



Marine  
Management  
Organisation

Marine Licensing T +44 (0)300 123 1032  
Lancaster House [www.gov.uk/mmo](http://www.gov.uk/mmo)  
Hampshire Court  
Newcastle upon Tyne  
NE4 7YH

Morecambe Offshore Windfarm Generation Assets Case Team  
Planning Inspectorate  
Morecambeoffshorewindproject@planninginspectorate.gov.uk  
**(Email only)**

MMO Reference: DCO/2022/00001  
Planning Inspectorate Reference: EN010121  
Identification Number: 20049449

**26 November 2024**

Dear Robert Jackson,

**Planning Act 2008, Floatation Energy, Proposed Morecambe Offshore Wind Farm Generation Assets**

**Deadline 1 Submission**

On 27 June 2024 the MMO received notice under Section 56 of the Planning Act 2008 (the PA 2008) that the Planning Inspectorate (PINS) had accepted an Application made by Morecambe Offshore Windfarm Ltd (the Applicant) , for determination of a development consent order (DCO) for the construction, maintenance and operation of the proposed Morecambe Offshore Windfarm (the Application) (MMO reference DCO/2022/00001, PINS reference EN010121).

The Application seeks authorisation for the construction, operation and maintenance of Morecambe Offshore Generation Assets. The proposal is located 30 kilometres (km) from the Lancashire coast, England. The windfarm Agreement for Lease area awarded by The Crown Estate spans 125 km squared (km<sup>2</sup>) . The proposed windfarm site development area has been reduced to approximately 87km<sup>2</sup>. All project infrastructure will be located within the 87km<sup>2</sup> windfarm site. The project consists of up to 35 Wind Turbine Generators (WTGs), up to two Offshore substations (OST), their associated foundations and platform link cables. Inter-array cables. Scour protection around foundations and subsea cable protection where required.

One Deemed Marine Licence (DML) is included in the draft DCO. The DML relates to offshore (WTG) and Associated Infrastructure and Associated Development.



As a marine licence has been deemed within the draft DCO, the MMO is the delivery body responsible for post-consent monitoring, variation, enforcement, and revocation of provisions relating to the marine environment. As such, the MMO has an interest in ensuring that provisions drafted in a deemed marine licence enable the MMO to fulfil these obligations.

This document comprises the MMO's submission for Deadline 1.

This written representation is submitted without prejudice to any future representation the MMO may make about the DCO Application throughout the examination process. This representation is also submitted without prejudice to any decision the MMO may make on any associated application for consent, permission, approval or any other type of authorisation submitted to the MMO either for the works in the marine area or for any other authorisation relevant to the proposed development.

Yours sincerely



Victoria Hindmarsh

Marine Licensing Case Officer

D +44 ( [REDACTED] )

E [REDACTED]@marinemanagement.org.uk



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## 1. Comments on Relevant Representations from other Interested Parties

### 1.1. General Comments

1.1.1. The MMO has reviewed the Relevant Representations (RR) of a number of parties and provided initial comments below. The MMO notes that a number of comments have been raised in relation to shipping, radar and impact to other industries. The MMO hopes the Applicant can resolve these comments and defers to the Interested Parties. The MMO will maintain a watching brief for any concerns where DML conditions may be required.

### 1.2. Corporation of Trinity House of Deptford Strond (Corporation of Trinity House of Deptford Strond) RR-018

1.2.1 The MMO notes that Trinity House may have further comments to make on the Application and the draft DCO. The MMO will keep a watching brief on any comments.

### 1.3. Historic England (HE) RR-030

1.3.1. The MMO notes that HE commented on the presence of unidentified obstructions within the proposed array area that may be of archaeological interest. HE notes that post submission/consent and pre-construction geophysical and geotechnical surveys will be undertaken and that HE will be consulted on this. From this appropriate mitigation measures will be selected. The MMO is in support of this.

1.3.2. HE has raised concerns in regard to the determination of residual effects and the reliance on embedded mitigation measures. HE does not agree with the downgrading of residual impact and the concluding residual effects as 'not significant' in the Environmental Impact Assessment (EIA). The MMO hopes this issue will be addressed during Examination.

1.3.3. The MMO supports HE's confirmation that a Written Scheme of Investigation (WSI) is required, as conditioned within the Deemed Marine Licence (Schedule 6) of the draft DCO.

1.3.4. The MMO notes that HE will provide further comments through their Written Representation for any other matters that are relevant to the historic environment. The MMO will keep a watching brief on this.

### 1.4. Maritime and Coastguard Agency (MCA) RR-048

1.4.1. The MMO welcomes the MCA's confirmation that the MCA will be responding on matters concerning the safety of maritime navigation and maritime Search and Rescue, and the Navigation Risk Assessment, Shipping and Navigation chapter of the EIA Report. The MMO notes that the MCA have concerns regarding vessel routing, vessels' ability for continued safe passage, that risks to all vessels and craft are at an acceptable level, and the project is not at the detriment to the provision of Search and Rescue, and other emergency response. The MMO hopes to see these





issues addressed and is working with MCA to understand how these are captured within the DML.

1.4.2. The MMO is currently discussing any updates to the DML with MCA.

### **1.5. National Federation of Fisherman's Organisations (NFFO) RR-059**

1.5.1. The MMO notes that this RR is a joint submission from both NFFO and Welsh Fishermen's Association (WFA-CPC).

1.5.2. The MMO acknowledges concerns raised regarding additional loss of space for fishing activities in an area already faced with extensive spatial restrictions such as existing offshore wind developments, offshore cables, Marine Protected Areas and legislative restrictions in the region. The MMO is aware that further displacement could cause economic harm, through loss of earnings from the ground and additional operating costs, due to increased steaming times during construction and operation of the project, as well as contributing to the spatial squeeze on fisheries in the region.

1.5.3. The MMO notes that the NFFO has concerns regarding the lack of contemporary and site-specific data presented in the fish and ecology assessments and a lack of focus on key commercial species. The MMO will review the Applicant's response in relation to this and may provide further comments at Deadline 2.

1.5.4. The MMO notes the NFFO's concerns regarding the assumption that commercial fisheries, specifically mobile gear will be able to return to the area post construction and that there will be no displacement effects observed during construction for all the different fishing gear sectors. The NFFO believes this is an underestimate. The MMO will maintain a watching brief on this issue.

1.5.5. The NFFO welcomes the development of a Fisheries Liaison and Co-existence Plan. The MMO is in support of this and will provide comments on this document at Deadline 2.

1.5.6. The MMO supports the NFFO's request that a Statement of Common Ground be required to ensure that the fisheries concerns, that to date have not been accounted for, are considered during the decision to consent the Morecambe Generation Assets project.

### **1.6. Natural England RR-061**

1.6.1. The MMO is aware that there remain unresolved issues that centre around protected sites and that on the basis of the information submitted, NE, as the competent authority (Conservation of Habitats and Species Regulations 2017), is not satisfied that it can be excluded beyond reasonable scientific doubt that the project would have an adverse effect alone or in-combination on the integrity of the following sites:

- Liverpool Bay Special Protection Area (SPA) UK9020294A
- Morecambe Bay and Duddon Estuary SPA UK9020326, and Ramsar site
- Ribble and Alt Estuaries SPA UK9005103, and Ramsar site



- 1.6.2 The MMO defers to NE on matters related to HRA. The MMO will maintain a watching brief on these matters and will ensure we are included/are provided updates on any discussions in relation to the HRA. The MMO highlights that any mitigation secured through the HRA will need to be included within the conditions on the DML.
- 1.6.3 The MMO notes NE's comment regarding consideration for the need for European Protected Species (EPS) licences in relation to the marine species. NE highlight that the MMO is responsible for wildlife licensing of activity in English waters. The MMO notes that the onus is on the Applicant to determine if a wildlife licence is required. The MMO would also highlight that if a marine licence is required that a separate licence will be required once the impact to a marine species is further identified.
- 1.6.4 The MMO notes that NE have engaged and provided advice to the Applicant regarding seascape, landscape and visual impact assessment (SLVIA) and that NE have no major remaining concerns on the impact of the proposal on SLVIA. The MMO defers to NE and the Local Planning Authority (LPA) on this topic.
- 1.6.5 The MMO notes NE's concerns regarding the Cumulative Effects Assessment (CEA), regarding the proposed separate DCO applications for 'Generation Assets' and Transmission Assets'.
- 1.6.6 The MMO notes NE's decision to use the 'Red Amber Green' (RAG) system to denote the level of risk associated with a topic related to this development. The MMO welcomes NE's use of this system and considers it a clear and concise way to present the severity of an outstanding concern.
- 1.6.7 Development Consent Order (DCO) and Deemed Marine Licence (DML)
- 1.6.8 The MMO notes the comments raised in relation to the construction noise monitoring condition and is currently reviewing the condition in consultation with relevant consultees and will provide updates in due course.
- 1.6.9 The MMO agrees that monitoring of benthic, ornithological and marine mammals should be secured through appropriate conditions.
- 1.6.10 Offshore Ornithology
- 1.6.11 The MMO notes NE's concerns regarding the robustness of the Cumulative Effects Assessment methodology. NE advises that a full quantitative assessment should be presented, following the method previously supplied to the Applicant by NE. The MMO defers to NE regarding matters relating to ornithology and supports NE's request to update the assessments as required.
- 1.6.12 NE has raised concerns regarding red-throated dive at Liverpool Bay SPA. NE does not agree that adverse effects on the integrity of Liverpool Bay SPA can be ruled out due to displacement impacts on Red Throated Diver (RTD). The MMO defers to NE regarding ornithological issues.



1.6.13 The MMO notes NE's concerns regarding adverse effects on the lesser black-backed gull at Morecambe Bay and Duddon Estuary SPA and Ribble and Alt Estuary SPA, due to in-combination collision impacts. The MMO defers to NE on ornithological matters and supports NE's advice that the Applicant's assessments should be updated.

#### 1.6.14 Marine Mammals

1.6.15 The MMO supports NE's recommendation that the Applicant should fully commit to using Noise Abatement Systems (NAS) as mitigation to reduce both injury and disturbance to marine mammal receptors during construction activities. The MMO would highlight that policy is leading to the requirement for all projects with noisy activities to have NAS and would strongly suggest this is considered as part of the Application.

#### 1.6.16 Benthic Ecology and Physical Processes

1.6.17 The MMO notes NE's concerns regarding the assessment of impacts to benthic habitats and physical processes. NE have said that this is incomplete as potential impacts from seabed preparation works have not been fully considered within the assessment. The MMO supports NE's recommendation that the Applicant should provide an updated assessment of impacts on physical processes and benthic ecology.

### 1.7. North West Wildlife Trusts (NWWT) RR-065

1.7.1 The MMO notes that the NWWT is supportive of offshore wind generation, but the development must not come at the expense of nature.

1.7.2 The MMO notes the NWWT's disappointment that a future monitoring plan of many of the ecological receptors has not been embedded into the project to validate the predictions in the ES and inform future projects.

1.7.3 The MMO notes the NWWT's comment regarding minimising ornithological impacts through the project design and best use of technology. The MMO defers to NE on ornithological issues.

1.7.4 The MMO notes the NWWT's concerns regarding the number of proposed offshore wind farms in the eastern part of the Irish Sea, with potential for significant barrier effects. The MMO will maintain a watching brief of these concerns and will look to see resolutions on these points.

### 1.8. Representation by The UK Chamber of Shipping (The UK Chamber of Shipping) (UKCOS) RR-084

1.8.1. The MMO notes UKCOS support of the Government's obligations to achieve Net Zero Carbon by 2050 and welcomes the development of offshore renewable energy to succeed in this obligation.





- 1.8.2. The MMO acknowledges the UKCOS stance in seeking to ensure navigational safety is upheld, and that developments are appropriately positioned to enable existing and future commercial navigation to continue safely and efficiently.
- 1.8.3. The MMO notes UKCOS concerns regarding ongoing cumulative concerns relating to safety, deviation, scheduling and negative environmental impact upon the shipping industry from the revised Red Lind Boundary (development area), along with potential negative economic impact to island communities which need full consideration.
- 1.8.4. The MMO welcomes the UKCOS' request provide further representation regarding navigational safety and impact upon commercial routeing at Examination where appropriate. The MMO will maintain a watching brief on this.

