

CAA Environmental Assessment and Statement

Title of airspace change proposal	Moray Offshore Windfarm (West) Limited
Change sponsor	Moray Offshore Windfarm (West) Limited (MOWWL)
Project no.	ACP-2019-72
Account Manger	[REDACTED]
<p>Instructions</p> <p>In providing a response for each question, please ensure that the ‘status’ column is completed using one of the following options:</p> <ul style="list-style-type: none"> • Yes • No • Partially • N/A <p>Please highlight the ‘status’ cell for each question using one of the three colours to illustrate if it is:</p> <p>resolved Green not resolved Amber not compliant Red</p>	
1. Introduction	
	<p>Moray Offshore Wind Farm (West) Ltd. (MOWWL) is proposing to develop an offshore wind farm within the Moray Firth, adjacent to the Beatrice and Moray East offshore wind farms, 22.5 km and 24 km from the Caithness and Aberdeenshire coastlines respectively. The proposed development would contain up to 85 wind turbine generators (WTGs) and cover an area of approximately 225 km².</p> <p>The airspace above the proposed wind farm is currently Class G. The Eastern portion of the wind farm will sit underneath Air Traffic Services (ATS) Route Y904 and Helicopter Main Routing Indicators (HMRI) X-Ray, within an area covered by the existing Moray Firth Transponder Mandatory Zone (TMZ) which surrounds the Beatrice and Moray East Wind Farm developments.</p> <p>Engagement with aviation stakeholders identified that without mitigation the development could have an adverse impact on NATS En-Route PLC’s (NERL) ability to provide ATS in the vicinity of the development due to interference caused by WTGs on the Allanshill Primary Surveillance Radar (PSR). WTG’s can interfere with Air Traffic Control (ATC) radars by creating radar clutter and false radar returns, affecting an Air Traffic Control Officer’s (ATCO’s) ability to identify primary</p>

	<p>radar aircraft returns, increasing the risk of conflict between aircraft. It was therefore agreed that development of the wind farm should not proceed until a suitable Primary Radar Mitigation Scheme (PRMS) has been established. This condition is attached to Section 36 Planning Consent Condition 23 for the scheme.</p> <p>To mitigate the risk of false radar returns, MOWWL propose to deploy a Radar Range Azimuth Gating (RAG) over the area of the wind farm before it is constructed. However, in addition to removing false radar returns from WTGs, the RAG would also remove primary radar returns from aircraft flying within the area. Therefore, to mitigate the risk of removing genuine aircraft operations from radar, a TMZ is required in the same area so that aircraft will remain visible to ATC through Secondary Surveillance Radar (SSR). However, non-transponder equipped aircraft would not be permitted to fly within the area, and hence be required to fly around the TMZ, unless prior approval is granted to access the TMZ by the Controlling Authority.</p> <p>Following a process of Options Appraisal, the design options were refined to one option. This is MOWWL's preferred solution, known as "<i>Option C: TMZ with 2 NM buffer extended to align with Existing TMZs</i>".</p>	
2. Nature of the Proposed Change		Status
2.1	Is it clear how the proposed change will operate, and therefore what the likely environmental impacts will be?	Yes
	<p>This Airspace Change Proposal (ACP) intends to establish a TMZ over the MOWWL development, aligning with the existing Moray Firth TMZ. The proposal has potential to impact aircraft over the sea and has therefore been scaled as a Level 2B change. For Level 2B ACPs where the anticipated impact is negative, an assessment of fuel and CO₂ impacts of the proposed change using WebTAG is required, including annual totals for each and on a per flight basis. If the anticipated impact is positive, a qualitative assessment and explanation is adequate. Longer-term CO₂ emissions, typically based on a 10-year traffic forecast, are also required.</p> <p>The sponsor has identified that the establishment of the TMZ is unlikely to impact aircraft passing through the area that are transponder equipped. However, non-transponder equipped aircraft would be required to transit around the TMZ, which has potential to increase fuel burn and CO₂ emissions, unless prior approval is granted to access the TMZ by the Controlling Authority. The sponsor estimates that of the aircraft that currently transit through the region, less than 2 flights per week are non-transponder equipped and therefore concludes a negligible impact to fuel burn and CO₂ emissions. Therefore, on the basis that the CO₂ impacts are negligible, which have potential to be mitigated through prior approval by the TMZ Controlling Authority, the sponsor has scaled the environmental assessment equivalent to a Level 2B change with a positive impact (or neutral</p>	

