater Wash TMZ no significant issues were noted during the period of the review (13 October 2016 – 12th October 2018).

Conclusion

40. The CAA is satisfied that the establishment of Transponder Mandatory Airspace (TMZs) encompassing the Greater Wash and Humber Gateway wind farm complexes satisfactorily achieved the objective stated in the CAA's decision document, and the changes are confirmed.

Note on plain language

41. The CAA has attempted to write this report as clearly as possible. Our approach has been to include all the relevant technical material but also to provide a summary and of the conclusions the CAA has reached in reliance on it in as understandable a way as possible. Nevertheless, when summarising a technical subject there is always a risk that explaining it in more accessible terms can alter the meaning. For that reason the definitive version of our assessment and conclusions are in the attached technical reports.

Annex A – Decision Letter

All NATMAC Representatives

27 March 2012

CAA DECISION LETTER

Dear Stakeholders,

GREATER WASH AND HUMBER GATEWAY TRANSPONDER MANDATORY ZONES (TMZ)

1. INTRODUCTION

1.1 In early December 2011, the Directorate of Airspace Policy received a formal proposal (ACP) from NATS on behalf of NATS Services Ltd (NSL) Aberdeen to establish TMZ airspace encompassing the Greater Wash and Humber Gateway wind farm complexes¹. Upon receipt of the proposal, my staff undertook a detailed analysis of the operational requirements, the environmental assessments and the consultation process. The purpose of this letter is to provide you with an overview of the proposal and my related decision.

2. PROPOSAL OVERVIEW

2.1 The ACP has been developed to negate the impact of increasing levels of wind turbine-generated primary surveillance radar (PSR) clutter, specifically that caused by the Greater Wash and Humber Gateway developments. In support of the ACP, NATS has provided evidence indicating that proposed Greater Wash and Humber Gateway turbines will create PSR clutter on NATS En Route PLC (NERL) Claxby and Cromer PSRs. It is assessed that, when operational, the wind farms within each of the two complexes will collectively create a level of radar clutter that, without mitigation, would:

- Create significant difficulties associated with the ability of *Anglia Radar's* controllers to maintain aircraft track identity, both in respect of known and unknown traffic.
- Limit *Anglia Radar* controllers' ability to provide the full gamut of ATSOCAS.
- Require routing of traffic away and clear of radar clutter, thus involving a significant increase in track mileage.
- Reduce the volume of airspace available for use by *Anglia Radar* controllers to vector CAT off shore oil and gas support helicopters particularly in protecting traffic operating within Class G airspace (whilst under the control of *Anglia Radar* or *Swanwick Mil* (LATCC(Mil))) from unknown traffic operating in the same volume / classification of

¹ Humber Gateway (encompassing the Westernmost Rough and Humber Gateway wind farms) and Greater Wash (encompassing the Race Bank, Docking Shoal, Triton Knoll, Dudgeon and Sherringham Shoal wind farms) complexes including over 1000 wind turbines.

airspace.

- Generically precipitate a “less safe” operating environment than is currently the case.

2.2 The proposed TMZs form part of a 3 stage mitigation programme: the introduction of subject TMZs covering the Greater Wash and Humber Gateway; NSL Aberdeen ATC (*Anglia Radar*) and LATCC (Mil) ATC to be approved to provide radar services within the TMZ(s) using SSR alone², and blanking out the wind farm-related PSR returns within the associated TMZ airspace. SRG Aerodrome and Air Traffic Standards Division (AATSD) have confirmed that approval will be granted to *Anglia Radar* to provide an SSR-only service within the TMZs prior to implementation of the TMZs. Such approval will also include the provision for the blanking out of the primary returns within the TMZs to eliminate clutter generated by the wind turbines.

2.3 There are 2 new airspace elements to the proposal (map extracts enclosed):

- An irregular shaped, straight-sided TMZ surrounding the Greater Wash development, extending laterally to 2nm beyond the physical limits³ of each enclosed wind farm, and vertically from the surface to FL100. The TMZ would be permanently active and identified as ‘Greater Wash TMZ’.
- An irregular shaped, straight-sided TMZ surrounding the Humber Gateway development, extending laterally to 2nm beyond the physical limits³ of each enclosed wind farm, and vertically from the surface to FL100. The TMZ would be permanently active and identified as ‘Humber Gateway TMZ’.

