

## CAA AIRSPACE CHANGE DECISION

BURBO BANK EXTENSION WINDFARM TRANSPONDER MANDATORY ZONE (TMZ)

**Organisation proposing the change:** Dong Energy assisted by Osprey Consulting Services Limited (OCSL)

**Date of Airspace Change Proposal:** 7 July 2014

**Documents considered by the CAA:**

- Airspace Change Proposal and Consultation Response Analysis
- CAA Operational Assessment
- CAA Consultation Assessment
- CAA Environmental Assessment
- Request to Amend Eastern Boundary

### 1. INTRODUCTION

2. On 4 July 2014, the CAA received a formal Airspace Change Proposal (ACP) from Osprey Consulting Services Ltd (OCSL) on behalf of DONG Energy to establish a Transponder Mandatory Zone (TMZ) encompassing the Burbo Bank Extension offshore wind farm complex. Upon receipt of the proposal, the CAA undertook a detailed analysis of the operational requirements, the environmental assessments and the consultation process. A CAA decision was sent to the Sponsor on 13 Oct 14. The purpose of this letter is to provide you with an overview of the proposal and the CAA decision, as well as the subsequent correspondence and decision relating to an extension of the previously agreed eastern TMZ boundary line.

### 3. INFORMATION THAT HAS BEEN CONSIDERED

4. In making a decision, the CAA has considered a number of documents including the sponsor's consultation document, the change sponsor's ACP and the CAA's Operational Report, Consultation Report and Environmental Analysis. Additionally, a request to amend the eastern boundary was reviewed prior to this final CAA decision. The related documents will all be published on the CAA's website shortly.

### 5. PROPOSAL OVERVIEW

6. The ACP has been developed to negate the impact of increasing levels of wind turbine-generated Primary Surveillance Radar (PSR) clutter caused by the Burbo Bank Extension windfarm development, in addition to the existing Burbo Bank windfarm development. In support of the ACP, OCSL has provided evidence that indicates the proposed Burbo Bank Extension offshore wind turbines will create clutter on BAE Warton's PSR. It is assessed that when operative the wind turbines will collectively create a level of radar clutter that, without mitigation, would:

- Distract controllers with false targets.
- Require controllers to take unnecessary avoiding action that would erode the levels of effectiveness and efficiency.
- Create significant difficulties associated with the ability of Warton Radar controllers to maintain aircraft track identity, both in respect of known and unknown traffic.
- Limit Warton Radar controllers' ability to provide the full suite of ATSO-CAS.

- On occasion, necessitate re-routing of traffic away and clear of radar clutter, resulting in an increase in track mileage.
  - Generically precipitate a “less safe” operating environment than is currently the case.
7. The proposed TMZ forms part of a 3-stage mitigation programme: the introduction of a TMZ covering the Burbo Bank Wind Farm Extension; approval for BAE Warton to provide radar services within the TMZ using SSR only; and radar blanking of the wind farm-related PSR returns within the associated TMZ airspace. The CAA Air Traffic Management (ATM) capability team has confirmed that approval will be granted to Warton Radar to provide an SSR-only service within the TMZ prior to implementation.
8. The dimensions of the proposed TMZ included buffer areas that the CAA considered could be reduced in 2 areas to more accurately delineate the required 2nm buffer from the Burbo Bank Extension wind turbines. The final agreed TMZ (Appendix A) will extend laterally and vertically as described below:
- An irregular shaped, straight-sided TMZ extending laterally to 2nm beyond the physical limits of the Burbo Bank Extension wind farm to the north, south and west. To the east, the TMZ boundary will extend to 1nm east of the existing Burbo Bank windfarm.
  - Vertically, the TMZ will extend to the base of controlled airspace. To the west it extends to FL45 (base of L975); to the centre and south it extends to 2,000ft amsl (base of Liverpool CTA); in the north east corner it extends to 3,500 ft amsl (base of Manchester TMA).
  - The TMZ will be active during the operating hours of Warton ATC LARS.
  - The area will be listed in the UK IAIP as the ‘Burbo Bank TMZ’.
  - The development of the associated ACP and the design of the proposed TMZ accord with the formerly DAP, now SARG Policy Statement on TMZs.