	impact), therefore providing a qualitative assessment of the CO ₂ impacts.	
3. Secretary of State Call-in Noise Criterion		Status
3.1	<p>Is the proposal likely to meet the Secretary of State’s criterion for call-in on noise impacts? If yes, has the additional assessment on that criterion been undertaken and what are the results? If no, what is the rationale for that conclusion?</p> <p>The criterion, as set out in the DfT’s Air Navigation Guidance (2017)¹ is that the proposed airspace change could lead to a change in noise distribution resulting in a 10,000 net increase in the number of people subjected to a noise level of at least 54 dB² <u>as well as</u> having an identified adverse impact on health and quality of life.³</p>	No
	This ACP would only affect aircraft over the sea and therefore it is unlikely that there will be an identified adverse impact on health and quality of life. It is therefore considered that this proposal will not meet the Secretary of State’s criterion for call-in on noise impacts.	
4. Statement of Need		Status
4.1	Does the Statement of Need include any environmental factors?	No
	The Statement of Need does not include any environmental factors. It should be noted that the purpose of the Statement of Need is to identify why the airspace change is required and to set out what issues or opportunities the sponsor is seeking to address. There is no requirement for the airspace change to be driven by environmental factors.	

¹ The DfT’s call-in criteria are set out in The Civil Aviation Authority (Air Navigation) Directions 2017, Section 6, paragraph (5). These Directions are replicated in Annex D of the DfT’s Air Navigation Guidance 2017.

² L_{Aeq,16h} noise exposure.

³ The assessment of the numbers of people affected and the associated adverse impacts on health and quality of life of the airspace change proposal should be carried out by the sponsor in accordance with the requirements set out in the DfT’s Guidance.

5. Design Principles		Status
5.1	Does the final set of Design Principles include any environmental objectives?	Yes
	<p>The sponsor developed a set of 12 Design Principles (DPs), two of which include environmental objectives:</p> <ul style="list-style-type: none"> • DP6: <i>“Minimise the impact on CO₂ emissions”</i>; and • DP7: <i>“Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft”</i>. <p>Both DPs were assigned with <i>“medium”</i> priority.</p>	
5.2	Does the proposal explain how and to what extent the final airspace design achieves any environmental Design Principles?	Yes
	<p>The sponsor states within the document <i>“Stage 4 Airspace Change Proposal”</i> that Option C; <i>“TMZ with 2 NM buffer extended to align with Existing TMZs”</i>, fully met all DPs.</p> <p>Regarding DP6; <i>“Minimise the impact on CO₂ emissions”</i>, it is understood from the proposal that there would be no impact on commercial aircraft as a result of the TMZ, however, <1% of general aviation (GA) aircraft that operate within the region could be affected due to the necessity to be transponder equipped. Therefore, those aircraft without the necessary equipment could be required to transit around the TMZ, resulting in increased fuel burn and CO₂ emissions, unless prior approval is granted to access the TMZ. The sponsor estimates that less than 2 flights per week (<1% of all flights) would be impacted, concluding a negligible impact to fuel burn and CO₂ emissions. Due to the number of aircraft estimated to be impacted by this ACP, the sponsor’s conclusion of negligible impacts is considered reasonable.</p> <p>Regarding DP7; <i>“Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft”</i>, it is understood from the sponsor that there would be <i>“no local environmental impacts such as noise, visual intrusion, tranquillity or local air quality”</i> as the proposal concerns airspace <i>“approx. 10 NM from the Caithness coast”</i>⁴. It should be noted that the sponsor does however provide a differing distance from the coast regarding the area of impacted airspace within the document <i>“Stage 3 Consultation Document”</i>, stating the proposed changes are <i>“at least 14.8 km / 8 NM offshore”</i>. However, as this ACP located entirely over sea and therefore scaled as a Level 2B change, the sponsor’s conclusion of no local environmental impacts is considered reasonable.</p>	

⁴ The proposed development is approximately 12.1 NM (22.5km) from the coast however the final airspace design includes a 2NM buffer, hence 10 NM.

