



Marine Management Organisation

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MMO Reference: DCO/2017/00002
Planning Inspectorate Reference: EN010087
Identification Number: 20022925

19 December 2019

Dear Sir or Madam,

Planning Act 2008, Norfolk Boreas Limited, Proposed Norfolk Boreas Offshore Wind Farm

MMO Comments on the Responses to the Examining Authority's (ExA) First Round of Written Questions

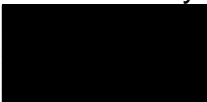
The Marine Management Organisation (MMO) is an interested party for the examination of Development Consent Order (DCO) applications for Nationally Significant Infrastructure Projects (NSIPs) in the marine area. Should consent be granted for the project, the MMO will be responsible for monitoring, compliance and enforcement of Deemed Marine Licence (DML) conditions.

The MMO have reviewed responses to the ExA's first round of written questions submitted at Deadline 2 (10 December 2019). Please find the MMO's comments on the responses to the ExA's first round of questions below for your consideration.

In order to ensure clarity, the question and response of interested party have been incorporated in the responses.

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 faithfully



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Marine Management Organisation

EN010087 – Norfolk Boreas – The Examining Authority’s first written questions, Interested Parties responses and MMO comments on responses

For submission at Deadline 3.

Ref	ExA Question:	Interested Parties Response	MMO Comments
1	Archaeology and Heritage Assets		
1.0	Offshore and intertidal archaeology and cultural heritage		
1.0.1	<p>Draft DCO and DML Archaeological WSI in intertidal zone</p> <p>1. Does the dDCO adequately cover archaeological requirements regarding the intertidal zone? (The onshore Archaeological WSI extending to Mean High Water is secured by dDCO Requirement 23.)</p> <p>2. How is it proposed to secure mitigation measures for the intertidal zone included in the outline offshore Archaeological Written Scheme of Investigation? The DMLs [Schedules 10 and 12 Part 4 Condition 9(1)(h)] secure the offshore Archaeological WSI covering land seaward of Mean LOW Water which therefore excludes the intertidal zone.</p> <p>3. IPs to confirm they are content with the intertidal zone being</p>	<p>The Applicant:</p> <p>The requirement for an archaeological written scheme of investigation in relation to the offshore Order limits seaward of mean low water is secured by dDML (REP1-008) condition 14(h).</p> <p>The Outline Written Scheme of Investigation (Offshore) (outline WSI) submitted as DCO Document 8.6, however, has been produced to set out the proposed approach to archaeological mitigation and investigations to be undertaken in association with the offshore and intertidal project areas below Mean High Water Springs.</p> <p>It is proposed that the dDML condition 14(h) be amended to refer to the offshore Order limits seaward of mean HIGH water. Further information is provided in the Applicant's answer to WQ 5.3.8.</p>	<p>The MMO are content with the update to condition 14(h) of the dDML proposed by the Applicant. The MMO will review the next submission of the dDCO.</p>

	excluded from the responsibilities defined via outline Onshore and Offshore Archaeological WSIs; or make suggestions for amendments, additions or deletions as appropriate.		
2	Biodiversity, Biological Environment and Ecology		
2.1	Offshore benthic and marine mammals		
2.1.1	<p>Worst Case Scenarios MMO [RR-069] recommends a table that highlights the worst-case scenarios within each development consent option. The Applicant [AS-024] stated that it is in discussions with the MMO as to what further information it required.</p> <p>1. What is the additional information required? 2. Would the parties give an update regarding agreement of worst cases?</p>	<p>The Applicant: The Applicant and the MMO discussed this matter on the 27th November 2019 and have agreed that this information is not required. The Applicant has highlighted to the MMO where the required information on combined worst case scenarios can be found within the application; for example, within the Site Characterisation report (APP-706) and the Cumulative Impact Assessment (CIA) sections of the ES chapters. On the 27th November 2019 it was agreed that a table such as the one suggested by the MMO was no longer required.</p>	<p>The MMO have discussed the concerns raised in the MMO Deadline 2 response on the usability of the Environmental Statement (ES) at the end of examination, with the applicant.</p> <p>The MMO understand that ES is produced with the Rochdale Envelope Approach, this is then refined during examination and through the submission of post consent documents.</p> <p>The MMO have concerns in relation to usability of the Environmental Statement (ES) at the end of examination in the context of monitoring and enforcement. Due to volumes of clarification documents, additional modelling and addenda</p>

