

## Safety and Airspace Regulation Group

## Airspace Change Process

### Post Implementation Review Data Request (Scaled)

<b>ACP Project Reference:</b>	<a href="#">ACP-2014-09</a> (initial East implementation), <a href="#">ACP-2019-072</a> (later West expansion)		
<b>Title of Airspace Change:</b>	Moray Firth TMZ		
<b>Change Sponsor:</b>	Beatrice Offshore Windfarm Ltd & Moray Offshore Renewables Ltd (East) Moray Offshore Windfarm West Ltd (West)		
<b>CAA Decision Document:</b>	Initial East implementation <a href="#">(link)</a> Later West expansion CAP2322 <a href="#">(link)</a>		
<b>CAA Decision Date:</b>	14 Jan 2016 (East) 04 Aug 2021 (West)	<b>AIRAC Date East:</b> <b>AIRAC Date West:</b>	14/2020 (31 Dec 2020) 13/2023 (28 Dec 2023)
<b>PIR Data Submission Requested:</b>		<b>PIR Data Submission Required by:</b>	

## Introduction

1. The CAA's airspace change process is a seven-stage mechanism that is set out in detail in CAP 1616. Stage 7 of this process is a Post Implementation Review (PIR) that normally begins one year after implementation of the change. The PIR is an assessment of whether the anticipated impacts and benefits in the approved change and published decision are as expected and where there are differences, what steps (if any) the CAA requires to be taken.
2. Irrespective of whether the CAA decision to approve the change was made under the previous process (set out in CAP 725), all PIRs should normally be in accordance with the process requirements of CAP 1616. However, when assessing the expected impacts against the actual impacts, the methodology adopted at the time of the original CAA decision should be used.
3. Airspace Change Proposals can vary in size, scale and complexity, which has led the CAA to scale the PIR process appropriately. A PIR of Level 2 changes will be undertaken when it is proportionate to do so. For some changes, the CAA may proportionately reduce the extent of evidence and data required from the change sponsor or allow more flexibility in the format of the data required<sup>1</sup>.
4. This data request form sets out that list of data required for the CAA to complete the assessment for a scaled PIR. On receipt of this data request form, the change sponsor should provide qualitative statements against each of the general observations listed below. The date on which the CAA requires the data to be submitted is stipulated at the top of this document.

<sup>1</sup> CAP 1616 – Para 294, 295 & Appendix H  
APR-AC-TP-041

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### General Observations

1. The following general observations are to enable an overview of the effectiveness of the airspace change.
2. The change sponsor is required to submit a qualitative statement against each data request which supports the conclusion reached in each case.
3. The CAA will review the analysis of the data submitted to ensure the anticipated impacts and benefits in the approved change were as expected.

a) An overview statement on whether, in the change sponsor's view, the original proposal met the intended objectives as described on the CAA's decision to approve the change.

The intended objective of ACP-2014-09 was to ensure that current and future airspace operations in the vicinity of RAF Lossiemouth could continue in an efficient manner despite the impact of wind turbines being developed by Beatrice Offshore Windfarm Ltd (BOWL) and Moray Offshore Renewables Ltd (MORL) (now named Moray Offshore Windfarm (East) Ltd and known as Moray East). The new wind turbine generators would present themselves as reflecting moving objects within the coverage of the RAF Lossiemouth Primary Surveillance Radar (PSR) and appear as clutter on ATC radar displays. BOWL and MORL collaborated with the Ministry of Defence (MoD) to develop mitigation solutions and submitted an Airspace Change Proposal (ACP) to the CAA's Safety and Airspace Regulation Group (SARG) in 2014. The projects included a two-phased development (BOWL followed by Moray East) and establishment of a Transponder Mandatory Zone (TMZ) over the consented wind farms in order to satisfy planning consent conditions required by the MoD. The overarching aim of the ACP, and implementation of the Moray Firth TMZ, was to allow both wind farms to commence construction and meet their own planning timelines. Subsequent to the establishment of the original TMZ, ACP-2019-72 was brought forward to allow for westward expansion to encompass more wind turbines as per demands on the UK's energy sector and associated commercial investment decisions. The objectives for the expansion are essentially the same as for the original. It is the change sponsor's view that the original proposal and its western extension both met the intended (common) objectives.

b) An overview statement on whether, in the change sponsor's view, the original proposal met any conditions described on the CAA's decision to approve the change (if applicable).