5.3	<p>Were there any proposed environmental Design Principles that were rejected from the final set? If so, is the rationale for rejecting those Principles reasonable?</p>	No
	<p>No proposed environmental DPs were rejected from the final set. This ACP proposed two DPs that included environmental objectives.</p> <p>It should be noted that NERL provided feedback regarding DP7; <i>“Minimise environmental impacts to stakeholders on the ground, including the impact of noise below 7,000 ft”</i>, with specific reference to the sponsor’s inclusion of the following note associated with the DP; <i>“due to the offshore location of the proposed changes, it is not expected that there will be any significant environmental impacts to stakeholders on the ground due to noise, visual intrusion and local air quality”</i>. NERL suggested that the sponsor remove this DP as it opens the potential for public consultation requirements and suggested that specific reference to visual intrusion offers the opportunity for objection to the development. Additionally, NERL recommended that the <i>“minimisation of environmental impact should therefore be linked to the unfettered access to the airspace by suitably equipped aircraft”</i> and that a design principle associated with noise below 7,000 ft relates to Level 1 ACPs.</p> <p>The sponsor’s response to NERL was that DP7 <i>“relates to the environmental impact of [the] proposed airspace changes put forward in this ACP”</i> and therefore <i>“does not offer a route for objection to the windfarm”</i>. The sponsor states that visual intrusion in the context of this DP relates only to the visual intrusion of aircraft. The sponsor also noted that the scaling level of an ACP is not confirmed by the CAA until later in the process and therefore the inclusion of noise would be relevant if it was scaled as a Level 1 ACP. This DP was therefore carried through to the final set unchanged.</p>	
5.4	<p>Were there any design options during the airspace change process that might have better met the environmental Design Principles than the final proposal as submitted to the CAA? If so, is the rationale for rejecting those options set out?</p>	Yes
	<p>The following options were assessed at Stage 2 during the Design Principle Evaluation:</p> <ul style="list-style-type: none"> • Do-Nothing; • Option A: TMZ in line with proposed wind turbine locations; • Option B: TMZ in line with proposed wind turbine locations plus 2 NM buffer; and • Option C: TMZ with 2 NM buffer extended to align with Existing TMZs <p>It can be considered that the Do-Nothing option would have better met DP6 than the preferred option (Option C) as this option would not restrict non-transponder equipped aircraft from entering the airspace. However, the sponsor identified that this option was not viable as it did not mitigate against radar clutter, therefore, the developer would not be able to discharge the planning condition and the development would not be able to</p>	

	<p>progress.</p> <p>Similarly, it could be argued that Options A and B would have also better met DP6, when compared to Option C, as they both reduce the distance required for non-transponder equipped aircraft to transit around the TMZ. However, the sponsor sets out the rationale for rejecting these options as the 2 NM buffer around the RAG in order to provide sufficient reaction time for ATC to identify an infringement on the TMZ. Additionally, aligning the proposed TMZ with existing TMZs further enhances safety as the perimeters are more easily defined, thus reducing the possibility of an aircraft inadvertently infringing the TMZ. Option C was therefore taken forward by the sponsor as the preferred option.</p>	
6. Options Appraisal		Status
6.1	Have environmental impacts been adequately reflected and assessed in the Options Appraisal?	Partially
	<p>This ACP is assigned as a Level 2B and therefore the reduction of CO₂ is the environmental priority. For a Level 2B change where the impacts are negative, the fuel and CO₂ impacts should be assessed quantitatively. If the impacts are positive a qualitative assessment and explanation is adequate. For this ACP the CO₂ impacts have been assessed by the sponsor to be “negligible” on the basis that, although there is a minor increase in fuel burn for non-transponder equipped aircraft that may be required to route around the TMZ, it is estimated that <1% of traffic will be affected. The sponsor has therefore undertaken an assessment equivalent to a Level 2B change with a positive impact.</p> <p>In total three airspace design options were evaluated within the Initial Options Appraisal at Stage 2 (Develop and Assess) in addition to the Do-Nothing scenario. The Do-Nothing scenario was not progressed as it was not a feasible option. Options A, B and C, were a variation of the same technical solution (i.e. TMZ with RAG), therefore, the sponsor stated that “most of the impacts are the same for all options.”</p> <p>Regarding the sponsor’s greenhouse gas impact assessment, the level of analysis is quoted as “monetise and quantify”, however, this is only reported for the renewable energy generated by the wind farm instead of the impact to CO₂ emissions as a result of non-transponder equipped aircraft having to route around the TMZ. The sponsor concludes that the annual CO₂ benefits provided by the wind farm “far outweigh” any potential fuel burn costs to GA aircraft, which will be “negligible.” The energy generated by the proposed wind farm development is outside the scope of this ACP and is therefore not considered within this CAA Environmental Assessment and Statement. It should be noted that the sponsor does not assess the difference in fuel burn, and subsequent CO₂ emissions released, as a result of the varying sizes of the proposed TMZ for Options A, B and C. Option C was taken forward to consultation by the sponsor as it provided “safe and effective” mitigation against the radar issues associated with WTGs.</p> <p>The Full Options Appraisal for Option C continues to report the level of analysis as “monetise and quantify” for the greenhouse gas impact, reporting the renewable energy generated by the wind farm. The sponsor does however caveat that this wider benefit is enabled by, but not directly attributable to this proposal, and will only be realised if this ACP is implemented. The sponsor continues to provide a high-level qualitative CO₂</p>	

