

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 complexes<sup>1</sup>. 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

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<sup>1</sup> 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 alone<sup>2</sup>, 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 limits<sup>3</sup> 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 limits<sup>3</sup> 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.<sup>4</sup>

#### 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.<sup>5</sup> 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.

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<sup>2</sup> 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.

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

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

<sup>5</sup> 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.<sup>6</sup> 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.<sup>7</sup> 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.<sup>8</sup> 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 State<sup>9</sup>. My detailed considerations of the environmental aspects of this proposal are covered later in this letter.

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<sup>6</sup> Transport Act 2000, Section 70(2)(a).

<sup>7</sup> Transport Act 2000, Section 70(2)(b).

<sup>8</sup> Transport Act 2000, Section 70(2)(c).

<sup>9</sup> 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.<sup>10</sup> 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.<sup>11</sup> 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.<sup>12</sup> 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 CO<sub>2</sub> 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

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<sup>10</sup> Transport Act 2000, Section 70(2)(e).

<sup>11</sup> Transport Act 2000, Section 70(2)(f).

<sup>12</sup> 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.