2.4 The development of the ACP and the design of the proposed TMZs accord with the DAP Policy Statement on TMZs.

3. STATUTORY DUTIES

3.1 My statutory duties are set out in Section 70 of the Transport Act 2000 (the Act), the CAA (Air Navigation) Directions 2001, as varied in 2004 (the Directions), and Guidance to the CAA on Environmental Objectives relating to the exercise of its air navigation functions.⁴

3.2 Safety

3.2.1 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.⁵ In this respect, it is evident that the Greater Wash and Humber Gateway turbines will be ‘visible’ to NERL Claxby and Cromer PSRs and that the problems caused by the resultant radar clutter requires mitigation. Validation would be a key component of the future Post Implementation Review. There is currently no technical mitigation available to NATS which would overcome the impact of the clutter on the *Anglia Radar’s* ability to provide an ATS.

3.2.2 I am consequently content that the Greater Wash and Humber Gateway TMZs are fundamental in mitigating the impact of the Greater Wash and Humber Gateway wind turbine-generated PSR clutter on the *Anglia Radar’s* ability to provide an ATS and that their establishment is appropriate in the maintenance of a safe airspace environment.

² MATS Part 1 dictates that on occasions other than when there are “temporary deficiencies within PSR cover” or “immediately after PSR failure” the use of SSR to provide horizontal separation is subject to CAA approval.

³ The buffer allows 2nm to ensure a useable processed radar symbol is available for ATC use.

⁴ Issued in 2002 by the DfT (then called the Department of Transport, Local Government and the Regions) (the Guidance).

⁵ Transport Act 2000, Section 70(1).

3.3 Airspace Efficiency

3.3.1 I am required to secure the most efficient use of the airspace consistent with the safe operation of aircraft and the expeditious flow of air traffic.⁶ The proposed dimensions of each TMZ recognised the need for efficient use of airspace; I am satisfied that the dimensions of the TMZs are of the minimum size to meet the safety requirements. Whilst the TMZs will be permanently active, I am content that associated access arrangements (further discussed at 3.4.2) and the background usage of associated airspace are such that there will be no meaningful impact upon the operations of aircraft wishing to cross the TMZ airspace.

3.4 Airspace Users

3.4.1 I am required to satisfy the requirements of operators and owners of all classes of aircraft.⁷ The Sponsor conducted extensive consultation with all affected aviation stakeholder groups as part of the ACP process and the impact of the TMZs upon other airspace users has been appropriately considered. In addition to the safety benefits that underpin the ACP, the TMZs (as part of the larger mitigation package) will facilitate continued optimal routing for CAT off shore oil and gas support helicopters; without the TMZs, radar clutter may necessitate a not insignificant increase in track distance to these users.

3.4.2 Access arrangements mean that only aircraft that were neither SSR nor radio equipped would be unable to facilitate TMZ crossing; transponding aircraft will be able to transit without further requirement or specific ATC clearance and non-transponding aircraft will be able to seek clearance to transit on a tactical basis via radio contact with either *Anglia Radar* or *Swanwick Mil* (LATCC(Mil)). Given the offshore location of the TMZs, the anticipated number of aircraft that would necessarily have to avoid the TMZ airspace can reasonably be expected to be extremely limited. Records relating to number of transits of the TMZs, occasions where aircraft have necessarily had to avoid such airspace and TMZ infringements, will be maintained and subjected to scrutiny by my staff at intervals of 6 months post the introduction of each TMZ.

3.4.3 Accepting that the TMZs are aimed to facilitate *Anglia Radar's* continued provision of a safe ATS, I am satisfied with the Sponsor's commitment to provide access to the revised airspace when it is safe and appropriate to do so and, therefore, that the revised structures will not be detrimental to other airspace users as a whole.

3.5 Interests of Other Parties

3.5.1 I am required to take account of the interests of any person (other than an owner or operator of an aircraft) in relation to the use of any particular airspace or the use of airspace generally.⁸ Given the offshore location of the proposed TMZs, I am content that the interests of non-aviation parties have not been adversely affected.