### **1.9. Royal Society for the Protection of Birds (RSPB) RR-073**

- 1.9.1. The MMO notes that the RSPB's comment regarding uncertainty throughout the impact assessments, which the RSPB notes does not fully capture the complexity of seabird behavioural or demographic processes in a dynamic marine environment.
- 1.9.2. The RSPB notes that if precautionary approach is taken from the beginning, the likelihood of irreversible damage occurring is reduced even whilst our knowledge base is incomplete, and modelling improves. The precautionary principle requires the Applicant to demonstrate with scientific certainty that something would not be harmful. The MMO is in support of a precautionary approach.
- 1.9.3. The RSPB has significant methodological concerns with the Applicant's assessment and currently are unable to reach conclusions with regard to the significance of predicted impacts and have significant concerns relating to the project's in-combination and cumulative collision risk and displacement impacts.
- 1.9.4. The MMO notes the RSPB's concerns regarding impacts not being adequately assessed and, as such consider Adverse Effect on Integrity cannot be ruled out beyond reasonable doubt for collision impacts arising through the project alone and in combination with other projects.
- 1.9.5. The MMO will maintain a watching brief of these concerns and will look to see resolution on these points. The MMO defers to NE for matters relating to ornithology.





## 2. Comments on Pre-Examination Procedural Deadline Submissions

### 2.1. PD1-011 The Applicant's Response to Relevant Representations

2.1.1. The MMO acknowledges the submission of this response and will provide further comments at Deadline 2 and throughout the examination process. The MMO has added comments in Table 1 for ease of viewing.

**Table 1: MMO Response to Applicants Pre-Examination Procedural Deadline Submission**

Applicant's Reference	Relevant Representation Comment	Applicant's Response	MMO's Deadline 1 response
RR-047-01	<p>Planning Act 2008, bp Alternative Energy Investments Ltd, Proposed Morgan Offshore Windfarm Generation Assets Order This document comprises the Marine Management Organisation's ("MMO") initial comments in respect of the above Development Consent Order application ("DCO Application") in the form of a relevant representation. This is</p> <p>without prejudice to any future representation the MMO may make about the DCO Application throughout the Examination process. This is also without prejudice to any decision the MMO may make on any associated application for consent, permission, approval or any other type of authorisation submitted to the MMO either for the works in the marine area or</p> <p>for any other authorisation relevant to the proposed development.</p>	<p>The Applicant notes this response. Please also note that the Development Consent Order (DCO) Application seeks authorisation for the construction, operation and maintenance of Morecambe Offshore Windfarm Generation Assets and not the proposed Morgan Offshore Windfarm Generation Assets, as described in the Marine Management Organisation (MMO) response.</p>	<p>The MMO confirms that the DCO seeks authorisation for the construction, operation and maintenance of Morecambe Offshore Windfarm Generation Assets and not the proposed Morgan Offshore Windfarm Generation Assets, as described in the MMO response.</p>

RR-047-02	The MMO was established by the Marine and Coastal Access Act 2009 (the “2009 Act”) to make a contribution to sustainable development in the marine area and to promote clean, healthy, safe, productive and biologically diverse oceans and seas.	The Applicant notes this response.	The MMO has no further comments on this point.
RR-047-03	The responsibilities of the MMO include the licensing of construction works, deposits and removals in English inshore and offshore waters and for Northern Ireland offshore waters by way of a marine licence. Inshore waters include any area which is submerged at mean high water spring (“MHWS”) tide. They also include the waters of every estuary, river or channel where the tide flows at MHWS tide. Waters in areas which are closed permanently or intermittently by a lock or other artificial means against the regular action of the tide are included, where seawater flows into or out from the area.	The Applicant notes this response.	The MMO has no further comments.
R-047-04	In the case of NSIPs, the Planning Act 2008 (the “2008 Act”) enables DCO’s for projects which affect the marine environment to include provisions which deem marine licences. As a prescribed consultee under the 2008 Act, the MMO advises developers during pre-application on those aspects of a project that may have an impact on the marine area or those who use it. In addition to considering the impacts of any construction, deposit or removal within the marine area, this also includes assessing any risks to human health,	The Applicant notes this response.	The MMO has no further comments.

	<p>other legitimate uses of the sea and any potential impacts on the marine environment from terrestrial works.</p>		
RR-047-05	<p>Where a marine licence is deemed within a DCO, the MMO is the delivery body responsible for post-consent monitoring, variation, enforcement and revocation of provisions relating to the marine environment. As such, the MMO has a keen interest in ensuring that provisions drafted in a deemed marine licence (“DML”) enable the MMO to fulfil these obligations.</p> <p>Further information on licensable activities can be found on the MMO’s website here. Further information on the interaction between the Planning Inspectorate and the MMO can be found in our joint advice note 11 Annex B here.</p>	The Applicant notes this response.	The MMO has no further comments.
RR-047-06	<p>On the 28 June the MMO received notice under Section 56 of the Planning Act 2008 (the “PA 2008”) that the Planning Inspectorate (“PINS”) had accepted an application made by bp Alternative Energy Investments Ltd, (the “Applicant”) for a DCO Application (MMO ref: DCO/2022/00001 PINS ref: EN010121). The DCO Application includes a draft development consent order (the “DCO”) and an Environmental Statement (the “ES”). The draft DCO includes, at Schedule 6 draft Deemed Consent under Part 4 (Marine Licensing) of the Marine and Coastal</p>	<p>Noted, please also note that the Applicant here is Morecambe Offshore Windfarm Ltd and not bp Alternative Energy Investments Ltd (bp) as described, and the DCO Application seeks authorisation for the construction, operation and maintenance of Morecambe Offshore Windfarm Generation Assets.</p>	<p>The MMO notes that the Applicant is Morecambe Offshore Windfarm Ltd and will ensure this is reflected in future representations.</p>

	<p>Access Act 2009 (the “Deemed Marine Licence”) (DML). The DCO Application seeks authorisation for the construction, operation and maintenance of Morecambe Offshore Windfarm Generation Assets located approximately 30 kilometres (km) from the Lancashire coast; comprising of up to 35 wind turbine generators, all associated array area infrastructure and all associated development (“the Project”). Please find the MMO comments below.</p>		
RR-047-07	<p>Morecambe Offshore Windfarm Generation Assets is a proposed offshore windfarm located approximately 30 kilometres (km) from the Lancashire coast, England.</p>	The Applicant notes this response.	The MMO has no further comments.
RR-047-08	<p>The windfarm Agreement for Lease area awarded by The Crown Estate spans 125 km<sup>2</sup>. The proposed windfarm site development area has been reduced to approximately 87km<sup>2</sup>. All project infrastructure will be located within the 87km<sup>2</sup> windfarm site. The project consists of up to 35 Wind Turbine Generators (WTGs), up to two Offshore substations (OST), their associated foundations and platform link cables. Inter-array cables. Scour protection around foundations and subsea cable protection where required.</p>	The Applicant notes this response.	The MMO has no further comments.
RR-047-09	<p>One DML is included in the draft DCO. The DML relates to offshore (WTG) and Associated Infrastructure and Associated Development.</p>	The Applicant notes this response.	The MMO has no further comments.



Draft DCO			
RR-047-10	MMO has reviewed the draft DCO and provided comments below. MMO are currently undertaking a detailed review and will produce further comments on the DCO at Deadline 1 and during the course of the examination.	The Applicant notes this response and looks forward to receiving further comments on the draft DCO and Deemed Marine Licence (DML) at Deadline 1.	The MMO is reviewing all comments and the DCO and will provide comments for Deadline 2. The MMO will provide these earlier to the Applicant where possible to ensure conversations can continue outside of the written process.
RR-047-11	The MMO requests that the details of licensed marine activities of the DML should include exact coordinates.	The revised draft DML submitted as part of the Draft DCO at Procedural Deadline A has added exact coordinates.	The MMO welcomes this update.
RR-047-12	Section 2(d) states:  'the removal of sediment samples for the purposes of informing environmental monitoring under this licence during pre-construction, construction and operation'  The MMO notes that geophysical surveys may require a separate licence. If so the wording in 2(d) must be clear that such activities are excluded from this licence	The Applicant notes that the removal of sediment samples was included in section 2 in error and, as such, this has been deleted in the revised draft DML submitted at Procedural Deadline A.	The MMO welcomes this update noting that if these surveys were assessed within the ES then this could be part of the DML, it would just have to be clear within the DML when commencement begins in relation to the surveys and when method statements would be agreed and how the conditions are worded for any submissions post consent.
RR-047-13	Section 8 states:  "With respect to any condition which requires the licensed activities be carried out in accordance with the details, plans or schemes approved under this licence, the approved details, plans or schemes are taken to include any amendments that may	The Applicant considers that this additional text is not required as it is secured by paragraph 9(1) of Part 1 (Licensed marine activities of Schedule 6 (Deemed Marine Licence under the 2009 Act: Morecambe Offshore Windfarm Generation Assets) to the draft DCO (APP-012).	The MMO notes the Applicant's response and will provide an update at Deadline 2.

	<p>subsequently be approved in writing by the MMO”</p> <p>MMO recommends that the following be included in addition: “subsequent to the first approval of those plans, protocols or statements provided it has been demonstrated to the satisfaction of the MMO that the subject matter of the relevant amendments do not give rise to any materially new or materially different environmental effects to those assessed in the environmental information.”</p>		
RR-047-14	<p>Details of the marine license activities 9(1) states:</p> <p>“Any amendments to or variations from the approved details, plans or schemes must be in accordance with the principles and assessments set out in the environmental statement. Such agreement may only be given where it has been demonstrated to the satisfaction of the MMO that it is unlikely to give rise to any materially new or materially different environmental effects from those assessed in the environmental statement.”</p> <p>Due to a lack of regulatory certainty and risk of applying lower standards than those approved in the environmental statements the above wording should be amended to the following:</p> <p>“Any amendments to or variations from the approved details, plans or schemes</p>	<p>The Applicant does not consider that the wording proposed in paragraph 9(1) of Part 1 (Licensed marine activities of Schedule 6 (DML under the 2009 Act: Morecambe Offshore Windfarm Generation Assets) to the draft DCO (APP-012) lacks regulatory certainty or risks applying a lower standard than those approved in the Environmental Statement (ES). The proposed condition reflects the wording used in the environmental impact assessment process (of ‘likely’ significant effects).</p> <p>Additionally, the wording of paragraph 9(1) proposed by the Applicant reflects the wording used in other offshore wind precedents, including the Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024, the East</p>	<p>The MMO notes the Applicant’s response and will provide further comment at Deadline 2.</p>

	<p>must be in accordance with the principles and assessments set out in the environmental statements. Such agreement may only be given where it has been demonstrated to the satisfaction of the MMO that it will not give rise to any materially new or materially different environmental effects from those assessed in the environmental statement.”</p>	<p>Anglia ONE North Offshore Wind Farm Order 2022, the East Anglia TWO Offshore Wind Farm Order 2022, the Norfolk Vanguard Offshore Wind Farm Order 2022 and the Norfolk Boreas Offshore Wind Farm Order 2021.</p>	
RR-047-15	<p>The MMO requests that the conditions include a sediment sampling plan.</p>	<p>As noted in the Sediment Disposal Site Characterisation Report (APP-024), the Applicant plans to designate the entirety of the windfarm site as a disposal area. The Sediment Disposal Site Characterisation Report (APP-024) includes details on sampling that was carried out during the pre-application process. No further sampling is considered to be required.</p> <p>As such, the Applicant does not consider that a DML condition is required.</p>	<p>The MMO notes the Applicant’s response.</p> <p>This point as been discussed in meetings held with the Applicant and the MMO.</p> <p>The MMO intends to work with the Applicant to designate a disposal area and has requested shape files of the locations.</p>
RR-047-16	<p>The MMO requests that a reporting condition in relation to ‘Reporting of Impact Pile Driving/Detonation of Explosives’ for reporting to the Marine Noise Registry is included.</p>	<p>The Applicant has added a new condition 19 (Marine Noise Registry) in the DML submitted with the updated draft DCO at Procedural Deadline A. As unexploded ordnance clearance and detonation of explosives are not licensable activities for the purposes of the application, the proposed reporting condition is in only in relation to pile driving.</p>	<p>The MMO welcomes this update in regard to impact pile driving and agrees with the removal of detonations of explosives.</p> <p>Further discussion has taken place with JNCC in relation to the noise registry conditions and we are just confirming if a slightly updated condition needs to be included in DMLs. Once we have this information we will provide this to</p>

			the Applicant and request this is updated as part of the Examination.
RR-047-17	<p>Condition 2(3) states:</p> <p>“No maintenance works authorised by this licence may be carried out until an offshore operation and maintenance plan substantially in accordance with the outline offshore operation and maintenance plan has been submitted to and approved by the MMO in writing”</p> <p>The MMO notes that whilst it is helpful that the maintenance plan must be approved by the MMO, it does not indicate that the maintenance works should be undertaken in accordance with this. The MMO request that the additional wording is included for confirmation:</p> <p>“All maintenance works must be carried out in accordance with the approved operations and maintenance plan unless otherwise agreed in writing by the MMO.”</p>	<p>This has been added (with a minor change to refer to the ‘offshore operation and maintenance plan’ to reflect the document title) as a new sub-paragraph (4) to Condition 2 of the DML submitted with the updated draft DCO at Procedural Deadline A.</p>	<p>The MMO welcomes this update.</p>
RR-047-18	<p>Condition 7(6) states: “The undertaker must ensure that any rock material used in the construction of the authorised project is from a recognised source, free from contaminants and containing minimal fines.”</p> <p>The MMO requests the following is included in addition:</p> <p>“Details of the source of the rock materials to be used must be submitted</p>	<p>The Applicant does not consider that condition 7(6) requires to be updated.</p> <p>The wording of condition 7(6) reflects the wording used in other offshore wind precedents, including the Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024, the East Anglia ONE North Offshore Wind</p>	<p>The MMO notes the Applicant’s response and will provide an update at Deadline 2.</p>