	<p>assessment regarding the impact to non-transponder equipped aircraft having to route around the TMZ, stating this impact as “negligible.” The Final Options Appraisal remained unchanged from that produced for the Full Options Appraisal at Stage 3.</p> <p>The sponsor did provide a high-level statement regarding the impact upon noise, concluding no impact as there are no proposed changes to air traffic patterns and that the proposal concerns offshore changes to airspace. Regarding air quality, the sponsor states no changes to aircraft trajectories below 1,000 ft but does not state the ACP’s impact on air quality as a result of this. However, as this is scaled as a Level 2B ACP as it is anticipated to impact airspace over the sea, there is no explicit requirement for the sponsor to assess local air quality as it is considered unlikely to have an impact. Additionally, there is no explicit requirement to assess noise, tranquillity and/or biodiversity.</p>	
6.2	<p>Is the final proposal as submitted to the CAA the airspace design option that also produced the best environmental impacts as assessed by the Options Appraisal? If not, does the rationale for selecting the preferred option adequately explain this choice?</p>	<p>Yes</p>
	<p>This ACP is assigned as a Level 2B and therefore the reduction of CO₂ impacts is the environmental priority. The best environmental impact is therefore determined by the CO₂ impact.</p> <p>In total three airspace design options were evaluated within the Initial Options Appraisal at Stage 2 (Develop and Assess), in addition to the Do-Nothing scenario. It could be argued that the Do-Nothing option would have provided the best environmental impact as this would not restrict non-transponder equipped aircraft from entering the airspace. However, this option was not viable as it did not mitigate against radar clutter. Similarly, Option A and B respectively could have produced better environmental impacts compared to Option C as they both reduce the distance required for non-transponder equipped aircraft to transit around the TMZ. However, the rationale for requiring a 2 NM buffer around the RAG is to provide sufficient reaction time for ATC to identify an infringement on the TMZ. Additionally, aligning the proposed TMZ with existing TMZs enhances safety as the perimeters are more easily defined, thus reducing the possibility of an aircraft inadvertently infringing the TMZ. Option C was therefore taken forward by the sponsor as the preferred option for this proposal.</p>	