No specific conditions were imposed by CAA in approving the ACP. It was noted however that Instrument Flight Procedures into Highlands and Islands Airports Ltd's (HIAL's) Wick Airport for Non-Transponding aircraft would require prior approval from RAF Lossiemouth. CAA understood that this arrangement would be subject to a Letter of Agreement (LoA) or Memorandum of Understanding (MOU) between the two units but also recognised that this was a key mitigation in the ACP. The change sponsor has been advised by RAF Lossiemouth (through MoD) and HIAL that a robust MOU is in place with Wick Airport and is working well.

The western extension ACP had three conditions: 1. A declaration of the implementation AIRAC when available; 2. All relevant LoAs to be updated (i.e. the same LoAs listed in the previous paragraph); and 3. A radar mitigation scheme agreement must be in place with the MoD. All three were met before implementation and continue to function well.

c) Confirm that implementation occurred on the dates identified in the Decision Letter. If no implementation date was specified in the Decision, please state so.

The CAA Decision Letter outlined that the revised airspace was scheduled to become effective in March 2018. However, the two-phased development process (BOWL followed by MORL) meant that specific timelines for construction of either wind farm was not known at the time of CAA approval. In the case of Moray East, development was delayed due to project pressures, but it was recognised that the TMZ mitigation would need to be in place prior to any movement of the wind turbine blades. Impact on PSRs can only occur when the wind turbine blades are moving. Consequently, the date for implementation of the TMZ was only confirmed approximately one year prior to the turbine blades being installed. Implementation of the TMZ was set for January 2021.

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The western extension was implemented after meeting Condition 1 in CAP2322 Decision Letter (see above), subsequently publicised on the CAA's Airspace Change Portal as agreed with the CAA.

d) If there was a significant delay between the planned and actual implementation date, please provide an explanation.

See response at c) above.

e) Identify whether any other issues of significance have occurred during the period 12 months after date of implementation.

None identified, for either the original East implementation or the later West extension.

f) Other than normal promulgation activity (e.g. NOTAM, AIC etc.), identify what steps were undertaken to notify local aviation stakeholders that the airspace change was about to be implemented.

None. Normal promulgation activity carried out for both the original East implementation and the later West extension.

g) Feedback/complaints received from stakeholders, aviation stakeholders or the Ministry of Defence by the change sponsor in the period between implementation and post-implementation review (including feedback/complaints received via an FCS 1522 Form (UK Airspace Access or Refusal of ATS Report)).

The Moray East TMZ was implemented in January 2021, and data from the effective date would normally be relevant up to one year after the implementation date. However, as per the statement on the CAA website (Airspace Change Proposals Post-Implementation Reviews (PIRs) impacted by COVID 19 (October 2021)), PIR data from 1 March 2020 and 28 February 2022 could not be used as part of the PIR data set. Consequently, CAA instructed that the Moray East TMZ PIR Period should be from 01 March 2022 to 28 February 2023.

Given that the West extension was implemented late Dec 2023, we took the PIR Period to be the 2024 calendar year.

In both cases, RAF Lossiemouth was engaged (via MoD's Defence Airspace & Air Traffic Management unit also known as DAATM). Their feedback was as follows:

1. Records on TMZ transits are not routinely kept, therefore there are no formal records of transit requests, nor refusals, by non-transponder aircraft.
2. However, approval of these transits is **considered straightforward** when they do occur.
3. Where relevant, transits are in accordance with RAF Lossiemouth's Letters of Agreement with HIAL Wick, NATS Prestwick Centre, and Swanwick Military, respectively.
4. There are no records of non-transponder aircraft infringing the TMZ buffer, nor within the inner blanked area.
5. No relevant complaints or enquiries were received regarding the TMZ.
6. No relevant safety events were recorded where the Moray TMZ was a contributory or causal factor.
7. The TMZ appears to be operating as anticipated, with no unexpected impacts.

Aberdeen Radar was separately engaged and concurs with the above statements where their interests apply.

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**Other information of relevance (if appropriate)**

h) [Insert additional requirement #1]
None identified.
i) [Insert additional requirement #2]
None identified.

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**For CAA use only**

In providing a response for each general observation, please ensure that the 'status' column is completed using the following options and that they are colour coded accordingly:

**YES • NO • PARTIALLY • N/A**

A summary of any issues arising should be provided against each question in the appropriate text box.