	<p>to the MMO at least six weeks prior to the commencement of the licenced activity. The licenced activity [or specific activity]</p> <p>must not commence until written approval is provided by the MMO”</p>	<p>Farm Order 2022, the East Anglia TWO Offshore Wind Farm Order 2022, the Norfolk Vanguard Offshore Wind Farm Order 2022 and the Norfolk Boreas Offshore Wind Farm Order 2021.</p>	
RR-047-19	<p>Condition 7(10) states:</p> <p>“All dropped objects which may reasonably be expected to cause a hazard in the marine environment must be reported to the MMO using the Dropped Object Procedure Form as soon as reasonably practicable and in any event within 24 hours of the undertaker becoming aware of an incident. On receipt of the Dropped Object Procedure Form the MMO may require relevant surveys to be carried out by the undertaker (such as side scan sonar) if reasonable to do so and the MMO may require obstructions to be removed from the seabed at the undertaker’s expense if reasonable to do so.”</p> <p>The MMO requests condition 7(10) is amended to the following: “(1) The undertaker must report all dropped objects to the MMO using the dropped object procedure form as soon as reasonably practicable and in any event within 24 hours of becoming aware of an incident.</p> <p>(2) On receipt of the dropped Object Procedure Form, the MMO may require,</p>	<p>Applicant does not consider that condition 7(10) requires to be updated.</p> <p>Noting that the MMO’s preferred wording has been included in several offshore wind DMLs, the Applicant considers that the wording proposed by the MMO is too wide. It places an unnecessary burden on the Applicant to report even minor, immaterial instances of dropped objects. The Applicant considers a pragmatic and proportionate approach must be taken and only considers dropped objects which may reasonably be expected to cause a hazard in the marine environment to be those to which the MMO’s dropped objects procedure should apply.</p>	<p>The MMO notes the Applicant’s response and will provide an update at Deadline 2.</p>

	<p>acting reasonably, the undertaker to carry out relevant surveys. The undertaker must carry out surveys in accordance with the MMO's reasonable requirements and must report the results of such surveys to the MMO.</p> <p>Receipt of such survey results, the MMO may, acting reasonably, require the undertaker to remove specific obstructions from the seabed. The undertaker must carry out removals of specific obstructions from the seabed in accordance with the MMO's reasonable requirements and at its own expense."</p>		
RR-047-20	<p>The MMO does not consider that condition 8 Force majeure is necessary as it duplicates section 86 of the 2009 Act. The defence under Section 86 of MCAA has two limbs, and in the event that the undertaker fails to notify the appropriate licensing authority, in this case the MMO, within a reasonable time of their actions (Section 86(2) "matters") the defence cannot be relied upon in the event of any enforcement action. Therefore, the MMO recommends that this condition should be removed.</p> <p>In the event that you maintain that the proposed provision does not duplicate Section 86 MCAA and instead introduces a reporting requirement which did not previously exist, the MMO require that it should be made clear that this provision is in addition to Section 86 and its requirements. If this is included</p>	<p>Condition 8 (force majeure) serves a slightly different purpose to section 86 of the Marine and Coastal Access Act 2009. Condition 8 imposes a duty on the undertaker to notify the MMO of the circumstances of such a deposit. This ensures that the MMO is provided with that information. Section 86 of the 2009 Act does not contain any such duty. It simply acts as a defence in the event a person is charged with an offence. The Applicant has added a new sub-paragraph (2) to include the wording proposed by the MMO in the version of the DML submitted with the updated draft DCO at Procedural Deadline A.</p>	<p>The MMO welcomes this update and will provide further comment in due course.</p>

	<p>the follow paragraph must also be included:</p> <p>“The unauthorised deposits must be removed at the expense of the undertaker unless written approval is obtained from the MMO.”</p>		
RR-047-21	<p>The MMO requests that the inclusion of archaeological reports in within condition 9. The correct statutory historical body should be included as well as details of what the report should include.</p>	<p>Condition 9(1)(f) (pre-construction plans and documentation) requires the submission and approval of an offshore archaeological Written Scheme of Investigation (WSI) (in accordance with the outline offshore WSI (APP-154)). This includes archaeological reports (sub-paragraph (vii)) and also makes provision for Historic England to be notified (sub-paragraph (vi)). The Applicant does not consider that any further text is needed.</p>	<p>The MMO notes the Applicant’s response and the inclusion of this condition.</p> <p>The MMO has no further comments at this time.</p>
RR-047-22	<p>Condition 13 states:</p> <p>“The undertaker must provide the following information in writing to the MMO— (a) the name, function, company number (if applicable), registered or head office address (as appropriate) of any agent or contractor appointed to engage in the licensed activities within seven days of appointment; and (b) each week during the construction of the authorised project a completed Hydrographic Note H102 listing the vessels currently and to</p>	<p>The Applicant has amended condition 13 to reflect the wording that the MMO has proposed, subject to other amendments made for consistency with the existing text of condition 13. This has been incorporated in the version of the DML submitted with the updated draft DCO at Procedural Deadline A.</p>	<p>The MMO welcomes this update.</p>

	<p>be used in relation to the licensed activities.”</p> <p>The MMO suggests the condition 13(1) is amended to the following for clarity:  “The undertaker must provide the name, address and function of any agent, contractor or subcontractor that will carry out any licenced activity listed in this license on behalf of the undertaker to the MMO in writing no less than 24 hours before the agent, contractor or subcontractor carries out any licensed activity.</p> <p>Any changes to the name and function of the specified agent, contractor or subcontractor that will carry out the specified licenced activities must be notified to the MMO in writing prior to the agent, contractor or subcontractor carrying out the licensed activity.</p> <p>The undertaker must ensure that a copy of this licence and any subsequent revisions or amendments has been provided to any agents, contractors or subcontractors that will carry out the licensed activity on behalf of the undertaker prior to them carrying out any licensed activity.”</p>		
RR-047-22	Condition 13 states:	The Applicant has amended condition 13 to reflect the wording that the MMO has proposed,	The MMO welcomes this update.



	<p>“The undertaker must provide the following information in writing to the MMO—</p> <p>(a) the name, function, company number (if applicable), registered or head office address (as appropriate) of any agent or contractor appointed to engage in the licensed activities within seven days of appointment; and (b) each week during the construction of the authorised project a completed Hydrographic Note H102 listing the vessels currently and to be used in relation to the licensed activities.”</p> <p>The MMO suggests the condition 13(1) is amended to the following for clarity: “The undertaker must provide the name, address and function of any agent, contractor or subcontractor that will carry out any licenced activity listed in this license on behalf of the undertaker to the MMO in writing no less than 24 hours before the agent, contractor or subcontractor carries out any licensed activity.</p> <p>Any changes to the name and function of the specified agent, contractor or subcontractor that will carry out the specified licenced activities must be notified to the MMO in writing prior to the agent, contractor or subcontractor carrying out the licensed activity. The undertaker must ensure that a copy of</p>	<p>subject to other amendments made for consistency with the existing text of condition 13. This has been incorporated in the version of the DML submitted with the updated draft DCO at Procedural Deadline A.</p>	
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	<p>this licence and any subsequent revisions or amendments has been provided to any agents, contractors or subcontractors that will carry out the licensed activity on behalf of the undertaker prior to them carrying out any licensed activity.”</p>		
RR-047-23	<p>The provisions under article 7 Benefit of the Order are of concern to the MMO. The MMO requests that any reference to the MMO and DML should be removed from this article for transfer of the benefit of the DCO.</p>	<p>Article 7 of the draft DCO (APP-012) contains provisions for the transfer or lease of the provisions under the DCO. As set out in the Explanatory Memorandum (APP-013), these provisions are based on the Model Provisions, and the drafting has developed through the inclusion of a similar article in many offshore wind farm development consent orders.</p> <p>Following the precedent drafting from other offshore wind farm orders, Article 7(2) provides the transfer or grant of DCO powers to take place with the written consent of the Secretary of State (SoS) and for this transfer or grant to take place without the need for consent in the circumstances specified in paragraph 7(5). Both of the circumstances set out in Article 7(2) allow for the transfer or grant of powers under the DML. Article 7(3) requires the Secretary of State to consult with the MMO before giving consent to the transfer or grant to another person of the benefit of the DML. This ensures that the MMO</p>	<p>The MMO notes the Applicant’s response and will provide further comment in due course.</p>

		<p>has the opportunity to participate in any decision to transfer or lease made under Article 7.</p> <p>Article 7(11) disapplies sections 72(7) and (8) of the Marine and Coastal Access Act 2009 in relation to a transfer or grant of the benefit of the DML. The drafting in the draft DCO reflects a long-established precedent regarding the transfer of DCO powers and deemed marine licences that has been endorsed by the SoS many times, including most recently in the Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024. Where a transfer of the DML is sought under Article 7(2), the Secretary of State would consider the appropriateness of the party to whom the transfer or grant is proposed and would also take into account any representations made by the MMO before determining whether to grant consent.</p> <p>From a procedural perspective it is important that the DCO and the DML can be transferred together using the process set out in Article 7. It is considered important that the timing of any transfer or grant of powers/authorisations under the DCO and DML be aligned, as there is considerable overlap between</p>	
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		the authorisations and the requirements/ conditions. In practice, the most common transfer scenario is when the offshore transmission infrastructure is transferred to the separate Offshore Electricity Transmission (OFTO) licence-holder following a public tender exercise via Ofgem, and it is important that an OFTO licence-holder have certainty that all consents, licences and permits will transfer concurrently via the same approval process.	
RR-047-24	<p>The MMO does not accept that arbitration clauses should apply to the organisation this would circumnavigate the existing statutory provisions within the 2009 Act. The MMO requires the following be included in addition:</p> <p>“For the avoidance of doubt any matter for which the consent or approval of the Secretary of state or the Marine Management Organisation is required under any provision of this Order is not subject to arbitration.”</p>	This text is already included in Article 15(2) (arbitration) of the draft DCO (APP-012). Schedule 5 (arbitration rules) only applies to matters that are subject to arbitration pursuant to Article 15, which does not include matters which fall within the remit of the MMO. The Applicant does not consider any further changes are required.	<p>The MMO notes the Applicant's response.</p> <p>The MMO has no further comments at this time.</p>
RR-047-25	This section applies to all 'discharging authorities' which are defined as "the body responsible giving any consent, agreement or approval required by a requirement included in Part 2 (requirements) of Schedule 2". It is not clear whether the MMO would be responsible for giving any of these approvals.	As provided in Article 14 (requirements, appeals, etc.), Schedule 4 (approval of matters specified in requirements) only has effect in relation to agreements or approvals in connection with the requirements set out in Schedule 2 (requirements). Article 14, and by extension Schedule 4, do not apply	The MMO welcomes this clarification and will provide an update at Deadline 2.