7. Noise [for Level 1 and Level M1 airspace change proposals]		Status
7.1	Has the noise impact been adequately assessed and presented in both the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	N/A
	This ACP would only affect aircraft over the sea and is therefore assigned as a Level 2B where there is no requirement to assess noise.	
7.2	If a noise assessment has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	N/A
	This ACP would only affect aircraft over the sea and is therefore assigned as a Level 2B where there is no requirement to assess noise.	
7.3	Summary of anticipated noise impacts from the final proposed airspace change.	
	All noise impacts would occur over sea, therefore, it is unlikely that there will be a noise impact for stakeholders on the ground.	
8. CO₂ Emissions		Status
8.1	Has the impact on CO₂ emissions been adequately assessed and presented in both the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	Yes
	The sponsor has scaled the environmental assessment equivalent to a Level 2B change with a positive impact and therefore undertaken a qualitative assessment of CO ₂ impacts. It is understood from the submission that the majority of aircraft operating within the area will not be impacted by this change as they are equipped with a transponder. However, it should be noted that this ACP would impact non-transponder equipped aircraft which would be required to route around the TMZ. The sponsor analysed the region's PSR and SSR track returns for August 2019, which indicated that 7 PSR-only tracks passed through the region, equating to 0.7% or <2 PSR-only tracks per week. As a result of the percentage of traffic the sponsor anticipates being impacted by this change, the impact to CO ₂ emissions can be considered negligible. The impact on non-	

	transponder equipped aircraft has potential to be further mitigated if prior approval is granted to access the TMZ by the TMZ Controlling Authority.	
8.2	If an assessment of the impact on CO₂ emissions has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	Yes
	The sponsor has undertaken a high-level qualitative assessment of the impact on CO ₂ emissions, concluding a negligible impact, therefore the qualitative assessment provided by the sponsor is considered appropriate.	
8.3	Summary of anticipated impact on CO₂ emissions from the final proposed airspace change.	
	This ACP is likely to impact <1% of flights which has potential to be further mitigated if prior approval is granted to access the TMZ by the TMZ Controlling Authority. The CO ₂ impact as a result of this ACP is therefore considered negligible.	
9. Local Air Quality [for Level 1 and Level M1 airspace change proposals]		Status
9.1	Has the impact on Local Air Quality been adequately assessed and presented in both the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	N/A
	This ACP would only affect aircraft over the sea and is therefore assigned as a Level 2B where there is no requirement to assess local air quality.	
9.2	If an assessment of the impact on Local Air Quality has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	N/A

	The ACP is to establish a TMZ in an area that would only affect aircraft over the sea. It has therefore been assigned as a Level 2B where there is no requirement to assess local air quality.	
9.3	Summary of anticipated impact on Local Air Quality from the final proposed airspace change.	
	The ACP does not change aircraft trajectories below 1,000 ft above ground and all changes occur over sea, therefore, there is not expected to be an impact on local air quality. Due to the effects of mixing and dispersion, emissions from aircraft above 1,000 ft are unlikely to have a significant impact on local air quality.	
10. Tranquillity [for Level 1 and Level M1 airspace change proposals]		Status
10.1	With specific reference to Areas of Outstanding Natural Beauty and National Parks - Has the impact on tranquillity been adequately considered and presented in both the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	N/A
	This ACP would only affect aircraft over the sea and is therefore assigned as a Level 2B where there is no requirement to assess tranquillity.	
10.2	If consideration of the impact on tranquillity has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	N/A
	This ACP would only affect aircraft over the sea and is therefore assigned as a Level 2B where there is no requirement to assess tranquillity.	
10.3	Summary of anticipated impact on tranquillity from the final proposed airspace change.	
	It is unlikely that this ACP will have an impact on tranquillity as the proposal does not change routes or traffic patterns over an Area of Outstanding	

	Natural Beauty (AONB), National Scenic Area ⁵ or a National Park.	
11. Biodiversity [for Level 1 and Level M1 airspace change proposals]		Status
11.1	Has the impact on biodiversity been adequately assessed and presented in both the consultation material and the final submission to the CAA, taking account of scalability and proportionality?	N/A
	This ACP is assigned as a Level 2B where there is no requirement to assess biodiversity, therefore, no assessment regarding the impacts upon biodiversity has been provided by the sponsor. As per CAP1616 [pg. 162] <i>'Most airspace change proposals are unlikely to have an effect upon biodiversity and therefore the inclusion within the design principles is expected to be the full extent of any consideration in most instances'</i> .	
11.2	If assessment of the impact on biodiversity has not been undertaken by the sponsor, has this decision been adequately explained and evidenced in both the consultation material and the final submission to the CAA, and is the rationale reasonable?	N/A
	This ACP is assigned as a Level 2B, therefore there is no requirement to assess biodiversity. As per CAP1616: <i>"most airspace change proposals are unlikely to have an effect upon biodiversity and therefore the inclusion within the design principles is expected to be the full extent of any consideration in most instances"</i> .	
11.3	Summary of anticipated impact on biodiversity from the final proposed airspace change.	
	Aircraft which are transponder equipped will not be impacted by this ACP, however, it is estimated that <1% of flights could be affected by the necessity to carry a transponder and thus may be required to route around the TMZ unless prior approval is granted to access the TMZ by the TMZ Controlling Authority. Due to the number of aircraft potentially impacted by this ACP, it can be considered unlikely that there will be an impact upon biodiversity. As per CAP1616: <i>"most airspace change proposals are unlikely to have an effect upon biodiversity and therefore the inclusion within the design principles is expected to be the full extent of any consideration in most instances"</i> .	