## 9. **STATUTORY DUTIES**

10. The CAA’s 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>1</sup>
11. In summary, the CAA’s primary duty under section 70(1) of the Act requires that the CAA exercises its air navigation functions so as to maintain a high standard of safety in the provision of ATS. This duty takes priority over the remaining factors set out in section 70(2). Where an airspace change proposal satisfies all of the factors identified in section 70(2) and where there is no conflict between those factors, the CAA will, subject to exceptional circumstances, approve the airspace change proposal. Where an airspace change proposal satisfies some of the factors in section 70(2) but not others, this is referred to as a conflict within the meaning of section 70(3). In the event of a conflict, the CAA will apply the material considerations in the manner it thinks is reasonable having regard to them as a whole. The CAA will give greater weight to material considerations that require it to “secure” something than to those that require it to “satisfy” or “facilitate”. The CAA regards the term to “take account of” as meaning that the material consideration in question may or may not be applicable in a particular case and the weight the CAA will place on such material considerations will depend heavily on the circumstances of the individual case. The analysis of the CAA statutory duties is set out below.

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<sup>1</sup> Revised in 2014 by the DfT (the Guidance).

12. **Safety**

13. The CAA's primary duty is to maintain a high standard of safety in the provision of ATS and this takes primacy over all other duties. In this respect, it is evident that the Burbo Bank offshore wind turbines will be 'visible' to Warton PSR; the problem 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 overcome the impact of the clutter on Warton Radar's ability to provide an ATS.

14. The CAA is content that: the Burbo Bank TMZ is a fundamental component in the solution to mitigate the impact of the Burbo Bank Extension wind turbine-generated PSR clutter on Warton Radar's ability to provide an ATS, and that the TMZ is an appropriate construct to ensure the maintenance of a safe airspace environment.

15. **The most efficient use of airspace**

16. The CAA is 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>2</sup> The CAA considers that the most efficient use of airspace is defined as:

*"The most aircraft movements through a given volume of airspace over a period of time in order to make best use of the limited resource of UK airspace from a whole system perspective."*

17. The dimensions of the TMZ recognise the need for the efficient use of airspace and the TMZ dimensions are the minimum size necessary to meet the safety requirements. Whilst the TMZs will be permanently active during the operating hours of the Warton LARS service, the CAA is content that associated access arrangements (further discussed below) 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.

18. **Requirements of aircraft operators and owners**

19. The CAA is required to satisfy the requirements of operators and owners of all classes of aircraft.<sup>3</sup>

20. The Sponsor conducted extensive consultation with all affected aviation stakeholder groups as part of the ACP process and the impact of the TMZ upon other airspace users has been appropriately considered. In addition to the safety benefits that underpin the ACP, the TMZ (as part of the mitigation package) will facilitate continued optimal routing for airspace users when necessary. Without the TMZ the radar clutter may necessitate an increase in track distance for the routine and occasional users of this volume of airspace.

21. Access arrangements will ensure that transponding aircraft will be able to transit without specific ATC clearance and non-transponding aircraft will be able to seek clearance to transit on a tactical basis via radio contact with Warton Radar. Given the offshore location of the TMZ, the anticipated number of aircraft that would necessarily have to avoid the TMZ airspace can reasonably be expected to be extremely limited. Records will be maintained and scrutinized by SARG staffs at intervals of 6 months post implementation. The records will show the number of transits of the TMZ area, the occasions where aircraft have necessarily had to avoid the airspace, as well as records of TMZ infringements.

22. Accepting that the TMZ will facilitate Warton Radar's continued provision of a safe ATS, the CAA is satisfied with the Sponsor's commitment to provide access to the revised airspace when it is safe and appropriate to do so. The revised structure will therefore not be

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

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

detrimental to other airspace users as a whole. The CAA's Operational Assessment will be published on the CAA's website shortly.

**23. Interests of any other person**

24. The CAA is 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. The CAA examined a number of anticipated impacts, and considered the 2 objections raised during the consultation.

25. Given the offshore location of the proposed TMZ, the CAA has reduced the extent of the proposed eastern boundary. The CAA has also not approved a subsequent early implementation phase request to extend this boundary further east. The CAA is content that the interests of non-aviation parties have not been adversely affected.

**26. Guidance on environmental objectives**

27. In performing its statutory duties, the CAA is obliged to take account of the extant guidance provided by the Secretary of State,<sup>4</sup> namely the 2014 Guidance to the CAA on Environmental Objectives. The CAA considerations relating to the environmental aspects of this proposal are covered below at para 42.