	<p>If the MMO would constitute a discharging authority, the MMO has concerns regarding the Part 3 Schedule 4 Approval of matters specified in requirements applications, which requires the discharging authority to give notice of its decision on an application within a fixed period, and schedule 5 appeals procedure, which the MMO are concerned may conflict with of seek to circumnavigate existing procedures for appeals within the 2009 Act.</p>	<p>to the DML or any conditions therein.</p> <p>The MMO does not constitute a discharging authority for any of the DCO requirements in Part 2 (requirements) of Schedule 2 and, accordingly, Article 14 and Schedule 4 do not apply to the MMO.</p> <p>The Applicant notes the reference to “schedule 5 appeals” and presumes this should be a reference to “schedule 5 arbitration rules”. Reference is made to response RR-047-24 above which confirms that Schedule 5 does not apply to the MMO.</p>	
<p>Draft MMMP (APP-149) and Appendix 11.3 Marine Mammal Unexploded Ordnance Assessment (APP-067)</p>			
<p>RR-047-26</p>	<p>In paragraph 79 of the draft (MMMP) it states, “Bubble curtains could be deployed for UXO detonation; however, it should be noted that there are likely to be limits to the environmental conditions within which they are able to provide effective mitigation”. The MMO and Cefas note that bubble curtains will be a mandatory requirement for any high-order clearance operations.</p>	<p>The Applicant acknowledges the requirement for bubble curtains for high order Unexploded Ordnance (UXO) clearance.</p> <p>Mitigation for UXO clearance would be agreed via a separate marine licence for UXO clearance in accordance with mandatory requirements, noting that there are limits to the environmental conditions in which bubble curtains can be deployed to ensure the effectiveness.</p>	<p>The MMO notes the Applicant’s response.</p> <p>The Applicant and MMO have held meetings where the UXO clearance has been discussed.</p> <p>The Applicant has confirmed that the UXO clearance will be developed post-consent as part of separate investigations and clearance licences.</p> <p>The MMO is content with this approach.</p>

<p>RR-047-27</p>	<p>Further, Section 3.1.4 paragraph 143 regarding breaks in piling states</p> <p>“for any breaks in piling of less than 10 minutes, piling may continue as required (i.e. as if there was no break). For any breaks in piling of more than 10 minutes, but less than two hours, then the piling can recommence with a reduced soft- start procedure (e.g. five to six blows of the hammer at the starting hammer energy) before continuing as required, provided there are no marine mammals within the Management Area”.</p> <p>The JNCC (2010) guidance recommends that if there is a pause in piling operations for a period of greater than 10 minutes, then the pre-piling search and soft-start procedure should be repeated before piling recommences. If a watch has been kept during the piling operation, the Marine Mammal Observer or Passive Acoustic Monitoring Operative should be able to confirm the presence or absence of marine mammals, and it may be possible to commence the soft-start immediately. However, if there has been no watch, the complete pre-piling search and soft-start procedure should be undertaken. The guidance recommends that the soft-start duration should be a period of not less than 20 minutes. Any requested variation from a 20-minute soft-start should be agreed with the relevant agency and regulator. The MMO and Cefas request that the</p>	<p>The Applicant acknowledges the request, however notes that the wording proposed by the Applicant has previously been agreed for other offshore windfarm projects, including Dogger Bank A and Dogger Bank B.</p> <p>The Applicant notes finalisation of wording in the Marine Mammal Mitigation Protocol (MMMP) would be undertaken post-consent alongside developed Project design information, in the event that piled foundations are selected as part of detailed design for the Project.</p>	<p>The MMO acknowledges that the final wording in the MMMP would be undertaken post-consent.</p> <p>The MMO alongside Cefas will be happy to review the finalised MMMP to ensure potential impacts are appropriately mitigated.</p> <p>The MMO will provide further comment at Deadline 2.</p>
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	guidance is adhered to, and the full soft start is implemented (not 5 to 6 blows at the starting hammer energy as is proposed in the MMMP).		
RR-047-28	Table 3.1 in the MMMP presents cumulative sound exposure Level (SELcum) modelled impact ranges for piling of both monopile and pin-pile at the worst- case (south west) location. The MMMP refers the reader to Appendix 11.1 of the ES (Document Reference 5.2.11.1) for more details, which describes the underwater modelling undertaken. Please note that the impact ranges presented in Table 3.1 are vastly different to those presented in Appendix 11.1 (see Table 4-22 in Appendix 11.1 for example which presents the impact ranges for monopiles and Annex 7.1 and 7.2 of this document). These discrepancies must be checked and clarified.	Table 3.1 in the draft MMMP (APP-149) lists the worst-case impact ranges for the Project based on the maximum strike rate scenario listed in Appendix B of Appendix 11.1 Underwater Noise Assessment (APP-065) and would be the worst-case impact range to be mitigated. There is no discrepancy, but it is noted that Appendix 11.1 Underwater Noise Assessment (APP-065) also presents the lower strike rate scenario.	The MMO and Cefas previously noted that the predicted ranges in Table 3.1 of the MMMP are vastly different to those presented in Appendix 11. The MMO and Cefas recommended that these discrepancies should be checked and clarified.  The Applicant has clarified with the MMO that additional modelling was completed for a higher strike rate.  The MMO welcomes this clarification.  The MMO requests that this is made clear in an updated version of the Draft MMMP.
RR-047-29	With regard to Appendix 11.3 Marine Mammal Unexploded Ordnance Assessment, the MMO and Cefas note a minor discrepancy. In Table 4.8 and 4.9, the PTS (permanent threshold shift) and TTS (temporary threshold shift) criteria for UXO (unexploded ordnance) are based on the SPLpeak (peak sound pressure level) metric, and the SELss (single strike sound exposure level) metric, not the SELcum.	Noted, the error in the heading has been updated in The Applicant's Errata Sheet (Document Reference 8.4), submitted alongside this document at Procedural Deadline A.	The MMO notes the Applicant's update.  Regarding section 5.2.11.3 in Appendix 11.3 Marine Mammal Unexploded Ordnance (UXO) Assessment, the Error is noted as "Table 4.8 and Table 4.9, the PTS (permanent threshold shift) and TTS (temporary threshold shift) metric should be Sound Exposure Level (SPL)peak and SELss, not SELcum". The Correction is noted as "The column header in Table 4.8 Appendix 11.3 Marine Mammal



			<p>Unexploded Ordnance Assessment (APP-067) is corrected as follows: 'PTS Sound Exposure Level from Single Strike (SELcumpeak)' The column header in Table 4.9 is corrected as follows: 'TTS SELcumss' This error does not affect outputs or assessment conclusions".</p> <p>The MMO and Cefas believe that the original Error has been misinterpreted, and subsequently the correction does not make sense. For instance, there is no such metric as the 'SELcumpeak' or 'SELcumss'. For clarity, in previous advice (section 3.2 of the MMO's RR), the MMO and Cefas highlighted that the PTS and TTS criteria (in Tables 4.8 and 4.9) for UXO are based on the peak sound pressure level (SPLpeak) metric, and the single strike sound exposure level (SELss) metric, and not the cumulative sound exposure level (SELcum). Therefore, in terms of the Correction, the only change required in Table 4.8 is that the middle column should be referring to the SELss (i.e., 'PTS Sound Exposure Level (SELss)'), rather than 'PTS Sound Exposure Level from cumulative exposure (SELcum)'.</p> <p>Likewise, in Table 4.9, the middle column should be referring to the</p>
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			SELss for TTS (and not the SELcum). I agree that this error does not affect the outputs or assessment conclusions. The MMO and Cefas agree that this error does not affect the outputs or assessment conclusions.
RR-047-30	Further, Table 5-1 confirms that 616 individual harbour porpoise are at risk of PTS during high-order detonation (353.6 kg Net Explosive Quantity (NEQ) plus donor charge) but this has been assessed as having a 'Medium' magnitude. For Low-Order clearance, 7 individual harbour porpoise are at risk of PTS, and this has also been assessed as having 'Medium' magnitude. The MMO and Cefas question whether 'Medium' magnitude is appropriate for the high order assessment. The MMO and Cefas understand that this scoring is based on the fact that 1% of the reference population is anticipated to be exposed (which is 0.986 % of the Celtic and Irish Sea (CIS) Management Unit (MU) according to Table 5-1).	Noted, 0.986% will be rounded up to 1% and the magnitude will be amended from medium to high. This will be updated accordingly in a separate technical note to be submitted at Deadline 1. It is noted that the precautionary change in magnitude from medium to high would not change the overall significance and conclusions of the assessment.	The MMO and Cefas are content that the information provided satisfies the issue previously raised.  However, the MMO requests that the Applicant clarifies to the MMO if this will also be updated in the technical note or just the Errata sheet.
RR-047-31	Following on from the previous point, the MMO and Cefas also question the Magnitude scoring in Table 5.2. Table 5-2 confirms that 2,037 individual harbour porpoise are at risk of TTS during high order detonation, but this has been assessed as only having a 'Low' magnitude (with 3.3 % of the CIS MU anticipated to be at risk of TTS).	As outlined in Appendix 11.3 Marine Mammal UXO Assessment (APP-067) Table 4.3 the definition of impact magnitude for a marine mammal receptor, a 3.3% population level impact falls within the 'Low' magnitude category for an intermittent and temporary effect.	The MMO and Cefas questioned the Magnitude scoring in Table 5.2. Table 5-2 confirmed that 2,037 individual harbour porpoise are at risk of TTS during high-order detonation, but this has been assessed as only having a 'Low' magnitude (with 3.3 % of the Celtic and Irish Sea (CIS) Management Unit) anticipated to be at risk of TTS). There was no further action

			<p>as such requested by the MMO and Cefas, although we raised this point for awareness.</p> <p>The Applicant confirms that the 3.3% population level impact does fall within the 'Low' magnitude category for an intermittent and temporary effect.</p> <p>Nonetheless, the MMO and Cefas maintain that 2,037 individual harbour porpoise at risk of TTS is not an insignificant number.</p>
RR-047-32	<p>With regard to Section 5.2, 'Disturbance from underwater noise associated with UXO clearance', Cefas and the MMO do not support the use of TTS as a proxy for disturbance. Therefore, the MMO and Cefas disagree with paragraph 84 that "the use of the TTS threshold was appropriate for UXO disturbance because the noise from the UXO explosion would be only fleetingly in the environment". TTS constitutes a temporary reduction in the sensitivity of the auditory system. The characteristics of TTS are distinct from behavioural disturbance, in which an animal changes its behaviour in response to a stimulus. There is no cognitive impairment implicit in behavioural responses. TTS typically occurs at much higher sound exposures than the onset of behavioural disturbance, and so if behavioural disturbance is assumed to occur only at sound</p>	<p>There are no agreed thresholds for the onset of a behavioural response from underwater noise generated by explosions during UXO clearance activities. Empirically-derived relationships between noise levels and the probability of a response to pile driving noise (i.e. the 26km Effective Deterrence Radius (EDR)) are not appropriate to apply here due to the very different nature of the sound. Other assessments of UXO clearance activities have used the Temporary Threshold Shift (TTS)-onset threshold to indicate the level at which a 'fleeing' response may be expected to occur in marine mammals. This is a result of discussion in Southall et al. (2007) which states that in the absence of empirical data on responses, the use of the TTS-</p>	<p>The MMO and Cefas appreciate (and acknowledge) that there are no agreed thresholds for the onset of a behavioural response from underwater noise, especially for explosions during UXO clearance activities. Other assessments of UXO clearance activities may have used (or proposed) the TTS-onset threshold to indicate the level at which a 'fleeing; response may be expected to occur in marine mammals. Nonetheless, the MMO and Cefas advice and recommendations re regarding the assessment of TTS have been consistent. We agree that Southall et al. (2007) state that the onset of significant behavioural disturbance is proposed to occur at the lowest level of noise exposure that has a measurable transient effect on hearing (i.e., TTS-onset),</p>