			<p>supplied by the applicant throughout the Examination, it can be extremely challenging to locate the relevant documents post-consent in order to achieve clarity as to what had been consented. In order to reduce this substantial administrative burden on the MMO, it is strongly recommended that the ES is updated at the end of examination to include or highlight these new documents.</p> <p>The MMO and the Applicant will continue discussions through the SoCG during examination.</p>
4	Cumulative effects of other proposals		
4.0	General cumulative effects, including phasing		
4.0.1	<p>Relevant projects for cumulative assessment</p> <p>1. A number of the ES aspect chapters explain that the projects identified for potential cumulative impacts were agreed as part of the PEIR consultation (November 2018). Taking into account the time that has elapsed since the PEIR consultation</p>	<p>The Applicant: Response to question in REP2-021</p> <p>Natural England: 2. 3 and 4 Dudgeon and Sheringham extension are in the scoping phase, but are not considered to be foreseeable plans or projects to be included in in-combination/cumulative assessment as there is no data currently in the public domain to allow an</p>	<p>The MMO advised that Dudgeon and Sheringham Shoal should be included within the cumulative assessments.</p> <p>The MMO would like to clarify that this was in relation to the extension</p>

	<p>and the potential for developments that might have cumulative effects to have come forward since this date, IPs are asked to confirm that they are content that all the relevant projects have been included in the cumulative effects assessment. If not, list those projects which you think should be included.</p> <p>2. Specifically, the ExA notes that extensions to the existing Dudgeon and Sheringham Shoal have been received by the Planning Inspectorate for a scoping opinion. Comments in respect of these projects are specifically requested.</p> <p>3. The Applicant is invited to comment and to set out how the cumulative effects relating to the proposed extensions to the existing Dudgeon and Sheringham Shoal have been considered,</p> <p>4. With either proposed option, the Dudgeon and Sheringham Shoal onshore cable would cross the Norfolk Boreas onshore cable. How have these cumulative effects been considered?</p>	<p>assessment to occur. This is for all marine and terrestrial elements of the project.</p>	<p>projects. However the MMO are content with the response from the Applicant and Natural England and agree that the Dudgeon and Sheringham Shoal extension should not be included within the cumulative assessments due to lack of information in the public domain.</p>
5	Development Consent Order and Deemed Marine Licences		
5.1	Articles		
5.1.4	<p>Article 6: Benefit of the Order Respond to the Transfer of Benefit concerns from MMO regarding mechanisms for two potential OWF</p>	<p>The Applicant: The Applicant has responded to this question in its Written Summary of the Applicant's Oral Case at Issue Specific Hearing 1 and the Applicant refers</p>	<p>The MMO confirmed they were content with the amendments within REP1-058. The MMO have</p>

	<p>developers working in close proximity; especially with regard to in-combination effects.</p>	<p>the ExA to document reference ExA.ISH1.D1.V1 / REP1-041. Following Issue Specific Hearing 1 and Deadline 1, the Applicant has since discussed these matters further with the MMO and the Applicant understands that the MMO are content with the clarifications provided by the Applicant.</p>	<p>discussed the wording with the Applicant and will review the next version of the dDCO.</p>
5.5	SCHEDULES 9 to 13: Deemed Marine Licences		
5.5.2	<p>Review Applicant responses [AS-024] to MMO relevant rep [RR-069]:</p> <p>1. Concurrent piling both within the project and between Norfolk Boreas and Norfolk Vanguard (underwater noise effects) with recommended consideration of inclusion of a cooperation condition between developers working in close proximity and recommendation of DCO/DML amendment for a worst-case scenario if more than one pile is to be installed within a 24-hour period [Schedules 9-13 Condition 21] expanding on [AS-024 Table 26 row 54];</p> <p>2. Implication that new cable protection works are considered, by the Applicant, to be licenced for deployment at any time during the operation of the works; [RR-069 2.1.33 to 39]; and proposed requirement for new cable protection and foundation replacement during operations to be separately licenced [Schedules 9-13 Condition 22]</p>	<p>Natural England:</p> <p>1. Natural England would refer to our significant concerns regarding the lack of a clear proposed mechanism to co-ordinate noise activities within the Southern North Sea SAC. Although, Natural England does note that applying a co-ordination condition to only one development would not address those concerns. 2. Natural England and MMO are preparing a joint position statement on cable protection and parameters in which it may be consented and deployed. 3. And 5. Natural England supports the MMO position on appeals and arbitration. Natural England Relevant Representation [RR-099], has made clear the need for six months. We note the comments by the Applicant; however, our position remains unchanged. In addition, Natural England notes that the recent East Anglia One North and East Anglia two draft DCOs include six months for similar conditions.</p>	<p>1. The MMO understand the concerns raised by Natural England in relation to the mechanism to control underwater noise within the North Sea.</p> <p>The MMO are currently part of the Southern North Sea (SNS) Special Area of Conservation (SAC) underwater noise regulator group with the aim to develop a mechanism to be used to manage noise within the SNS SAC. The MMO are continually working towards this mechanism and would advise that the SNS SAC Site Integrity Plan is still the most appropriate way for managing noise in the Southern North Sea at this time.</p>

