



██████████
Senior Aviation Project Manager
Generation Development, SSE

January 2016

Dear ██████████

CAA DECISION LETTER

MORAY FIRTH TRANSPONDER MANDATORY ZONE (TMZ) - AIRSPACE CHANGE PROPOSAL (ACP)

References:

1. Moray Firth TMZ Airspace Change Proposal – Issue 1 dated 27 Jul 15

1 INTRODUCTION

- 1.1 Beatrice Offshore Windfarm Ltd (BOWL) and Moray Offshore Renewables Ltd (MORL) is proposing, following consent granted to BOWL in March 2014 by Scottish Ministers (under Section 36 of the Electricity Act 1989), the construction and operation of a 750MW offshore wind farm in the Outer Moray Firth, Scotland. The proposal pertains to the two-phased development and the establishment of a Transponder Mandatory Zone (TMZ) over the consented wind farms and the immediate area surrounding the wind farms to satisfy consent conditions, required by the MOD, which will allow the wind farms to commence construction. The new wind turbine generator (WTG) blade tips will extend to 203.9m (669 ft) above sea level and will present themselves as reflecting moving objects within the coverage of the RAF Lossiemouth Primary Surveillance Radar (PSR) and appear as clutter on the operators display. To ensure current and future airspace operations can continue in the area in an efficient manner with an effective ATC service, the impact of the clutter on the Lossiemouth PSR must be minimised. The Developers collaborated with the MOD to develop mitigations and, supported through consultancy by National Air Traffic Services (NATS), they submitted an ACP (Reference 1) to the Safety and Airspace Regulation Group (SARG).

2 INFORMATION THAT HAS BEEN CONSIDERED

- 2.1 In making my decision, I have considered a number of documents including the Change Sponsor's Consultation Document and ACP, and the CAA's Operational Assessment, Consultation Report and Environmental Analysis. These documents will be published on the CAA's website shortly.

3 PROPOSAL OVERVIEW

- 3.1 The ACP proposed that the most suitable mitigation against the effects described was a 3-part solution; the introduction of a TMZ, radar blanking in the area concerned and authority to operate SSR only within the TMZ. A TMZ is an airspace model that has been

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implemented effectively in other geographic areas to address similar situations. The TMZ would extend from the surface to Flight Level 100, above which height transponder carriage is mandatory, and would be established to coincide with the operating hours of RAF Lossiemouth Quick Reaction Alert (QRA) Air Traffic Services (ATC) and Lower Airspace Radar Service (LARS). RAF Lossiemouth is the only Air Navigation Service Provider whose operations are affected by the WTGs, however Instrument Flight Procedures (IFPs) to HIAL Wick for Non-Transponding aircraft would require prior approval from RAF Lossiemouth. This arrangement is subject to a Letter of Agreement (LoA) or Memorandum of Understanding (MoU) between the two and is a key mitigation in the ACP. Whilst implementation is not until 2018, in order to support the Developers investment decision timescales SARG approval has been sought early.

4 CONSULTATION

- 4.1 SARG has conducted an assessment of the consultation and concluded that the Consultation Report and associated material met SARG requirements and the criteria set out in the Cabinet Office's Consultation Principles (2013 Update).
- 4.2 This was a well-run consultation demonstrating a willingness to engage with the various stakeholders in order to mitigate the issues raised, and I am satisfied that the consultation was in accordance with the requirements of CAPs 724 and 725.

5 STATUTORY DUTIES

- 5.1 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.¹
- 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.² Air Traffic Management (ATM) section within SARG is currently reviewing the supporting Safety Plan and associated documentation in order to permit SSR only operation within the TMZ; the expectation, based on the evidence reviewed so far, is that the necessary approval to operate as described within the ACP will be granted. In this respect, I am satisfied with the proposal.
- 5.3 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.³ 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.”