	<p>exposures where TTS would occur, this is likely to significantly underestimate the risk of disturbance.</p>	<p>onset threshold may be appropriate for single pulses (like UXO detonation): “Even strong behavioural responses to single pulses, other than those that may secondarily result in injury or death (e.g., stampeding), are expected to dissipate rapidly enough as to have limited long-term consequence. Consequently, upon exposure to a single pulse, the onset of significant behavioural disturbance is proposed to occur at the lowest level of noise exposure that has a measurable transient effect on hearing (i.e., TTS-onset). We recognize that this is not a behavioural effect per se, but we use this auditory effect as a de facto behavioural threshold until better measures are identified. Lesser exposures to a single pulse are not expected to cause significant disturbance, whereas any compromise, even temporarily, to hearing functions has the potential to affect vital rates through altered behaviour” (Southall et al., 2007). Therefore, an estimation of the extent of behavioural disturbance is based on the sound levels at which the onset of TTS is predicted to occur from impulsive sounds. TTS thresholds are taken as those proposed for different functional hearing groups by Southall et al. (2019).</p>	<p>recognising that this is not a behavioural effect per se. Thus, the MMO and Cefas maintain our current position that the characteristics of TTS are distinct from behavioural disturbance, in which an animal changes its behaviour in response to a stimulus. TTS typically occurs at much higher sound exposures than the onset of behavioural disturbance, and so if behavioural disturbance is assumed to occur only at sound exposures where TTS would occur, this is likely to significantly underestimate the risk of disturbance.</p> <p>Furthermore, behavioural responses to noise are highly variable and depend on numerous factors, including the species, individual differences, context of the noise exposure, and the animal's previous experiences. Thus, behavioural responses are influenced by a combination of physiological, psychological, and environmental factors, and the mechanisms driving these responses are different (compared to TTS).</p>
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		It is noted that UXO clearance is not part of the DCO Application and assessment was provided for information, noting a marine licence application for UXO clearance, if required, would be made separate from the DCO Application.	
RR-047-33	To quantify the risk of behavioural responses where there are no better alternatives, the effective deterrence ranges (EDRs) in place for noise management in harbour porpoise Special Areas of Conservation (SACs) could be used instead. Since harbour porpoise are relatively skittish and sensitive to underwater noise, the EDRs are likely to be conservative for other marine mammal species and are therefore a suitably precautionary option in the absence of other data (unlike using TTS as a proxy for disturbance). Thus, the MMO and Cefas welcome that the 26km EDR, as per the Statutory Nature Conservation Bodies (SNCB) guidance (JNCC et al., 2020) has also been considered in the assessment for harbour porpoise and disturbance. A 5km potential disturbance range for low-order clearance, for all marine mammal species, has also been considered (JNCC, 2023) and includes vessels associated with the activity.	<p>The Applicant acknowledges this response, noting, as stated in the draft MMMP (APP-149), the final MMMP for UXO clearance would be submitted for approval under a future marine licence application, separate from the DCO Application.</p> <p>As outlined in Southall et al. (2021) thresholds that attempt to relate single noise exposure parameters (e.g., received noise level) and behavioural response across broad taxonomic grouping and sound types could lead to severe errors in predicting effects. Differences between species, individuals, exposure, situational context, the temporal and spatial scales over which they occur, and the potential interacting effects of multiple stressors could lead to inherent variability in the probability and severity of behavioural responses. The 26km EDR is based on harbour porpoise disturbance for piling activities and is also used for high order clearance “despite there being no empirical evidence of harbour porpoise avoidance” (JNCC et al., 2020). Consequently,</p>	<p>Please refer to MMO comments for RR-047-32.</p> <p>The MMO and Cefas agree with the Applicant that applying an EDR (Effective Deterrent Range) for harbour porpoise to other species is deemed to be conservative (as the MMO and Cefas acknowledge in our original comment). However, the MMO and Cefas maintain that this would be a suitable precautionary option in the absence of other data (and a useful starting point), given the uncertainties surrounding the use of TTS as a proxy for disturbance.</p> <p>Furthermore, EDRs are designed to reflect the distances at which marine mammals are likely to exhibit behavioural changes in response to noise.</p> <p>The MMO and Cefas do appreciate that the EDR for piling has been used as a proxy for explosions in the JNCC (2020) guidance, despite there being no empirical evidence of harbour porpoise avoidance.</p>

		<p>this EDR may not accurately represent UXO clearances. Applying this EDR to other species is deemed overly conservative and could lead to an overestimate of potential effect for other species. TTS has been used as a proxy for disturbance for assessing disturbance from high order UXO clearance for species where there is no recommended EDRs such as for dolphins, for other offshore windfarm projects such as Seagreen Offshore Wind Farm, Sheringham and Dudgeon Extension Projects, and Dogger Bank South Offshore Wind Farm Projects.</p>	
RR-047-34	<p>nally, Section 5.2, paragraph 90 states “In addition, the MMMP for UXO clearance will include ADD (acoustic deterrent device) activation prior to all UXO clearances, to ensure marine mammals are beyond the maximum potential impact range for PTS”. There is no certainty or guarantee that animals will be deterred beyond the maximum impact ranges. In fact, the assessment later highlights in para 98 that “as per ADD review in the JNCC report No. 615 (McGarry et al., 2022), the ranges of deterrence distances can vary significantly from only a few meters to several kilometres (approximately 6km for VHF cetacean); these differed between devices and dependent on the acoustic properties of the environment (Rosemeyer et al., 2021)”. Although an</p>	<p>applicant acknowledges this response, noting, as stated in the draft MMMP (APP-149), the final MMMP for UXO clearance would be submitted for approval under a future marine licence application, separate from the DCO Application. The Applicant will apply this advice when reviewing mitigation measures during the submission of the UXO clearance marine licence once further details of the proposed UXO works are known.</p>	<p>MO acknowledges that the final MMMP for UXO clearance would be submitted under a future marine licence application.</p> <p>MO may provide further comments at Deadline 2 to assist with the marine licence application.</p>

	indicative assessment has been provided, the MMO and Cefas request that the ADD activation times (and mitigation in general) are revisited once further details of the proposed UXO works are known.		
Outline PEMP (APP-146) and IPMP (APP-148)			
RR-047-35	The MMO and Cefas do not have any major comments on the Outline Project Environmental Management Plan (PEMP).	The Applicant notes this response.	The MMO has nothing to add at this stage but may require minor updates in relation to chemicals and will provide an update at Deadline 2.
RR-047-36	The MMO and Cefas welcome further assessment be conducted prior to construction, based on the foundation type and installation method, to determine if there is the risk of significant disturbance to marine mammals. This would then be used to determine if further mitigation measures which reduce sound propagation and disturbance are required. If they are required, then a review would be conducted to determine what is the most appropriate and effective method based on the latest and available methods prior to construction. This would include a review of all suitable noise abatement measures at that time.	Noted, confirmation of requirements for mitigation would be agreed post-consent during the finalisation of the MMMP which is secured in Condition 9(1)(i) of Schedule 6 of the Draft DCO (APP-012).  The Applicant is planning appropriately for the potential requirement for noise abatement systems (NAS), and this will be one of the options considered when developing the MMMP.	The MMO notes the Applicant's response.  The MMO and Cefas are content that the information provided satisfies the previous issue raise.  The MMO may provide further comments in due course.
RR-047-37	The MMO and Cefas does not have any major comments in regard to the In Principle Monitoring Plan (IPMP).	The Applicant notes this response.	The MMO has no further comments.
RR-047-38	The MMO and Cefas welcome that the final design and scope of monitoring will be agreed with the relevant	Noted, confirmation of requirements for monitoring would	The MMO notes the Applicant's response.



	stakeholders and included within the final Monitoring Plan submitted for approval.	be agreed post-consent during the finalisation of the Monitoring Plan.	
RR-047-39	Regarding potential disturbance resulting from underwater noise during piling activities, Table 2.3 states that in order to test key areas within the ES and Report to Inform Appropriate Assessment (RIAA), the purpose of this potential monitoring would be to research the behavioural response of marine mammals to different construction activities, including from mitigations (e.g. ADDS). This could be undertaken through either acoustic methods or through visual methods during Project required mitigation (e.g. Marine Mammal Observers (MMO) and Passive Acoustic Monitoring (PAM)).	Noted, confirmation of requirements for monitoring would be agreed post-consent during the finalisation of the Monitoring Plan.	The MMO notes the Applicant's response.
General comments			
RR-047-40	The MMO has focused its review on the following chapters of the Morecambe Offshore Windfarm: Generation Assets, Environmental Statement, volume 5.  5.1.1 Volume 5 – Chapter 1 – Introduction 5.1.5 Volume 5 - Chapter 5 – Project Description 5.1.7 Volume 5 – Chapter 7 – Marine Geology, Oceanography and Physical Processes 5.1.9 Volume 5 – Chapter 9 – Benthic Ecology 5.1.10 Volume 5 – Chapter 10 – Fish and Shellfish Ecology 5.1.11 Volume 5 - Chapter 11 - Marine Mammals 5.1.12 Volume 5 - Chapter 12	Noted, detailed responses are outlined below per chapter.	Noted.

	- Offshore Ornithology 5.1.13 Volume 5 - Chapter 13 - Commercial Fisheries		
Chapter 7 Marine Geology, Oceanography and Physical Processes (APP-044)			
RR-047-41	The MMO has noted that the approximate number of Wind Turbine Generators (WTGs) that will comprise the Morecambe offshore windfarm is a crucial piece of information that is missing from the introduction of the environmental statement (document 5). The MMO understands from the project introduction document the project could comprise 30 'larger' or up to 35 'smaller' WTGs. We recommend these key findings should be provided early in the introduction.	The Applicant's view is that the scenarios are clearly defined within Chapter 5 Project Description (APP-042). Notably, Paragraph 5.20 states "There could be up to 30 'larger' or 35 'smaller' WTGs installed within the windfarm site to generate the nominal export capacity of 480MW." Further, the worst-case scenarios are outlined in regard to physical processes in Table 7.4 of Chapter 7 Marine Geology, Oceanography and Physical Processes (APP-044).	The MMO notes the Applicant's response.  The Applicant's response does not address the previous comment as the Applicant does not propose to update the introduction.  However, the MMO has no further comments as this is a minor matter and does not materially affect the application.
RR-047-42	The MMO is content that all significant receptors have been included in regard to coastal processes.	The Applicant notes this response.	The MMO has no further comments.
RR-047-43	The MMO considers that there are no outstanding concerns in relation to this application in regard to coastal processes.	The Applicant notes this response.	The MMO has no further comments.
Chapter 8 Marine Sediment and Water Quality (APP-045)			
RR-047-44	The MMO notes the concentration of contaminants do not indicate any levels of concern and the suspended sediment plumes are expected to return to baseline conditions within 1 to 3 days and the magnitude of those impacts was assessed as negligible adverse effect on water quality. The MMO and Cefas agree with these comments.	The Applicant notes this response.	The MMO has no further comment.