	<p>expanding on [AS-024 Table 26 row 63];</p> <p>3. Request for removal of the appeals process in [Schedules 9-13 Part 5 Procedure for Appeals];</p> <p>4. 6 instead of 4 month timescale for submission of discharge documents [Schedules 9-13 condition 15(5)];</p> <p>and</p> <p>5. Appeal process related to applications for discharge of conditions. [Schedules 9-13 Conditions 14 and 15].</p>		
6	Fishing		
6.0.2	<p>Potential impact of development on inshore fisheries and fishing: Comment on the Applicant's responses [AS-024] to Relevant Representation [RR-091] in regard to the following issues:</p> <p>1. Impacts of pile-driving: effect on sandbanks and marine mammal populations affecting fishing gear.</p> <p>2. Cable installation: sedimentation effects on shrimp population affecting inshore fisheries of bottom-feeding fish, crab and lobster.</p> <p>3. Increased marine traffic: effects of windfarm service vessel traffic on fishing gear and safety of fishing vessels.</p>	EIFCA: Response in REP2-069.	Cefas have reviewed the applicant's information and all comments were raised within the MMO Relevant representation (RR-069).
8	Habitats Regulation Assessment		
8.0.5	Mitigation	The Applicant:	The MMO note these responses and defer to

	<p>In several areas in the HRA Report, the Applicant has relied upon mitigation to exclude a likely significant effect e.g. trenchless crossing of the River Wensum and lethal effects and permanent auditory injury to harbour porpoise from piling. Can NE comment on whether it considers this interpretation to be consistent with the People Over Wind judgement?</p>	<p>In Case 323/17 People over Wind and Peter Sweetman v Coillte Teoranta, the Court of Justice of the European Union ruled that where a developer has screened out the need for Appropriate Assessment of a SAC or SPA on the grounds that a significant effect is unlikely, the proposed mitigation measures must not be a factor in this decision. The Court interpreted mitigation as "measures that are intended to avoid or reduce the harmful effects of the envisaged project on the site concerned". The Court also stated that, "A full and precise analysis of the measures capable of avoiding or reducing any significant effects on the site concerned must be carried out not at the screening stage but specifically at the stage of the Appropriate Assessment".</p> <p>(i) Trenchless crossing (Appendix 5.2, paragraph 123) [APP-203] Paragraph 123 of Appendix 5.2 Habitats Regulations Assessment (HRA) onshore screening [APP-203] states: "the River Wensum is located in the onshore project area. The onshore cable corridor crosses the River Wensum at Elsing. As part of the embedded mitigation for the project, a trenchless technique (e.g. HDD) will be used when crossing the River Wensum. This technique will ensure that there are no direct effects upon any of the qualifying features of the SAC within the site boundary and therefore potential direct effects upon the SAC boundary are screened out from any further assessment."</p>	<p>Natural England on this point.</p>
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		<p>The trenchless techniques are inherent features of the onshore transmission works as set out in requirement 16(13).</p> <p>(ii) Mitigation for noise effects from piling (Appendix 5.2 Habitats Regulations Assessment (HRA) Offshore Screening [APP-202] Paragraph 123 of Appendix 5.2 Habitats Regulations Assessment (HRA) Offshore Screening [APP-202] states:</p> <p>"Marine Mammal Mitigation Plans (MMMPs) for UXO and piling will be produced post-consent in consultation with relevant stakeholders and will be based on the latest scientific understanding, guidance and detailed project design. A draft MMMP for piling has been included with the DCO application (document 8.13). The MMMPs will contain adequate and effective mitigation measures that will reduce the risk of permanent auditory injury (Permanent Threshold Shift (PTS)) to harbour porpoise as a result of underwater noise. The commitment to the MMMP reduces the risk of permanent auditory (PTS) injury. The HRA will assess the potential effects of any permanent auditory (PTS) injury, taking into account embedded mitigation and the MMMPs."</p> <p>Natural England:</p> <p>According to the People over wind Judgement measures intended to avoid or reduce harmful effects, generally referred to as 'mitigation measures' cannot be taken into account when deciding whether a plan or project is likely to have a significant effect on a European site. Rather, a competent authority must take account of</p>	