3.6 Environmental Objectives

3.6.1 In performing my statutory duties, I am obliged to take account of the Guidance provided by the Secretary of State⁹. My detailed considerations of the environmental aspects of this proposal are covered later in this letter.

⁶ Transport Act 2000, Section 70(2)(a).

⁷ Transport Act 2000, Section 70(2)(b).

⁸ Transport Act 2000, Section 70(2)(c).

⁹ Transport Act 2000, Section 70(2)(d)

3.7 Integrated Operation of ATS

3.7.1 I am required to facilitate the integrated operation of air traffic services provided by or on behalf of the Armed Forces of the Crown and other air traffic services.¹⁰ Any related interaction between ATS providers will be accommodated in the same fashion as at present, via extant ATC liaison procedures and/or specific arrangements between ATS Units.

3.8 National Security

3.8.1 I am required to take into account the impact any airspace change may have upon matters of national security.¹¹ There are no national security issues identified; I am therefore satisfied that national security requirements will not be jeopardised by implementation of the change.

3.9 International Obligations

3.9.1 I am required to take into account any international obligations entered into by the UK and notified by the Secretary of State.¹² No new international obligations arise as a result of the airspace change proposal. The new airspace has been designed in accordance with national regulatory requirements.

4. ENVIRONMENTAL CONSIDERATIONS

4.1 The Environmental Research and Consultancy Department (ERCD) report on the environmental impact of the proposed establishment of the TMZs highlights that the rationale for the ACPs is not related to improving the environmental impact of aviation, but is safety driven. Whilst the environmental impacts have been considered by the Sponsor it has not been possible to gauge the potential environmental impact for two reasons:

- The exact extent of current usage of the airspace by non-transponder aircraft is, whilst estimated to be minor, unknown and the impact upon such aircraft of implementing the TMZs cannot be accurately forecast and;
- This uncertainty and unpredictability makes any modelling of either the noise impact or CO₂ emissions so subjective as to be of little value.

4.2 However, ERCD noted that, given the offshore location and access arrangements discussed at 3.4.2 the likelihood that aircraft would have to (or choose to) route clear of the TMZ(s) and any such re-routing is unlikely to involve over-flight of land or the coastline, it is reasonable to anticipate that any environmental impact would be minimal. Specifically, the ERCD Report commented that; any changes in traffic pattern are extremely unlikely to have a noise impact on the local population, emissions impact (if any) is likely to be small, impact upon tranquillity would be minor (at worst) and the impact upon biodiversity is likely to be negligible. Additionally, ERCD highlighted that whilst the ACP and associated consultation did not make specific mention of the impact upon tranquillity and visual intrusion, this was not a significant omission given the small chance of their being any such impact.

4.3. The Environmental Assessment concluded that any negative impact caused by the TMZs' establishment is likely to be small, possibly negligible and, in any case, cannot be

¹⁰ Transport Act 2000, Section 70(2)(e).

¹¹ Transport Act 2000, Section 70(2)(f).

¹² Transport Act 2000, Section 70(2)(g).

accurately estimated. It is considered that there is no requirement to obtain further approval from the Secretary of State for Transport in respect of the environmental impact.

5. CONSULTATION

- 5.1 The Sponsor undertook an aviation stakeholder consultation between 18 July and 21 November 2011, an extension of 4 weeks to the normal requirements of CAPs 724 and 725 and in line with the Cabinet Office Code of Practice for Consultation. The consultation was extended to allow further feedback on the FL100 ceiling to both the TMZs, since this option was not presented at the outset of consultation. The consultation document was distributed to 37 aeronautical stakeholder organisations/individuals. The document was also lodged on the NATS website.
- 5.2 The assessment of the proposal by DAP's Airspace Policy Coordination & Consultation section noted the following:
- The consultation generated a moderate response rate from consultees (13 respondees / 35%). Of these identified, 38% supported the proposal, 16% objected to TMZs in principle, the rest were neutral or did not respond.
 - The single maintained objection to the TMZ proposal concerned the potential for the TMZs to limit the airspace available to non-transponder aircraft. In this respect I acknowledge that where a non-transponder equipped aircraft also lacked a radio this limitation would exist; see related comment at paragraph 3.4.
- 5.3 The Consultation Assessment records that this was a well run consultation and that the sponsor was very proactive. However, the proposal was not as clearly developed as it should have been, with the sponsor not initially considering the logical outcome of limiting the TMZ to an upper limit of less than FL100. Nevertheless, the generic lack of concern from aviation stakeholders did not detract from the effectiveness of the consultation process.