	However, we defer to the Environment Agency to comment on water quality.		
RR-047-45	<p>In section 8.52 the ES states that in OSPAR region III (Celtic Seas) eutrophication is still a problem and reduction in phosphorus discharges exceed the OSPAR target of 50% compared to 1985 but nitrogen discharges were the main problem especially those from agriculture. Additionally, the concentrations of hazardous substances had generally fallen but were still above acceptable concentrations, and historic pollution in aquatic sediments acts as a continued source for releases of persistent chemicals. However, there is no indication of why pesticides (OCs) and other resistant chemicals like brominated flame retardants (PBDEs) were not included in the list of contaminants analysed for. You should provide justification as to why these contaminants were omitted from assessment for the characterisation and estimation of risk from release of dredged/disturbed sediment given the comments made in the ES regarding continuing OSPAR concern regarding persistent contaminants.</p>	<p>The parameters mentioned tend to be found in estuarine and coastal sediments as they are associated with land-based activities. Flame retardants, for example, are discharged via point sources such as via sewage discharges (as reported by the Environment Agency polybrominated-diphenylethers-pressure-rbmp-2021.pdf (environmentagency.gov.uk)) and landfills leaching. Therefore, they are much more likely to be found in coastal/estuarine sediments rather than in offshore environments. The site-specific data as reported in Sections 8.69 to 8.72 of Chapter 8 Marine Sediment and Water Quality (APP-045) confirms overall pollutant levels to be very low in the sediments therefore it is very unlikely that there would be elevated levels of other pollutants which are associated with land-based sources.</p> <p>Furthermore, consultation via the Evidence Planning Process (see Appendix A of the Consultation Report (APP-016) with representatives from both the MMO and Centre for Environment, Fisheries and Aquaculture Science (Cefas) did not raise any concerns with the parameters analysed and</p>	<p>The MMO welcomes the Applicant's comment.</p> <p>The MMO will provide further comments at Deadline 2.</p>

		reported when presented with the list of determinants and results.	
RR-047-46	The MMO and Cefas request that section 8.61 be clarified to include the types of chemical analyses performed on samples (e.g. metals, PAHs, PCBs etc.) and which if any together with the location of those samples that exceeded AL (action level) 2, as stating there were no significant exceedance of AL2 does not provide adequate explanation of the contamination present. The MMO and Cefas are not suggesting these analyses are undertaken but require reasons as to why they were not selected.	Section 8.61 of Chapter 8 Marine Sediment and Water Quality (APP-045) relates to sediment data collected for other projects: Walney Extension IV Offshore Wind Farm (Dong Energy, 2013) (approximately 18.8km from the Project) and West of Duddon Sands offshore windfarms (Dong Walney (UK) Limited, 2006) (approximately 12.9km from the Project). Given the age of the Environmental Impact Assessment (EIA)s, distance to the Morecambe array area and age of the data, the MMO are guided to the site-specific data presented in sections 8.69 to 8.72 which was collected within the Morecambe array area and much more recently, in 2022. This data did not show any exceedances of Cefas Action Level (AL) 1 for any of the parameters for which analysis was undertaken and is considered the best and most relevant evidence regarding levels of contamination present that could potentially be disturbed. This aligns with MMO comment ID RR-047-45.	The MMO will provide comments at Deadline 2.
RR-047-47	The MMO and Cefas note that comparison of levels of arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc to Canadian quality standards should not be undertaken as the methods used to	The appropriate comparison against United Kingdom (UK) actions levels has been undertaken (MMO, 2015) (see Paragraph 8.25 of Chapter 8	The MMO will provide comments at Deadline 2.

	produce the results are not directly comparable in that the Canadian sediment quality guidelines use normalised metals analysis and likely a different digestion to that of the methods used for production of results of dredge material for determination of suitability for disposal for comparison to the UK Action Levels (e.g. aqua regia/nitric digest, no sieving, no normalisation).	Marine Sediment and Water Quality (APP-045).	
Chapter 5 Project Description (APP-042)			
RR-047-48	<p>You have suggested that for scour protection 'bagged solutions filled with grout or other materials. Protective aprons, mattresses with or without frond devices, and rock, concrete and gravel placement' (Chapter 5 section 5.53). Bags or mattresses may contain plastics. Concrete mattresses maybe linked polypropylene rope lattice, and artificial fronds mattresses made of continuous lines of overlapping buoyant fronds consisting of polypropylene or similar have been used in the marine environment over the years. Placing plastic infrastructure into the marine environment could pose a risk should they degrade.</p> <p>The MMO and Cefas request that the final design of these frond mattresses should be detailed in the offshore construction method statement that will be submitted to and approved by the MMO prior to commencement of development. This can then be secured</p>	The Applicant acknowledges the MMO consideration of the risks associated with the introduction of plastic infrastructure. The selection of scour protection methods, where required, will be evaluated and further considered post-consent in the Offshore Construction Method Statement, focusing on both engineering and suitability and environmental recoverability. The Offshore Construction Method Statement will be developed through consultation with the MMO and is secured in Condition 9(1)(d) of Schedule 6 of the Draft DCO (APP-012).	<p>The MMO alongside Cefas notes that recent research has indicated that there may be an increase in microplastic emissions from offshore wind farms (e.g., flaking of antifouling paint and erosion of turbine blade leading-edge protection materials) which could subsequently impact upon benthic receptors ((Tagg et al., 2024; Piarulli et al., 2024).</p> <p>Advice provided to the nearby Morgan Offshore Windfarm project, from the MMO and Cefas, regarding this impact was to ensure adequate sampling of the pre-construction condition of sediment bound microplastic load. The MMO and Cefas would similarly encourage the Applicant to seek opportunities for collaboration between researchers and industry to ensure that the opportunity to investigate this potential impact to</p>

	<p>within the Draft DCO submitted with the application for consent.</p>		<p>benthic ecology is not missed at the Morecambe Offshore Windfarm.</p> <p>The MMO and Cefas request that the impact of the Morecambe Offshore Windfarm on sediment bound microplastic load is scoped in for assessment and advocate for the inclusion of a suitable pre-construction survey to enable future comparison, post construction.</p>
RR-047-49	<p>In line with OSPAR guidance on the construction operation maintenance and decommissioning of offshore windfarms notification should be given to the regulator where there is potential for chemicals used and or discharged where there is a pathway to the marine environment, including those used within closed systems that require frequent top up should provide full details of the risk and justification for use of chemicals. This guidance includes the use of paints and coatings.</p> <p>In addition, some piles may require pre-drilling (with a maximum drill penetration of 56m) therefore the use of drilling fluids cements or cement additives etc., should be notified to the MMO for approval prior to use (section 5.103).</p>	<p>The Applicant acknowledges the MMO comments.</p> <p>An Offshore Project Environmental Management Plan (PEMP) will be finalised post-consent, to include details of a chemical risk assessment, that shall include information regarding how and when chemicals are to be used, stored and transported in accordance with recognised best practice guidance.</p> <p>The PEMP is secured in Condition 9(1)(e) of Schedule 6 of the Draft Development Consent Order (APP-012).</p>	<p>The MMO will provide comments at deadline 2.</p>
RR-047-50	<p>For gravity base options where necessary ballast used maybe water or heavy material such as rock or both. It does not say whether there will be any antifouling or biocide used within the gravity base either on installation or potentially required in the future. The</p>	<p>Should water be used as ballast, this would be locally sourced rather than imported, therefore the use of biocide is not considered necessary.</p>	<p>The MMO will provide comments at Deadline 2.</p>

	MMO request that this be clarified within the ES (section 5.100).	The use of antifouling on solid ballast is again considered unnecessary. Implementation of biosecurity measures in line with international and national regulations and guidance will be listed within the PEMP, an Outline of which was submitted as part of the DCO Application (APP-146).	
RR-047-51	The use of suction buckets requires pumping grout into the bucket, care should be taken to minimise the use of concrete in the marine environment and prevent the release of grout/cement. Therefore, the construction method statements must include comment on what measures are to be taken to prevent the release of excess grout/cement to the wider environment.	<p>The Applicant acknowledges the MMO comments.</p> <p>An Offshore PEMP will be finalised post-consent, to include details of what measures are to be taken to prevent the release of excess grout/cement to the wider environment as required.</p> <p>The PEMP is secured in Condition 9(1)(e) of Schedule 6 of the Draft Development Consent Order (APP-012).</p> <p>The Offshore Construction Method Statement will be developed through consultation with the MMO and is secured in Condition 9(1)(d) of Schedule 6 of the Draft DCO (APP-012).</p>	The MMO will provide comments at Deadline 2.
RR-047-52	The MMO and Cefas find it encouraging that outline procedures for the management of mud produced during drilling activities or any material from the seabed preparation are to be disposed of in accordance with the limits of the Deemed Marine Licence for licensed marine activities including disposal	The Applicant acknowledges the MMO comments. The PEMP will include reporting requirements and is secured in Condition 9(1)(e) of Schedule 6 of the Draft DCO (APP-012).	The MMO will provide comments at Deadline 2.



	<p>location quantities measures for waste concrete etc.</p> <p>Reporting procedures for these were included as part of the Project Environmental Management Plan. The MMO and Cefas note that drilling fluids together with all chemicals with a pathway to the marine environment should be included in plans for reporting.</p>		
RR-047-53	<p>The MMO and Cefas note that if the sandwave clearance material is anticipated to be placed back within the array area you most likely would have to apply to the MMO to designate the area as a disposal site for the MMO to be able to fulfil its statutory obligations under OPSAR to be able to make accurate returns for dredge and disposal.</p>	<p>While surveys to date do not identify prevalence of sandwaves within the windfarm site, Chapter 7 Marine Geology, Oceanography and Physical Processes (APP-044), Chapter 8 Marine Sediment and Water Quality (APP-045) and Chapter 9 Benthic Ecology (APP-046) of the Environmental Statement (ES) assess the worst-case requirement for sandwave clearance/clearance of seabed sand features and disposal within the order limits. A Sediment Disposal Site Characterisation Report (APP-024) has been provided as part of the application in order for the area within the order limits to be designated as a disposal site through the DCO.</p> <p>The Applicant notes that the removal of and disposal of inert material is included as associated development for the purposes of the definition of the authorised project (Schedule 1, Part 1, Paragraph 1(c)) and for the</p>	<p>The MMO is currently reviewing all information and working with our scientific advisors to designate disposal sites. Although disposal is an activity disposal sites are regulated and reported on under OSPAR and sites should be secured within the DML. Once this has been completed the MMO will inform the Applicant and request this is updated within the DML as part of the Examination process.</p>

		purposes of the definition of the licensed marine activities (Schedule 6, Part 1, Paragraph 3(c)). These definitions state that such activities are authorised 'within the Order limits'. Accordingly, no separate application for designation is considered required.	
Chapter 9 Benthic Ecology (APP-046)			
RR-047-54	The MMO has no concerns in regard to the receptors which have been scoped out. These are, namely, sediment bound contaminants and transboundary effects.	The Applicant notes this response.	The MMO has no further comments.
RR-047-55	The MMO considers that there are no outstanding concerns in relation to the Application in regard to benthic ecology.	The Applicant notes this response.	The MMO has no further comments.
Chapter 10 Fish and Shellfish Ecology (APP-047)			
RR-047-56	The MMO is content that all relevant impacts to fish and fisheries have been identified and assessed.	The Applicant notes this response.	The MMO has no further comments.
RR-047-57	Figure 10.6 of Volume 5 Chapter 10 Fish and Shellfish Ecology Figures presents a 'heatmap; of herring larvae abundance date over the most recent 10 years of the NHLS (Northern Irish Herring Larvae Survey) (2012-2021) which has been overlaid with the mapped noise contours for the three modelled pile locations (east, north-west and south-west) based on the maximum hammer energy of 6,600 kJ, based on the 135 dB SELss threshold. Cefas	The MMO are correct in their summary of the methods used to create heatmaps of herring larvae abundance from Northern Irish Herring Larvae Survey (NIHLS) data. The qualitative heatmap is intended to display how larval density distribution corresponds with existing spawning ground maps. An update to the figure legend has been made to display larval abundance quantitatively,	The MMO welcomes this update and will review the submission and provide comments in due course.