- 5.4 The cumulative impact of additional clutter from this wind farm in the Moray Firth will require the RAF Lossiemouth radar to be blanked in this area. Technical PSR solutions are in the advanced stages of design but, as yet, there is no technical solution that offers the highest levels of mitigation to the radar clutter effects and has the associated UK safety case required to allow unhindered ATC services. However, should an economically viable technical solution exist prior to the date of implementation, this should be implemented rather than the radar blanking and TMZ.
- 5.5 Currently the establishment of a TMZ is appropriate and satisfactorily accommodates RAF Lossiemouth ATC's needs.

¹ Revised in 2014 by the DfT (the Guidance).

² Transport Act 2000, Section 70(1).

³ Transport Act 2000, Section 70(2)(a).

- 5.6 The TMZ recognises the need for the efficient use of airspace, and I am satisfied that these TMZ dimensions are of the minimum size to be both efficient and meet the safety and operational requirements, including in this proposal the Buffer Zone, which is assessed on a case by case basis. Whilst the TMZ will be permanently active, I am content that associated access arrangements and the background usage of airspace are such that there will be no meaningful impact upon the operations of aircraft wishing to access the TMZ airspace. RAF Lossiemouth has stated and agreed that non-SSR equipped aircraft will not be denied access to the TMZ airspace under a LoA/MoU with HIAL Wick. I would expect both to make every effort to facilitate transits of the TMZ by GA traffic, SSR equipped or otherwise. The supporting traffic surveys suggest that the instances where GA traffic might be unable to transit the TMZ would be minimal. In this respect, I am satisfied that the most efficient use of airspace is being facilitated.
- 5.7 In performing my statutory duties, I am obliged to take account of the extant guidance provided by the Secretary of State,⁴ namely the 2014 Guidance to the CAA on Environmental Objectives. The Environmental Research and Consultancy Department (ERCD) has undertaken an assessment of the environmental impact of this change. Having carefully considered this information, I have concluded that the change will have a minimal overall environmental impact, and in this respect I am satisfied the proposal meets my statutory environmental objectives.

6. REGULATORY DECISION

- 6.1 I am satisfied that the proposed airspace design is safe and meets all other aspects of my statutory duties set out in the Act. The ACP produces no conflicts between any factors I have a duty to take into consideration, has a positive or neutral impact on each of the factors identified in section 70(2) of the Act, and there are no exceptional circumstances to justify departing from the CAA's standard practice.
- 6.2 I have therefore decided that a TMZ over the Moray Firth Wind Farm, as depicted in the Annex, is the most effective measure to mitigate the WTGs, and support the ACP submitted.
- 6.3 The revised airspace is currently scheduled to become effective in March 2018. When confirmed it will be promulgated via a single AIRAC cycle. If you have any queries, the SARG Project Leader, [REDACTED], may be contacted on 020 7453 [REDACTED], or via e mail: [REDACTED]
- 6.4 The MOD, Sponsor and Developer will be required to conduct an assessment, as soon as practicable, and before one year, post construction and on commencement of operation of proposed WTGs to confirm satisfactory application of Range Azimuth Gating and containment of clutter within the proposed TMZ boundary. Evidence of the assessment, confirming successful mitigation is to be provided, and is to be in advance of, the post implementation review (outlined below) or the change sponsor is to propose revised dimensions of the Moray TMZ boundaries. Should this assessment provide evidence that the dimensions of the TMZ need to be refined this will be done as a modification to this change decision. Any further modification will be duly promulgated with the necessary warning period although this may be less than normally provided.
- 6.5 In line with our standard procedures, the implications of the change will be reviewed after one full year of operation, at which point my staff will engage with interested parties to obtain feedback and data to contribute to the analysis.

⁴ Transport Act 2000, Section 70(2)(d)

Yours sincerely,

A handwritten signature in black ink that reads "Mark Swan". The signature is written in a cursive style and is positioned above a solid horizontal line.

Mark Swan
Director, Safety and Airspace Regulation Group

Annex:

A. Diagram of theTMZ for the Moray Firth Wind Farm

Diagram of the TMZ for the Moray Firth Wind Farm



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