6. REGULATORY DECISIONS

- 6.1 I am content that the proposed airspace design is safe, which satisfies my primary statutory duty. Thereafter, when considering the competing demands of my remaining duties, together with the Directions and Guidance, I am satisfied that the establishment of the Greater Wash and Humber Gateway TMZs (as part of a larger mitigation programme; see paragraph 2.2) is appropriate.
- 6.2 The TMZs, to be identified as the 'Greater Wash TMZ' and the 'Humber Gateway TMZ', will be formally established on 2 May 2013 at AIRAC 05/2013. A supporting Aeronautical Information Circular will be published during early February 2013.
- 6.3 My staff will review the effectiveness of the arrangements in due course. Under normal circumstances airspace change Post Implementation Reviews are conducted 12 months after the associated airspace change. However, in this case an Interim Review will be made in Q2 2013 on the planned operational date for the Humber Gateway wind farm, the first of the subject wind farms expected to be operational, with traffic statistic reviews at intervals of 6 months for the first 2 years of operation. These dates will likewise be

monitored in regard to construction timescales. A subsequent full Review will be delayed until April 2015, or later, when the subsequent Westermost Rough, Race Bank, and Dudgeon developments are planned to be fully operational.

Yours sincerely,

Mark Swan

M Swan
Director

Enclosures:

1. Map of Proposed Airspace.

Distribution:

NATMAC Membership

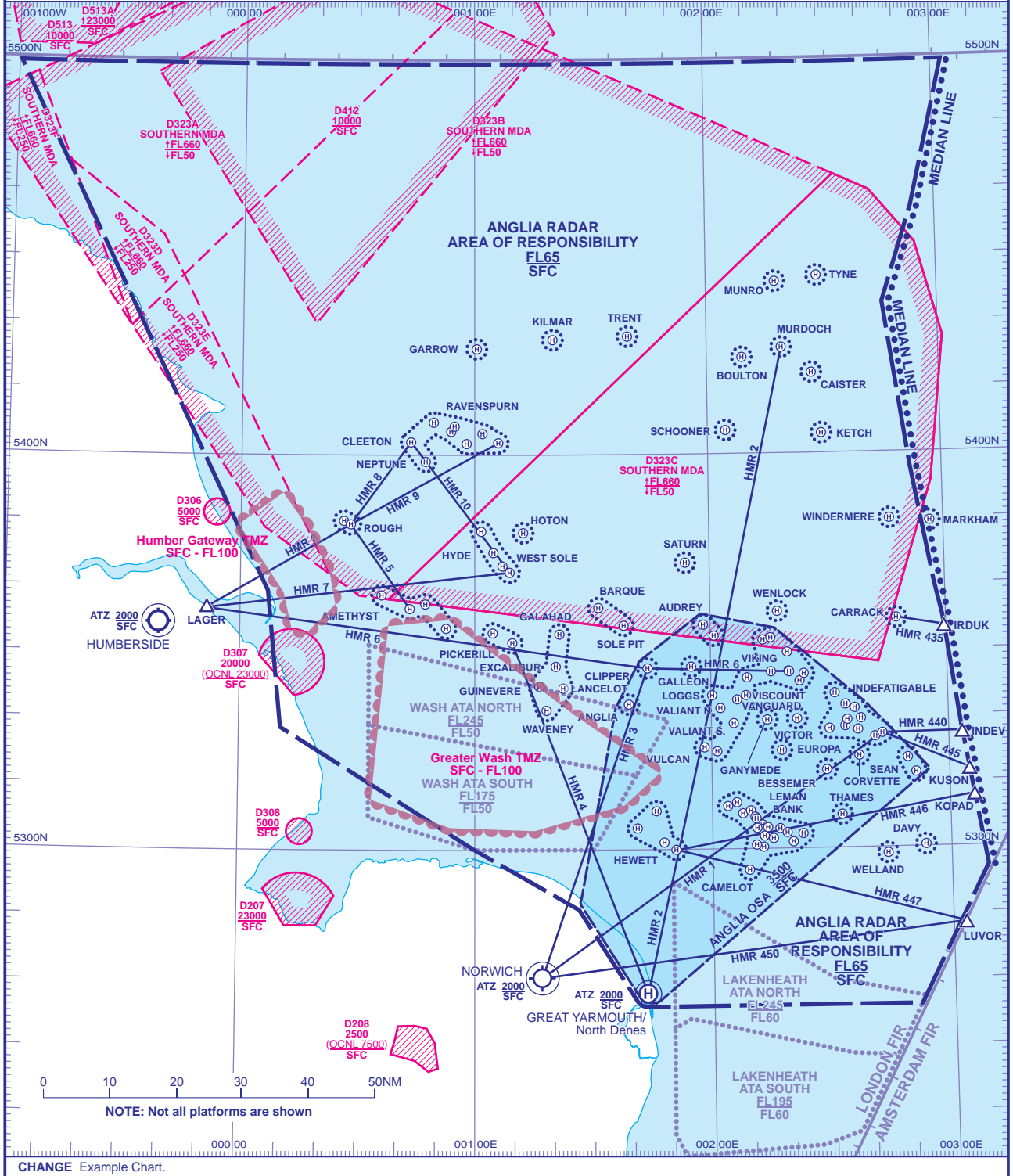
SOUTHERN NORTH SEA - ABERDEEN ATSU (ANGLIA RADAR) AREA OF RESPONSIBILITY AND ANGLIA OFFSHORE SAFETY AREA (OSA)