	<p>fisheries advisors have had previous discussions with the Applicant's consultants regarding your approach to presenting data on the abundance and distribution of herring larvae at the Manx spawning ground. The MMO and Cefas understand that their approach has taken the NIHLS point data at each station and weighted these points according to the relative abundance of larvae across the grid, then smoothed the points to generated areas of higher and lower density/heat. Whilst it was agreed that this approach was suitable, it should be recognised that the 'high' / 'low' colour scheme shown in the legend in Figure 10.6 does not provide any value to contextualise what 'high' abundance or 'low' abundance means in terms of the number of herring larvae (e.g. no. per m<sup>2</sup>), so the heatmaps have limited value to the reader (unless they have been made aware of how the data have been treated). The MMO alongside Cefas recommend that the legend is updated for transparency/clarity to all readers of the ES.</p>	<p>giving further context to the heatmap colour scheme, and is being submitted at Procedural Deadline A (5.3.10 Chapter 10 Fish and Shellfish Ecology Figures_Rev 02) alongside this document.</p>	
RR-047-58	<p>Cefas and the MMO do not support the conclusions made in the CIA (Cumulative Impact Assessment). The UWN modelling presented in Figures 10.8a and 10.8b present the piling noise impact range noise contours which overlap the spawning grounds of Atlantic cod. The modelling uses the hearing thresholds in Group 3 fish for piling of 207, 203 and 186 dB SELcum</p>	<p>The Applicant acknowledges the overlap of Group 3 noise effect thresholds from the Project and Atlantic cod spawning grounds displayed in Figures 10.8a and 10.8b. The Cumulative Effects Assessment (CEA) conclusions made in Section 10.7.3 of Chapter 10 Fish and Shellfish Ecology (APP-047) are drawn from the wide</p>	<p>The MMO notes the Applicant's response. The MMO is working with the Applicant to address this point. At this stage, the MMO is requesting a seasonal restriction as the information provided to date does not provide confidence that there is no impact to fish. The MMO</p>

	<p>for mortality and potential mortal injury, recoverable injury and temporary threshold shift (TTS), respectively. Results of the underwater noise modelling presented in Table 10.25 (Chapter 10 Fish and Shellfish Ecology) quantify the area of impact to eggs and larvae during mono- and pin-piling, which is limited to an area of 0.32km<sup>2</sup> for monopiling and 0.19km<sup>2</sup> for pinpiling, though the impact range for this impact is not shown in Figures 10.8a and 10.8b. Figures 10.8a and 10.8b show that piling noise overlaps the spawning grounds of cod for all impairments, i.e. mortality and potential mortal injury, recoverable injury and especially for TTS.</p> <p>Whilst suitable UWN modelling has been undertaken in respect of cod, it is disappointing to see that the assessment of impacts from UWN has assessed cod under the generic Group 3 fish in Section 10.245. The assessment seems to be missing the link between the cod as a Group 3 fish and the spawning activity they engage in at their spawning grounds. Meanwhile, the assessment of impacts from noise on spawning grounds in Sections 10.211 – 10.220, only considers impacts to the eggs and larvae, rather than the spawning fish. In our advice for PEIR we highlighted that piling works could have potential to significantly impact cod at a population level if piling was to occur during their spawning season (January – April</p>	<p>extent of cod spawning grounds across the Irish Sea and the temporary nature of piling effects in comparison to a four month spawning period.</p> <p>Effects on eggs and larvae are considered in Paragraphs 10.211 to 10.220 of Chapter 10 Fish and Shellfish Ecology (APP-047).</p> <p>In relation to the data sources mentioned by the MMO, the Applicant has considered these sources and is of the position that they are not sufficient to materially alter the understanding of cod spawning in relation to the Project, and subsequently would not materially affect the assessment of significance (or the MMO's position that they do not support the conclusions of the CEA in relation to cod spawning).</p> <p>The Applicant intends to follow the developments in the approach to piling of other nearby projects (in terms of timings, techniques, and mitigations), and will further develop the piling strategy, including any mitigations, in agreement with the MMO post-consent.</p> <p>The Applicant will seek to discuss further with the MMO (and Natural England (NE) given their comment regarding this in their RR) the</p>	<p>is reviewing the information provided at the Procedural Deadline A.</p> <p>As standard even with an Underwater Sound Management Strategy a seasonal restriction would still have to be included on the face on the DML. However, the MMO is currently reviewing the DML and how a seasonal restriction would work alongside the Underwater Sound Management Strategy to provide the Applicant with condition wording and will provide an update in due course.</p>
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	<p>inclusive). This is of particular importance, given ICES' latest advice on cod for the Irish Sea which states that 'when the maximum sustainable yield (MSY) approach and precautionary considerations are applied, there should be zero catch in 2023' and that 'Fishing pressure on the stock is below FMSY, and spawning-stock size is below MSY Btrigger, Bpa, and Blim' (ICES 2022). We also pointed to Fox et al. (2000) which reports high site fidelity in cod spawning grounds in the Irish Sea. For these reasons, the MMO and Cefas would have expected you to consider this information, and potentially other sources of data to inform their assessment such as data from the Northern Irish ground fish trawl survey which has been ongoing since 2009 and has several survey stations within the eastern Irish sea (data are available from ICES: <a href="http://datras.ices.dk/">http://datras.ices.dk/</a>). In the absence of any data to suggest that this part of the cod spawning ground is of lower importance than other areas, and in consideration of ICES advice on the cod population in the Irish sea, the MMO and Cefas recommend that piling is not permitted during the cod spawning season and recommend that the following restriction is conditioned on the deemed marine licence:</p> <p>No piling of any kind shall take place during the cod spawning period from 1st January to 30th April (inclusive) of any year. Reason: To prevent disturbance to</p>	<p>structure of an Underwater Sound Management Strategy as a mechanism of agreeing mitigation post-consent, which will also consider measures the Project may need to take in light of potential cumulative effects and in line with other projects on similar timescales.</p> <p>The Applicant will provide an Outline Underwater Sound Management Strategy at Deadline 2 in order to take into account potential further comments from the MMO expected at Deadline 1. The Applicant has added a new condition 30 (Underwater Sound Management Strategy) in the DML submitted with the updated draft DCO at Procedural Deadline A to secure this. Additionally, the Outline Underwater Sound Management Strategy has been added as document to be certified in the draft DCO.</p>	
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	adult spawning cod during their spawning season.		
RR-047-59	As per our advice on the PEIR, you may wish to consider the use of noise abatement measures such as big as big bubble curtains (BBC) or double BBC during piling, to reduce the noise levels emitted during piling (see Würsig et al. (1999)). UWN modelling incorporating the use of noise abatement measures has been shown to reduce the range of effect for disturbance with sensitive habitats such as spawning grounds.	<p>The Applicant is planning appropriately for the potential requirement for NAS but maintains the position that the effects may be suitably mitigated through further design refinement and other embedded mitigation.</p> <p>The Applicant will seek to discuss further with the MMO (and NE given their comment regarding this in their RR) the structure of an Underwater Sound Management Strategy as a mechanism of agreeing mitigation post-consent, which will also consider measures the Project may need to take in light of potential cumulative effects and in line with other projects on similar timescales.</p> <p>The Applicant will provide an Outline Underwater Sound Management Strategy at Deadline 2 in order to take into account potential further comments from the MMO expected at Deadline 1. The Applicant has added a new condition 30 (Underwater Sound Management Strategy) in the DML submitted with the updated draft DCO at Procedural Deadline A to secure this. Additionally, the Outline Underwater Sound Management Strategy has been</p>	The MMO will provide further comments in due course.

		added as document to be certified as one referred to in the DCO.	
RR-047-60	<p>Cefas and the MMO do not support the conclusions made in the CIA that that the cumulative effects of piling noise are deemed to be no greater than project-alone effects 'minor adverse'. We would also add that recent advice for Morgan OWF (DCO/2022/00003) which is located entirely in the Irish sea cod spawning ground we highlighted the likelihood that a seasonal piling restriction to protect spawning adult cod and their eggs and larvae will be necessary during the spawning season (January – April inclusive). Whilst we have raised a number of points requiring further clarification on their UWN modelling, the modelling that was presented suggests that an extensive overlap of noise disturbance will occur at the spawning ground.</p>	<p>The Applicant acknowledges the overlap of Group 3 noise effect thresholds from the Project and Atlantic cod spawning grounds displayed in Figures 10.8a and 10.8b in Chapter 10 Fish and Shellfish Ecology Figures (APP-094). The CEA conclusions made in Section 10.7.3 in Chapter 10 Fish and Shellfish Ecology (APP-047) are drawn from the wide extent of cod spawning grounds across the Irish Sea and the temporary nature of piling effects in comparison to a four-month spawning period.</p> <p>The Applicant intends to follow the developments in the approach to piling of other nearby projects (in terms of timings, techniques, and mitigations), and will further develop the piling strategy, including any mitigations, in agreement with the MMO post-consent.</p> <p>The Applicant will seek to discuss further with the MMO (and NE given their comment regarding this in their RR) the structure of an Underwater Sound Management Strategy as a mechanism of agreeing mitigation post-consent, which will also consider measures the Project may need to take in light of potential cumulative effects</p>	<p>The MMO welcomes this update and will provide further comments in due course.</p>

		<p>and in line with other projects on similar timescales.</p> <p>The Applicant will provide an Outline Underwater Sound Management Strategy at Deadline 2 in order to take into account potential further comments from the MMO expected at Deadline 1. The Applicant has added a new condition 30 (Underwater Sound Management Strategy) in the DML submitted with the updated draft DCO (3.1 Draft Development Consent Order_Rev 02) at Procedural Deadline A to secure this. Additionally, the outline Underwater Sound Management Strategy has been added as document to be certified as one referred to in the DCO.</p>	
RR-047-61	The MMO has no comments to make in relation to receptors which have been scoped out and not considered within the ES with regards to shellfish ecology.	The Applicant notes this response.	The MMO has no further comments.
RR-047-62	The MMO considers that there are no outstanding concerns in relation to the Application in regard to shellfish.	The Applicant notes this response.	The MMO has no further comments to make.
Chapter 13 Commercial Fisheries (APP-050)			
RR-047-63	The MMO defers to the National Federation of Fishermen's Organisations along with standalone representatives on matters of commercial fisheries. The MMO will continue to be part of the discussions relating to securing any mitigation,	The Applicant notes this response.	The MMO has no further comments to make at this time.



	monitoring or other conditions required within the DML.		
Chapter 11 Marine Mammals (APP-048)			
RR-047-64	All relevant/applicable marine mammal functional hearing groups have been considered in the underwater noise modelling assessment. The marine mammal species scoped into the ES assessment, which sit within these four hearing groups are, Harbour porpoise, Bottlenose dolphin, Common dolphin, Risso's dolphin, White-beaked dolphin, Minke whale, Grey seal and Harbour seal. The MMO and Cefas consider all relevant impacts in regard to underwater noise have been scoped in for assessment.	The Applicant notes this response.	The MMO has no further comments to make.
RR-047-65	With regard to Section 4.2.3 – SW location – installation of single monopile, the MMO and Cefas note that the received SELs versus range (transect curve in Figure 3-5), which are now explicitly included and thus are proving (together with the levels 750 m in Section 4-1) an additional point of reference for the sense checking process, are showing relatively high noise levels, which are well within the values we would expect for sandy seabed environments (i.e., with good propagation conditions). In this scenario, however, the MMO and Cefas would expect overall larger injury effect ranges for marine mammals (e.g., the maximum PTS (permanent threshold shift) ranges for the LF (low frequency)	Following the impact piling modelling presented in the main report Appendix 11.1 Underwater Noise Assessment (APP-065), further investigation into scenarios using higher strike rates were identified for the monopile and pin pile scenarios. A piling hammer is capable of more rapid strikes at lower blow energies.  To show the differences between the maximum strike rate scenario and the results presented in Section 4 of Appendix 11.1 Underwater Noise Assessment (APP-065), additional modelling was completed for the SW location.	The MMO will provide further comments at Deadline 2.

	<p>and VHF (very-high frequency) receptors could be 2-3 times larger). We note that these larger impact ranges seem to align well with the predictions presented in the draft MMMP document (Table 3.1 from the draft MMMP), where, for example, the maximum PTS ranges are 13 km for minke whale and 8.1 km for harbour porpoise, while corresponding ranges from the current Appendix 11.1 are 5.0 km and 3.3 km, respectively. The predicted impact ranges presented in the draft MMMP differ to those ranges presented in Appendix 11.1.</p>	<p>Table 3.1 in the draft MMMP (APP-049) lists the worst-case impact ranges for the project based on the Maximum strike rate scenario listed in Appendix B of Appendix 11.1 Underwater Noise Assessment (APP065) and would be the worst-case impact range to be mitigated and therefore currently used in the assessments.</p>	
RR-047-66	<p>The MMO and Cefas note a minor discrepancy in the project description. Table 5.5 in Chapter 5 Project description states that the maximum pile diameter (m) for multi-legged pin piled jacket WTF/OSP foundations is 3 m, whereas the underwater noise modelling in Appendix 11.1 considers a worst-case scenario of installing 5m diameter pin piles.</p>	<p>The Applicant considers the worst-case scenario presented in the underwater noise modelling assessment is appropriate. It is noted that the worst-case for underwater noise modelling considers the largest hammer energy, and the highest strike rate, and includes either three sequential monopiles or four sequential pin piles in a 24hr period.</p> <p>The underwater noise assessment report (Appendix 11.1 Underwater Noise Assessment (APP-065)) presented modelling for larger pile sizes (14m for monopile and 5m for pin piles) as the modelling was undertaken prior to a Project refinement whereby pile diameters were reduced to 12m for monopile and 3m for pin-piles. The modelling is therefore precautionary and</p>	<p>The MMO notes the Applicant's comment.</p> <p>The MMO acknowledges that the underwater noise modelling assumes a larger pile diameter.</p> <p>The MMO have recommended to the Applicant that this information across the various Environmental Statement and appendices are consistent, so it is clear what the worst-case assumptions are but welcomes this clarification.</p>

		<p>encompasses the worst-case scenario.</p> <p>The Applicant commits to updated underwater noise modelling post-consent to inform the final MMMP once the selection of foundations have been made. This will inform the appropriate mitigation post consent alongside final design details.</p>	
Chapter 14 Shipping and Navigation (APP-051)			
RR-047-67	MMO defers to the Maritime and Coastguard Agency and Trinity House on matters of shipping and navigation and supports any comments raised. The MMO will continue to be part of the discussions relating to the securing any mitigation, monitoring or other conditions required within the DML.	The Applicant notes this response.	Please see comments in Section 1.4 of this document
Chapter 15 Marine Archaeology and Cultural Heritage (APP-052)			
RR-047-68	The MMO defers to Historic England (HE) on matters of marine archaeology and supports any comments raised. The MMO will continue to be part of the discussions relating to securing any mitigation, monitoring or other conditions required within the DMLs.	The Applicant notes this response.	Please see comments in Section 1.3 of this document
Chapter 18 Seascape, Landscape and Visual Impact Assessment (APP-055)			
RR-047-69	The MMO defers to NE as the SNCB (Statutory Nature Conservation Body), along with HE and the Local Planning Authorities on matters of Seascape, Landscape and Visual Impacts and supports any comments raised. The	The Applicant notes this response.	The MMO understands there is no outstanding comments on this matter.