⁵ National Scenic Areas (NSAs) are broadly equivalent to the Areas of Outstanding Natural Beauty found in England, Wales and Northern Ireland

12. Traffic Forecasts		Status
12.1	Have traffic forecasts been provided, are they reasonable, and have these been used to reflect the anticipated environmental impacts of the proposal?	N/A
	The sponsor states within the document <i>"Stage 3 Options Appraisal (Phase 2-Full)"</i> that the implementation of the TMZ will have no effect on commercial traffic growth, however, the sponsor also states that it is difficult to forecast future GA traffic as there is no requirement for these aircraft to file a flight plan or talk to ATC in uncontrolled airspace. However, as this proposal does not aim to increase traffic, and the CO ₂ impact has been assessed qualitatively, equivalent to a Level 2B ACP with a positive impact, it is considered acceptable that no traffic forecasts have been provided.	
13. Consultation		Status
13.1	Has the sponsor taken account of any environmental factors (noise, CO₂ emissions, Local Air Quality, tranquillity or biodiversity) raised by consultees or has evidence been provided to indicate why this has not been possible?	No
	During the consultation period a stakeholder identified the following potential impact: <i>"...increase in aircraft routing west and south of EGD703 if unable or unwilling to comply with TMZ entry requirements"</i> . It is considered that this potential increase in aircraft routing for non-transponder equipped aircraft, as suggested by the stakeholder, would result in increased fuel burn, CO ₂ impacts and potentially impact stakeholders on the ground. It is not apparent that the sponsor has provided a direct response to this comment, however, as stated in the document <i>'Options Appraisal (Phase 2 - Full)'</i> , the sponsor has undertaken a qualitative assessment of CO ₂ impacts concluding an overall negligible impact as less than 1% of flights would be affected by the ACP, and thus may be required to route around the TMZ. The sponsor does state that non-transponder equipped aircraft could still access the TMZ if prior approval is granted. Additionally, as stated in the final submission document, the sponsor concludes no local environmental impacts as the proposal concerns airspace over the sea, approximately 10 NM from the Caithness Coast. Given the number of aircraft the sponsor anticipates being impacted by this ACP, any adverse environmental impacts can be considered unlikely.	
13.2	Has the sponsor taken account of any consultation response submitted by ICCAN? If so, what are the outcomes?	N/A
	ICCAN did not provide a consultation response to this ACP.	

14. Public Evidence Session (if held)		Status
14.1	If a Public Evidence Session has been held, was any <u>new</u> evidence on potential environmental impacts presented?	N/A
	No public evidence session has been held for this change.	
14.2	If so, was the new evidence relevant and material to the CAA's consideration of the environmental impacts of the submitted airspace change proposal?	N/A
	No public evidence session has been held for this change.	
15. Compliance with policy and guidance from Government, ICCAN or the CAA		Status
15.1	Has the sponsor satisfied all relevant policy and/or guidance from either the Government, ICCAN or the CAA, with regards to environmental impacts of the proposed airspace change?	Yes
	The sponsor has satisfied all relevant environmental policy and guidance for an ACP of this nature. This ACP has potential to impact aircraft over the sea and has therefore been assigned as a Level 2B. The change sponsor has complied with all relevant requirements as listed within CAP 1616 for a Level 2B ACP, taking into consideration the DfT's Altitude-Based Priority, D, in which CO ₂ emissions were considered as an environmental factor.	
15.2	Has the sponsor adequately considered the DfT's Altitude-Based Priorities⁶?	Yes
	The sponsor has adequately considered the DfT's Altitude-Based Priorities. It should be noted that although this ACP is assigned as Level 2B, it has the potential to impact airspace below 7,000ft, however this occurs entirely over sea and therefore the environmental priority is the reduction of CO ₂ as	