**28. Integrated operation of ATS**

29. The CAA is required to facilitate the integrated operation of ATS provided by or on behalf of the armed forces of the Crown and other ATS.<sup>5</sup>

30. In this respect the CAA is content that this proposal and its associated implementation will not change either the dimensions or class of local airspace structures. There will therefore be no impact in this regard.

**31. Interests of national security**

32. The CAA is required to take into account the impact any airspace change may have upon matters of national security.<sup>6</sup> There are no implications for national security.

**33. International obligations**

34. The CAA is required to take into account any international obligations entered into by the UK and notified by the Secretary of State.<sup>7</sup>

35. In this respect the CAA is content that there are no international obligations as a result of the introduction of the Burbo Bank TMZ.

**36. No conflicts**

37. In accordance with section 70(3) of the Act and the CAA published policy, the CAA is required to consider whether the airspace change proposal produces any conflicts between the material considerations identified in section 70(2). For the reasons given above, the CAA does not consider there is any conflict between the factors that must be considered.

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<sup>4</sup> Transport Act 2000, Section 70(2)(d)

<sup>5</sup> Transport Act 2000, Section 70(2)(e).

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

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

38. **CONSULTATION**

39. Sponsors must conduct their consultation exercise in accordance with the criteria set out in the Cabinet Office's Consultation Principles (2013 Update). The Sponsor undertook a 14-week public consultation (31 Mar 14 - 4 Jul 14) and a consultation with aviation stakeholders through NATMAC. The Stakeholder Consultation Document will be published on the CAA's website shortly.
40. Additionally, the CAA's Safety and Airspace Regulation Group (SARG) conducted its own assessment of the consultation process and feedback. This assessment will also be published on the CAA's website shortly. The CAA concludes that the Consultation Report and associated material met CAA requirements.
41. The CAA has carefully considered this information and is satisfied that the consultation was conducted in accordance with the requirements of CAPs 724 and 725, was well-managed and the Sponsor demonstrated a willingness to engage with the various stakeholders in order to mitigate the issues raised.

42. **ENVIRONMENTAL CONSIDERATIONS**

43. The Environmental Research and Consultancy Department (ERCD) report on the environmental impact of the proposed TMZ, highlights that the rationale for the ACP is not related to improving the environmental impact of aviation, but relates to improving efficiency and safety, given the stated impact of the Burbo Bank Extension wind farm. The environmental impacts have been considered by the Sponsor and recent traffic surveys support the following assessments:
- Noise - there is the potential for a small increase in traffic and noise closer to the coast should the small number of aircraft expected to transit the TMZ decide not to call Warton and route closer to the coast to avoid the TMZ.
  - Emissions - Based on the minimal numbers of aircraft expected to be significantly displaced by this proposal, the impact is assessed to be insignificant.
  - Local Air Quality - It is assessed that there will be a negligible impact on local air quality.
  - Tranquility - Again the impact of this change is assessed to be negligible because of the minor, if any, displacement of current traffic patterns.
44. The Environmental Assessment concluded that any impact caused by the establishment of the TMZ is likely to be minimal or negligible. 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.

45. **REGULATORY DECISION**

46. The CAA is content that the proposed airspace design is safe, which satisfies its primary statutory duty. For the reasons given above, the CAA is also content that the proposed change has a positive or neutral impact on each of the other factors identified in section 70(2) of the Act. In such situations, and in the absence of exceptional circumstances, it is CAA policy to approve the airspace change proposal. There are no exceptional circumstances in this case to justify departing from the CAA's standard practice.
47. The CAA has therefore decided to support the implementation of the Burbo Bank TMZ and currently estimates the TMZ will become active on 23 Jun 16 (AIRAC 7/ 2016). If you have any queries, the SARG Project Leader, may be contacted on [REDACTED], or via email: [REDACTED]

48. In line with our standard procedures, the implications of the change will be reviewed after one full year of operation following completion of the build, at which point the CAA will engage with the affected parties to obtain feedback and data to contribute to this analysis.

**Date:** 30<sup>th</sup> March 2016  
**Civil Aviation Authority**

Appendix:

- A. Chart showing Agreed Burbo Bank TMZ.

Attachment:

1. CAA Response Letter dated 30<sup>th</sup> March 2016.

AGREED BURBO BANK TMZ