	MMO will continue to be part of the discussions relating to securing any mitigation and monitoring or other conditions required within the DML.		
Chapter 12 Offshore Ornithology (APP-049)			
RR-047-70	The MMO defers to NE as SNCB, and supports any comments raised in relation to the Ornithology. The MMO will continue to be part of the discussions relating to securing any mitigation and monitoring or other conditions required within the DML.	The Applicant notes this response.	Please see comments in Section 1.6 of this document which in general defer to the SNCBs.

### **3. Initial Statements of Common Ground (SoCG)**

- 3.1. The MMO has worked with the Applicant to prepare a SoCG which will be submitted by the Applicant at Deadline 1. The MMO will continue to work with the Applicant outside of the written process to ensure issues are being moved to resolution where possible.

### **4. Comments from ISH1**

- 4.1. The MMO has reviewed EV3-009 'Action Points from Issue Specific Hearing 1 (ISH1)' and will review the documents/updates to be submitted by the Applicant where relevant.

### **5. Notification by Statutory Parties of their wish to be considered as an IP by the ExA**

- 5.1. The MMO wish to be considered as an interested party by the ExA.

### **6. Notification of wish to have future correspondence received electronically**

- 6.1. The following people request future correspondence to be received electronically:

- [REDACTED]@marinemanagement.org.uk
- [REDACTED]@marinemanagement.org.uk
- [REDACTED]@marinemanagement.org.uk

### **7. Declaration of use of Artificial Intelligence in preparation of any submissions to date**

- 7.1. The MMO has not used Artificial Intelligence in preparation of any submissions to date.

Yours sincerely

[REDACTED]

Victoria Hindmarsh

Marine Licensing Case Officer

D (+44) [REDACTED]

E [REDACTED][@marinemanagement.org.uk](mailto:[REDACTED]@marinemanagement.org.uk)



## 8. References

JNCC (2020). Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs (England, Wales & Northern Ireland). JNCC Report No. 654, JNCC, Peterborough, ISSN 0963- 8091.

Piarulli, S., Sørensen, L., Kubowicz, S., Vrålstad, H. K., Murvoll, K. M., & Booth, A. M. (2024, November). Assessment of microplastics in the sediments around Hywind Scotland Offshore Wind Farm. In *Journal of Physics: Conference Series* (Vol. 2875, No. 1, p. 012050). IOP Publishing.

Southall, B. L., Bowles, A. E., Ellison, W. T., Finneran, J. J., Gentry, R. L., Greene Jr, C. R., Kastak, D., Ketten, D. R., Miller, J. H., Nachtigall, P. E., Richardson, W. J., Thomas, J. A., & Tyack, P. L. (2007). Marine mammal noise exposure criteria: Initial scientific recommendations. *Aquatic Mammals*, 33(4), 411-521. DOI: 10.1578/AM.33.4.2007.411.

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Morecambe Offshore Windfarm Generation Assets Case  
Team  
Planning Inspectorate  
[Morecambeoffshorewindproject@planninginspectorate.gov.uk](mailto:Morecambeoffshorewindproject@planninginspectorate.gov.uk)  
**(By Email only)**

MMO Reference: DCO/2022/00001  
Planning Inspectorate Reference: EN010121  
Identification Number: 20049449

**26 November 2024**

Dear Robert Jackson,

**Planning Act 2008, Floatation Energy, Proposed Morecambe Offshore Wind Farm Generation Assets**

**Deadline 1 Submission**

On 27 June 2024 the MMO received notice under Section 56 of the the Planning Act 2008 (the PA 2008) that the Planning Inspectorate (PINS) had accepted an application made by Morecambe Offshore Windfarm Ltd, for determination of a development consent order (DCO) for the construction, maintenance and operation of the proposed Morecambe Offshore Windfarm (the application) (MMO ref: DCO/2022/00001, PINS reference EN010121).

The DCO Application seeks authorisation for the construction, operation and maintenance of Morecambe Offshore Generation Assets. The proposal is located 30 kilometres (km) from the Lancashire coast, England. The windfarm Agreement for Lease area awarded by The Crown Estate spans 125 km squared (km<sup>2</sup>). The proposed windfarm site development area has been reduced to approximately 87km<sup>2</sup>. All project infrastructure will be located within the 87km<sup>2</sup> windfarm site. The project consists of up to 35 Wind Turbine Generators (WTGs), up to two Offshore substations (OST), their associated foundations and platform link cables. Inter-array cables. Scour protection around foundations and subsea cable protection where required.

One Deemed Marine Licence (DML) is included in the draft DCO. The DML relates to offshore (WTG) and Associated Infrastructure and Associated Development.

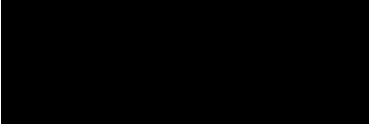
As a marine licence has been deemed within the draft DCO, the MMO is the delivery body responsible for post-consent monitoring, variation, enforcement, and revocation of provisions relating to the marine environment. As such, the MMO has an interest in ensuring that provisions drafted in a deemed marine licence enable the MMO to fulfil these obligations.

This document comprises the MMO's summary of submission for Deadline 1.



This written representation is submitted without prejudice to any future representation the MMO may make about the DCO Application throughout the examination process. This representation is also submitted without prejudice to any decision the MMO may make on any associated application for consent, permission, approval or any other type of authorisation submitted to the MMO either for the works in the marine area or for any other authorisation relevant to the proposed development.

Yours sincerely



Victoria Hindmarsh  
Marine Licensing Case Officer

D +44 [REDACTED]  
E [REDACTED]@marinemanagement.org.uk





## 1. Comments on Relevant Representations from other Interested Parties

- 1.1 The MMO's Deadline 1 response contains detailed comments on the following Interested Parties, Relevant Representations:
- Corporation of Trinity House of Deptford Strond (Corporation of Trinity House of Deptford Strond) RR-018Historic England (HE) RR-030
  - Maritime and Coastguard Agency (MCA) RR-048
  - National Federation of Fisherman's Organisations (NFFO) RR-059
  - Natural England RR-061
  - North West Wildlife Trusts (North West Wildlife Trusts) RR-065
  - Representation by The UK Chamber of Shipping (The UK Chamber of Shipping) (UKCOS) RR-084
  - Royal Society for the Protection of Birds (RSPB) RR-073
- 1.2 The MMO will be reviewing the responses from the above Interested Parties (IPs) throughout examination and hopes to see issues between the above IPs and the Applicant resolved.

## 2. Comments on Pre-Examination Procedural Deadline Submissions

- 2.1. The MMO has reviewed the following document submitted by the applicant:
- PD1-011 The Applicant's Response to Relevant Representations
- 2.2. The MMO has provided a response in tabular format contained within Deadline 1 submission which provides the MMO's stance on points regarding the DCO and DML noting further comments will be provided at Deadline 2.
- 2.3. The MMO confirms that the DCO seeks authorisation for the construction, operation and maintenance of Morecambe Offshore Windfarm Generation Assets and not the proposed Morgan Offshore Windfarm Generation assets.
- 2.4. The MMO welcomes the inclusion of the exact coordinates of the licensed marine activities in the revised draft DCO.
- 2.5. The MMO welcomes the update to Section 2 (d) of the draft Deemed Marine Licence (DML) regarding the removal of reference to sediment samples.
- 2.6. The MMO notes that if the geophysical surveys were assessed within the Environmental Statement then this could be part of the DML. It would have to be clear within the DML when commencement begins in relation to the surveys and when method statements would be agreed and how the conditions are worded for any submissions post consent.
- 2.7. The MMO agrees with the Applicant in regard to the removal of detonations and explosives from the 'Reporting of Impact Pile Driving/Detonation of Explosives' condition.
- 2.8. The MMO welcomes the update to condition 2(3) of the draft DML in reference to the offshore operation and maintenance plan.



- 2.9. The MMO welcomes the amendment to condition 13, which now reflects the wording the proposed wording by the MMO.
- 2.10. In regard to the Marine Mammal Unexploded Ordnance Assessment (APP-067) the Applicant has confirmed that Unexploded Ordnance (UXO) clearance will be developed post consent. The MMO agrees with this approach.
- 2.11. The MMO acknowledges that the final Marine Mammal Mitigation Protocol (MMMP) for UXO clearance will be submitted under a future marine licence. The MMO may provide further comments at Deadline 2.
- 2.12. The MMO has no major comments regarding the Outline Project Environmental Management Plan (PEMP), but may require minor updates in relation to chemicals.
- 2.13. The MMO has no further comments in regard to including the number of windfarms in the introduction of the Environmental Statement, as this was a minor matter.
- 2.14. The MMO is currently requesting a seasonal restriction for piling, the MMO is reviewing the DML and how this would work alongside the Underwater Sound Management Strategy.
- 2.15. The MMO acknowledges that the underwater noise modelling assumes a larger pile diameter. The MMO has requested that this information is consistent across the various chapters of the Environmental Statement and Appendixes.
- 2.16. The MMO previously questioned the Magnitude scoring in Table 5.2. with regard to Appendix 11.3 of the Marine Mammal Unexploded Ordnance Assessment, that confirmed 2,037 individual harbour porpoise are at risk of a temporary threshold shift (TTS) during high-order detonation, which was assessed as having a 'Low' magnitude anticipated risk. The MMO maintains that 2,037 individual harbour porpoise at risk of TTS is not a significant number. However, no further action is requested.
- 2.17. The MMO previously did not support the use of TTS as a proxy for disturbance from underwater noise. The MMO appreciates that there are no agreed thresholds for the onset of a behavioural response from underwater noise. The MMO maintains the position that the characteristics of TTS are distinct from behavioural changes.
- 2.18. The MMO agrees with the Applicant that applying an EDR (Effective Deterrent Range) for harbour porpoise to other species is deemed conservative. However, the MMO maintains that this should be used as the precautionary option.
- 2.19. With regards to the outline Project Environmental Management Plan (PEMP) and the In Principle Monitoring Plan (IPMP) the MMO notes that confirmation of requirements for mitigation will be agreed post-consent. The MMO understands that detail will be agreed post- but may provide further comments on the information within the document.
- 2.20. The MMO will provide further comments at Deadline 2.

### **3. Initial Statements of Common Ground (SoCG)**

- 3.1. The MMO has worked with the Applicant to prepare a SoCG which will be submitted at Deadline 1. The MMO will continue to work with the Applicant outside of the written process to ensure issues are being moved to resolution where possible.



#### 4. Other sections

- 4.1. The MMO has provided a response to the following Examining Authority's requests:
- Notification by Statutory Parties of their wish to be considered as an IP by the ExA
  - Comments from ISH1
  - Notification of wish to have future correspondence received electronically
  - Declaration of use of Artificial Intelligence in preparation of any submissions to date

Yours sincerely

[REDACTED]

Victoria Hindmarsh

Marine Licensing Case Officer

D (+44) [REDACTED]

E [REDACTED] [@marinemanagement.org.uk](mailto:[REDACTED]@marinemanagement.org.uk)