NOTES

1. All HMRs beneath EGD323C, EGD323B and the Lakenheath ATA North are restricted to FL40 unless cleared by Anglia Radar.
2. Helicopters will normally plan to fly at the following en-route altitudes:-

Outbound (land to sea) 2000'ALT & 3000'ALT	Inbound (sea to land) 1500'ALT & 2500'ALT
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Above Transition Altitude (3000'ALT) aircraft should conform to Quadrantal Rule.



Annex B - Post Implementation Review Feedback Form

Post Implementation Review Feedback Form

Title: Greater Wash and Humber Gateway Transponder Mandatory Zones (TMZ)	Post Implementation Review Feedback
ACP Ref: ACP12-02	Approval Date: 27/03/2012
Decision Letter: Click Here	Implementation Date: 02/05/2013


1. Did the original proposal meet the intended objectives as described on the CAA's decision letter to approve the change?	Yes
If no, please provide additional comments...	
2. Did the original proposal meet any conditions described on the CAA's decision letter to approve the change?	Yes
If no, please provide additional comments...	
<ol style="list-style-type: none"> 1. No recorded occasions of an aircraft having to avoid the TMZ due to lack of a serviceable transponder. 2. No recorded occasions where Anglia Radar has approved transit of the TMZ by a non-transponder equipped aircraft. 3. Three recorded infringements: <ol style="list-style-type: none"> (i) 07/05/14 – Believed to be an F15. Infringement could not be confirmed (ie aircraft not traced, and no Mode C so could have been above the TMZ) but entered the lateral confines of the TMZ twice. Helicopter given Avoiding Action twice to maintain required Deconfliction Minima. (ii) 05/08/14 – Slow moving. Not traced at the time. Later believed to be a home-built microlight known to have routed from Belgium to EGPC (Wick). (iii) 04/09/14 – GCLEA, one of a group of three light a/c routing from EGNW to EGSB. Pilot aware of TMZ. No longer in formation with leading two but forgot to turn transponder back on. 	
3. Did the Sponsor receive any observations from community stakeholders, aviation stakeholders or the Ministry of Defence from the 12 months following implementation?	No
If yes, please provide additional comments...	

Post Implementation Review Feedback Form

Name of individual	[REDACTED]
Position	Airspace Change Team Lead
Date	25/09/2018

For CAA use only.