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		measures intended to avoid or reduce the harmful effects of a plan or project as part of the appropriate assessment. Only then can a conclusion be drawn as to whether the plan or project will have an adverse effect on the integrity of the site. Where mitigation is relied on to remove impact these sites should be assessed within the AA.	
8.11	Marine Mammals		
8.11.5	<p>Piling Hammer Energy A maximum hammer energy of 5,000kJ for driven or part-driven foundations is stipulated in Condition 14(3) (Schedule 9-10), and Condition 9(3) (Schedule 11-12) of the dDMLs [AS-019]. This does not reflect the maximum hammer energies stipulated for quadropod or tripod foundations, as described in ES Chapters 5 and 12. Applicant to comment.</p>	<p>The Applicant: Although the maximum hammer energy of 2,700kJ for pin-piles which could be used to install Jacket foundations is not listed within the dDCO, it is secured within document 8.13, the draft Marine Mammal Mitigation Protocol (APP-704). This document makes it clear that the worst case scenario for the hammer energy used to install pin-piles would be 2,700kJ and this is what has been assessed within the EIA and HRA. The Applicant does not consider it necessary to include a maximum hammer energy for pin-piles within the DCO. This approach is consistent with other recent DCOs for wind farm projects both made (East Anglia THREE) and in draft (Hornsea Project Three and Norfolk Vanguard).</p>	<p>The MMO have reviewed the comments along with what parameters should be included within the dDCO/DMLs and the MMO require the condition to be amended to the following:</p> <p><i>14(3) In the event that driven or part-driven pile foundations are proposed to be used, the hammer energy used to drive or part-drive the pile foundations must not exceed—</i></p> <p><i>(a) 5,000kJ in respect of monopile foundations; and</i></p> <p><i>(b) 2,700kJ in respect of pin piles.</i></p> <p>The MMO note that this is a similar condition to what has been included within the East Anglia One North and</p>

			East Anglia 2 Offshore Wind Farm draft DCO/DML.
8.11.6	<p>Piling</p> <p>Provide an update on discussions between the Applicant and MMO regarding the need to prevent concurrent piling between Norfolk Boreas and Norfolk Vanguard and restrict the number of piles to be installed per 24 hour period [AS-027].</p>	<p>Natural England:</p> <p>Natural England has briefly discussed this issue with both the Applicant and the MMO. We note that the number of piles may be limited through the SIP. However, also note our concerns regarding the mechanism to manage inter-project co-ordination have not yet been addressed by the MMO.</p>	Please see our response to question 5.5.2.
8.12	Benthic Ecology		
8.12.2	<p>Annex 1 Reef</p> <p>The Applicant [AS-024] explains what action would be required in the event that Annex I reef encountered along the connection route was so extensive that micrositing was not possible. Can the Applicant explain how any such action would be consistent with the site's conservation objectives?</p> <p>Is NE in agreement with the Applicant that these proposals are consistent with the site's conservation objectives?</p>	<p>Natural England:</p> <p>Only if impacts to all areas of Annex I reef are avoided would this be consistent with sites conservation objectives, which are to maintain and 'restore' areas of Annex I reef. As the site is already in unfavourable condition any further detrimental impacts to the interest feature is not consistent with the conservation objectives. There would also need to be clear evidence to demonstrate recoverability from similar impacts to the site feature, which currently remain uncertain.</p> <p>The Applicant:</p> <p>At the request of Natural England, the information to support HRA (document 5.3, APP-201) contains an assessment for a theoretical scenario where <i>S. spinulosa</i> reef spans the full 2km to 4.7km width of the offshore cable corridor and micrositing is not possible. The assessment concludes that due to the fact that the area of disturbance would only be</p>	<p>The MMO defers to Natural England on advice regarding Habitats Regulations Assessment. However, the MMO has not changed the position that the worst case scenario is that micrositing may not be possible and full details of the implications of this need to be addressed at the consenting stage. Consequently, the MMO maintain the position that deferring these decisions via a SIP is not appropriate.</p>