⁶ Paragraph 3.3, DfT's Air Navigation Guidance 2017

	per Altitude-based Priority D. The sponsor has adequately considered the impact on CO ₂ emissions as a result of the proposed TMZ through the use of a qualitative assessment, concluding a negligible impact.	
16. Other aspects		Status
16.1	Are there any other aspects of the airspace change proposal that have not already been addressed in this report but that may have a bearing on the environmental impact?	No
	None.	
17. Recommendations/Conditions/PIR Data Requirements		Status
17.1	Are there any Recommendations which the change sponsor <u>should try</u> to address either before or after implementation (if approved)? If yes, please list them below.	Yes
	In-line with the government's key environmental objective B, as detailed within the Air Navigation Guidance 2017, to ensure that the aviation sector makes a significant and cost-effective contribution towards reducing global emissions, it is recommended that the sponsor provides a service that will enable non-TMZ compliant aircraft to request prior access to enter the TMZ.	
17.2	Are there any Condition(s) which the change sponsor <u>must fulfil</u> either before or after implementation (if approved)? If yes, please list them below.	No
	None.	
17.3	Are there any specific requirements in terms of the data to be collected by the change sponsor for the Post Implementation Review (if approved)? If yes, please list them below.	Yes
	For this ACP it is recommended that the sponsor starts to collect the following information from the date of implementation for the Post Implementation Review: <ul style="list-style-type: none"> To monitor the volume and increase track mileage of aircraft unable to transit the TMZ and therefore required to route around. This requirement is in order to ensure there are no unforeseen increases to CO₂ emissions. 	

18. Summary of Assessment of Environmental Impacts & Conclusions

Moray Offshore Wind Farm (West) Ltd. (MOWWL) is proposing to develop an offshore wind farm within the Moray Firth, adjacent to the Beatrice and Moray East offshore wind farms, 22.5 km and 24 km from the Caithness and Aberdeenshire coastlines respectively. The proposed development would contain up to 85 wind turbine generators (WTGs) and cover an area of approximately 225 km².

To mitigate the risk of false radar returns caused by WTGs, this ACP proposes to deploy a Radar Range Azimuth Gating (RAG) over the area of the wind farm before it is constructed. As the implementation of a RAG would also remove genuine aircraft operations from radar, a TMZ is also required around the RAG so that aircraft remain visible to Air Traffic Control (ATC) through Secondary Surveillance Radar (SSR). The TMZ would include a 2 NM buffer in order to provide sufficient reaction time for ATC to identify an infringement and would align with existing TMZs in the area to reduce the possibility of an aircraft inadvertently infringing the TMZ.

Given that the TMZ is entirely over the sea it is unlikely that there will be any adverse impact to noise, local air quality, biodiversity or tranquillity. Furthermore, as this ACP has been designated as a Level 2B, there is no requirement to carry out an assessment of these environmental impacts. The environmental priority for this ACP is therefore CO₂ emissions. The majority of aircraft operating within the area will not be impacted by this change as they are equipped with appropriate transponder technology. The volume of traffic unable to transit the TMZ due to the lack of an appropriate transponder is approximately 0.7% of flights in the area and therefore any potential impact on CO₂ emissions is considered negligible. Additionally, the impact on non-transponder equipped aircraft has potential to be further mitigated if prior approval is granted to access the TMZ by the TMZ Controlling Authority.

Environmental assessment and statement sign-off and approval

Environmental assessment and statement completed by:	<i>Airspace Regulator (Environment)</i>		02/07/2021
Environmental assessment and statement approved by:	<i>Airspace Regulator (Environment)</i>		06/07/2021

Manager Airspace Regulation – Approval

Name	Signature	Date
█	█	29/07/2021