

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

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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.