		<p>a small percentage of the area occupied by reef in that theoretical scenario, there would be no AEol. Within the conservation objectives for the HHW SAC site there are targets attached to the conservation objective for reef to recover. The targets acknowledge that, currently the extent of reef within the site is unknown stating that: “due to the ephemeral nature of the reef its presence can be highly variable in both space and time and therefore estimating its total extent is not possible”¹.</p> <p>Therefore, it is currently not possible to quantify what would constitute favourable condition for reef extent. However, if reef were so extensive across the offshore cable corridor that there was no route through the reef, it is likely that the target for that conservation objective would have been reached, and in all likelihood exceeded. Therefore, a small amount of minimal impact would not reduce the reef extent sufficiently to bring the reef feature of the SAC into unfavourable condition.</p> <p>If it was not possible to agree with the MMO and Natural England that, under conditions where the entire cable route supported <i>S.spinulosa</i> reef, impacts from cable installation would not cause AEol the Outline HHW SAC SIP (document 8.20, APP-711) contains the following statement: “If such a finding could not be reached, construction could not commence and the onus would be on Norfolk Boreas Limited to consider alternative solutions. For example, this could include: minor amendments to the redline boundary in discrete areas where the cable route</p>	
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		<p>interacted with reef to provide space for micrositing...”</p> <p>The minor amendments to the redline boundary would be made in order for the cable route design to have further room to microsite around S.spinulosa reef and therefore not inhibit the site's conservation objective to restore the reef. Noting that in such a scenario it is likely that the restore objective would have already been achieved and exceeded in any event.</p>	
8.12.7	<p>Offshore cable</p> <p>Is the Applicant willing to commit to excluding certain parts of the HHW SAC from the cable route, in particular where known areas of Annex I reef are present and where fisheries byelaws are proposed?</p>	<p>The Applicant:</p> <p>As detailed surveys of the cable route have yet to be undertaken, the precise areas of Annex 1 reef within the cable route are not yet known. Even if areas of Annex 1 reef had been identified at this stage, due to their ephemeral nature these may change by the point of construction. Similarly, it is not known whether, and the extent to which, Annex 1 reef will recover in areas to be managed as reef or where fisheries byelaws are proposed.</p> <p>Detailed surveys will be undertaken to establish areas of Annex 1 reef within the cable corridor pre-construction. The HHW SIP secures mitigation for the HHW SAC, such as micrositing of the cable route to avoid identified areas of Annex 1 reef where possible. In addition, any impacts of installing cables on Annex 1 reef will be temporary. Whilst impacts from cable protection have been assessed as permanent impacts, the Applicant has submitted evidence (Annex 3 of the HHW SIP, document reference 8.20; REP1-033) which shows that cable protection is not likely to be required in areas to be managed as reef. Further, the Grampian condition in the dDCO (Condition</p>	<p>The MMO defers to Natural England on advice regarding Habitats Regulations Assessment. However, the MMO understand that Natural England maintains that no Adverse Effect on Integrity (AEoI) cannot be concluded at this time.</p> <p>The MMO remain open to inclusion of restrictions which could mitigate risks of AEoI, if they are secured at the time of examination, to provide further comfort on the viability of the project.</p>

		<p>14(1)(m) of Schedule 11-12) requires the MMO to be satisfied that such mitigation as is necessary to avoid AEol is secured in the final HHW SIP. Therefore, it is not necessary or appropriate to exclude certain parts of the HHW SAC from the cable route at this stage and to do so would be unduly restrictive. Further, excluding parts of the HHW SAC from the cable route at this stage will reduce the area available for micrositing and therefore has the potential to inhibit the Applicant's ability to avoid areas of known Annex 1 reef during construction.</p>	
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