Has the Sponsor indicated that the original proposal met the objectives as described in the CAA's decision to approve the change?	Yes
Has the Sponsor indicated that the original proposal met any conditions as described in the CAA's decision to approve the change?	Yes
Has the Sponsor highlighted any observations from community stakeholders, aviation stakeholders or the Ministry of Defence?	No

Sign Off	
Does the CAA recommend that a post implementation review is conducted?	Yes
Signed: 	
Name: [REDACTED] Manager Airspace Regulation/Principal Airspace Regulator (delete as applicable)	
Date: 31/07/2019	

Annex C - Data from Sponsor: Humber Gateway TMZ

Review period: 2 years from date of implementation (1 May 2014 – 30th April 2016)

Windfarms:

- Westermost Rough
- Humber Gateway

Data was requested for 6-month intervals post implementation, and shows 4 incidents in total as shown in Table below:

	01/05/2014- 31/10/2014	01/11/2014 – 30/04/2015	01/05/2015- 31/10/2015	01/11/2015 – 30/04/2016	Total post- implementation
Transit approved of non- transponding aircraft ¹	0	0	0	1	1
Aircraft avoiding TMZ - lack of transponder	0	0	0	0	0
TMZ infringements ²	3	0	0	0	3

¹Transit approved of non-transponding aircraft

11/12/2015 – Clearance through TMZ given for Bond helicopter with unserviceable transponder. Clearance was requested through the TMZ, this was approved and co-ordinated with LATCC Mil as per the LOA, and then did the same again when it came back in to Humberside. All went smoothly with no issues.

²Recorded infringements:

07/05/14 – Believed to be an F15. Infringement could not be confirmed (ie aircraft not traced, and no Mode C so could have been above the TMZ) but entered the lateral confines of the TMZ twice. Helicopter given Avoiding Action twice to maintain required Deconfliction Minima.

05/08/14 – Slow moving. Not traced at the time. Later believed to be a home-built microlight known to have routed from Belgium to EGPC (Wick).

04/09/14 – GCLEA, one of a group of three light a/c routing from EGNW to EGSB. Pilot aware of TMZ. No longer in formation with leading two, but forgot to turn transponder back on.

Implementation Date:

In the Decision Letter the date for implementation was 02/05/13. This was delayed until 01/05/2014 due to delays in Windfarm Construction. TMZs not required until PSR blanking applied, and this was only implemented immediately prior to turbines first turning.

Communication to Stakeholders:

North Sea Helicopter operators were briefed at Southern North Sea safety meetings and by e-mail. NOTAM and AICs considered sufficient for other airspace users. As TMZs were subject to an LOA with LATCC Mil, it was assumed that they would brief military airspace users.

Annex D - Data from Sponsor: Greater Wash TMZ

Review period: 2 years from date of implementation (13 October 2016 – 12th October 2018)

Windfarms:

- Race Bank
- Triton Knoll
- Dudgeon
- Sheringham Shoal

	13/10/2016- 12/04/2017	13/04/2017 – 12/10/2017	13/10/2017- 12/04/2018	13/04/2018 – 12/10/2018	Total post- implementation
Transit approved of non- transponding aircraft ¹	0	0	0	0	1
Aircraft avoiding TMZ - lack of transponder	0	0	0	0	0
TMZ infringements ²	0	0	0	0	0

NATS Comment:

There are no reported instances of aircraft having to avoid the airspace. There will have been a small number of approved transits, but there are no records of these. Whilst not common, it would be routine and not the sort of thing controllers would report on. As the Greater Wash TMZ is not near the coast, the only aircraft likely to be out there without a transponder are military.

Implementation Date:

In the Decision Letter the date for implementation was 02/05/13. This was delayed until 13/10/2016 due to delays in Windfarm Construction. TMZs not required until PSR blanking applied, and this was only implemented immediately prior to turbines first turning.

Communication to Stakeholders:

North Sea Helicopter operators were briefed at Southern North Sea safety meetings and by e-mail. NOTAM and AICs considered sufficient for other airspace users. As TMZs were subject to an LOA with LATCC Mil, it was assumed that they would brief military airspace users.