General Observations	Status
a) Has the change sponsor indicated that the original proposal met the intended objectives as described on the CAA's decision to approve the change?	<b>Yes</b>
<p><b>The original ACP 2014-09 was implemented and then extended with ACP 2019-72 to both establish and then extend a windfarm TMZ to satisfy and mitigate the impact the wind turbine generators would have on RAF Lossiemouth primary surveillance radar (PSR). The change sponsors for this homogenous structure collaborated through their consultants (Coleman &amp; NATS) to ensure that the TMZ satisfied their requirements and the CAA's CAP725 process was followed.</b></p>	
b) Has the change sponsor indicated that the original proposal met any conditions described on the CAA's decision to approve the change (if applicable)?	<b>Yes</b>
<p><b>Other than the operational requirement for a practical and satisfactory LoA (MoU) between RAF Lossiemouth and Wick airport be established, there were no conditions applied for the first phase. However, for second, contiguous phase, the CAA set conditions to update relevant LoAs and associated memorandum of understanding (MoU). The consultants have confirmed that their conditions have all been satisfied.</b></p>	
c) Did the implementation occur on the date(s) identified in the Decision Letter?	<b>Partially</b>
<p><b>The consultants have provided comprehensive detail to explain that the project timelines and any associated delay is driven by the ability to develop and construct turbines set against allied CAA approval for implementation. The schedule and any delay to the 2-phase implementation was therefore satisfactorily mitigated.</b></p>	

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General Observations	Status
d) Was there a significant delay between the planned and actual implementation date?	No
<b>This observation is clearly explained in box c), above.</b>	
e) Has there been any other issues of significance that occurred during the period 12 months after date of implementation?	No
<b>None</b>	
f) Other than normal promulgation activity (e.g. NOTAM, AIC etc.), were there any steps undertaken to notify local aviation stakeholders that the airspace change was about to be implemented?	N/A
<b>As there was effective engagement and collaboration with all affected stakeholders, standard promulgation protocols were followed.</b>	
g) Were there any feedback/complaints received from stakeholders, aviation stakeholders or the Ministry of Defence by the change sponsor in the period between implementation and post-implementation review?	Yes
<p><b>Following the impact on society of Covid 19, the CAA's webpage statement on the requirement for completion of Post-Implementation Reviews (PIRs) resulted in most affected PIRs being understandably delayed. This ensure that any potential concern on the process timeline could be satisfactorily mitigated. Consequently, there were no issues raised on this fundamental point.</b></p> <p><b>For both the initial implementation and the following western extension, RAF Lossiemouth was engaged (via MoD's Defence Airspace &amp; Air Traffic Management unit also known as DAATM).</b></p> <p><b>DAATM confirmed that there had been no adverse impact on RAF Lossiemouth operations because of the establishment of the TMZ and the subsequent western extension.</b></p> <p><b>Aberdeen Radar also confirmed that there had been no noticeable impact on their operation.</b></p>	

Other information of relevance (if appropriate)	Status
h) [Insert additional requirement #1]	N/A
i) [Insert additional requirement #2]	N/A

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**General Summary and recommendation**

Based on the above, does the CAA Project Officer recommend that this concludes the PIR assessment for this ACP?

**Yes**

**In sum, it was agreed that the two separate ACPs that contributed to this original and extended, contiguous airspace TMZ structure could and should be managed as one PIR. Peculiar to windfarm projects and the associated cost of turbine development and establishment, risk must be mitigated by some assurance provided by the CAA that the proposal is fit for purpose and is seen incrementally, to meet the fundamental requirements of the 7-Stage CAP725 process. In the case of the original two separate developments, the sponsors and their consultants ensured that process was strictly followed and that any other affected stakeholder was consulted and was therefore included in each stage of the development. The initial and extended TMZ structure delivers exactly as anticipated and all associated arrangements detailed in each LoA and the MOU (RAF Lossiemouth/Wick) accommodates all other airspace users' requirements without having any adverse impact on their operation. I therefore recommend that this PIR is approved.**

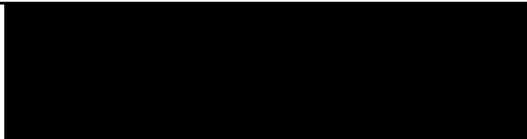
**Decision and Sign Off**

Based on the above, does the Decision Maker conclude that the PIR assessment for this ACP complete?

**Yes**

**I concur that this ACP has met its objectives as approved, and the airspace change is confirmed.**

Signed:



Name:



Manager Principal Airspace Regulator

Date: **27/04/2026**