

Norfolk Boreas Offshore Wind Farm Written Summary of the Applicant's Oral Case at Issue Specific Hearing 2

Environmental Matters including HRA

Applicant: Norfolk Boreas Limited
Document Reference: ExA.ISH2.D1.V1
Deadline 1

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Author: Womble Bond Dickinson

Photo: Ormonde Offshore Wind Farm

Glossary of Acronyms

AEoI	Adverse Effect on Integrity
CIA	Cumulative Impact Assessment
CRM	Collision Risk Modelling
dDCO	Draft Development Consent Order
DCO	Development Consent Order
DML	Deemed Marine Licence
EA	Environment Agency
EIA	Environmental Impact Assessment
EIFCA	Eastern Inshore Fisheries and Conservation Authority
ES	Environmental Statement
ExA	Examining Authority
HDD	Horizontal Directional Drilling
HHW	Haisborough, Hammond and Winterton
HRA	Habitats Regulations Assessment
ISH	Issue Specific Hearing
MMO	Marine Management Organisation
OCoCP	Outline Code of Construction Practice
OLEMS	Outline Landscape and Ecological Management Strategy
OWF	Offshore Windfarm
PPG	Pollution Prevention Guidance
PVA	Population Viability Analysis
RR	Relevant Representations
RSPB	Royal Society for the Protection of Birds
sCRM	stochastic Collision Risk model
SAC	Special Area of Conservation
sCRM	Stochastic Collision Risk Modelling
SIP	Site Integrity Plan
SNS	Southern North Sea
SoCG	Statement of Common Ground
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

Written Summary of Oral Submissions: ISH 2 – Environmental Matters

1. Introduction

- 1.1 Issue Specific Hearing 2 (**ISH**) on Environmental Matters including HRA for Norfolk Boreas took place on 14 November 2019 at 10:00am at The King’s Centre, King Street, Norwich, NR1 1PH.
- 1.2 A list of the Applicant’s participants that engaged in the ISH can be located at Appendix 1 of this note.
- 1.3 The broad approach to the ISH followed the form of the agenda published by the Examining Authority (the **ExA**) on 7 November 2019 (the **Agenda**).
- 1.4 The ExA, the Applicant, and the stakeholders discussed the Agenda items which broadly covered the areas outlined below.

Item	ExA Question / Context for discussion	Applicant's Response
AGENDA ITEM 3 (Marine Ecology)		
a)	To have a discussion regarding compliance of the Application with the East Inshore and Offshore Marine Plans.	The Applicant has discussed the East Inshore and Offshore Marine Plans with the MMO and the Applicant has agreed with the MMO to supply the requested checklist at Deadline 1. The Applicant has included this document alongside the Deadline 1 submissions as document reference: ExA.AS-4.D1.V1.
b)	To understand when the further seabed mobility studies would be completed and any potential impacts on biodiversity receptors.	<p>The seabed mobility study has been completed and a report is being finalised, which will be provided to the MMO.</p> <p>The results of the study further support the evidence provided within the Environmental Statement (ES) and information to support HRA. The preliminary findings were already integrated within the ES and the final report only serves to confirm those initial findings. Therefore the conclusions made in Chapter 8 Marine Geology, Oceanography and Physical Processes (APP-221) remain relevant, as do those which use the findings of chapter 8 to underpin assessments on marine ecology; these include Chapter 10 Benthic and Intertidal Ecology (APP-334), Chapter 11 Fish and Shellfish Ecology (APP-335), Chapter 12 Marine Mammal Ecology and Chapter 13 Offshore Ornithology.</p> <p>In conclusion, the findings of the study do not change the results of the impact assessment and only increase certainty in the baseline which underpins those assessments.</p> <p>The Applicant confirmed that the Seabed Mobility study will be submitted at Deadline 1. The Applicant has</p>

		included this document alongside the Deadline 1 submissions as document reference: ExA.AS-2.D1.V1.
c)	To understand the risks associated with the conceptual model for physical marine and coastal process impacts on marine ecological receptors, particularly in relation to designated features in the Haisborough, Hammond and Winterton SAC (HHW SAC), including cumulative/in – combination impact assessments.	<p><u>The Conceptual Model</u></p> <p>The Applicant explained that the conceptual model was used for East Anglia THREE and Norfolk Vanguard; it was also agreed through the Norfolk Boreas Evidence Plan Process (EPP). This approach was originally proposed and accepted for East Anglia THREE following a review of Round 1, Round 2 and the East Anglia ONE offshore wind farms. The models used for these projects all concluded that there would be no significant effects on the physical processes. It was then considered that any modelling applied at other sites would be highly likely to draw the same conclusions.</p> <p>A Method Statement, presenting the conceptual approach was provided to the Norfolk Boreas Marine Physical Processes Expert Topic Group in January 2018. The method Statement, which is contained in Appendix 9.16 of the consultation report (APP-053) (starting on the 44th page of that document), was discussed and agreed at a meeting in February 2018, with further comment provided by the MMO and Natural England in March 2018.</p> <p>The conceptual approach is further justified due the distance of the Norfolk Boreas site from any sensitive receptors. It is further from the coast than both Norfolk Vanguard and East Anglia THREE and further from the HHW SAC than Norfolk Vanguard.</p> <p>The MMO do note in their Relevant Representation (RR-069) that there are limitations of a conceptual approach; notwithstanding this, the MMO conclude that: although “<i>the impacts are defined qualitatively the MMO considers the significance assessments to be generally reasonable</i>”. The Applicant agrees with this statement and considers that the assessment is proportionate to the level of risk posed by the project to the physical marine and coastal process receptors.</p> <p><u>Norfolk Boreas Site</u></p> <p>The Applicant explained that the greatest effects on physical processes would be from effects associated with the wind farm array. The main sources of effect would be from the placement of foundations and associated scour protection. As demonstrated by the modelling completed for East Anglia ONE, effects of physical processes would be localised around each turbine foundation or platform. This would be true of both the sediment released as part of the seabed levelling during construction, and the physical effects of the foundations upon processes such as waves, tides, currents and also sediment transport once the foundations are in place.</p> <p>The modelling used for East Anglia ONE assessed far greater sediment release volumes and larger structures than those contained within the Norfolk Boreas project design envelope. Therefore, when applying the findings of this modelling to the Norfolk Boreas assessment there is already a level of precaution built in. Section 8.7.3 and Table 8.12 in Chapter 8 of the ES (APP-221) provides full justification for why the modelled results from East Anglia ONE can be applied to the Norfolk Boreas site.</p>

		<p><u>Cumulative impacts on HHW SAC</u></p> <p>For both waves and tidal currents, the zones of influence for Norfolk Boreas, Norfolk Vanguard and East Anglia THREE are aligned approximately north to south or north-northeast to south-southwest. The HHW SAC is located approximately 40km west of the Norfolk Boreas site. The assessment demonstrates that the HHW SAC is not intersected by the zones of influence of any of these three wind farms. This is also the case for the cumulative zones given that any cumulative effect would bypass the eastern side of the HHW SAC in view of the north-south alignment of the cumulative effect.</p> <p>The Applicant has also assessed the potential for cumulative effects of activities undertaken by Norfolk Boreas and Norfolk Vanguard within the HHW SAC. The magnitude of any effects within the HHW SAC would be far less than those in the wind farm sites as the works associated with cable installation are on a much smaller scale. The main effects would be from sandwave levelling and from the placement of cable protection.</p> <p>An assessment has been completed by CWIND to determine the amount of sediment which would be dredged as a result of sandwave levelling for both projects (Appendix 5.2 of ES, APP-548). This information has been used in a separate study completed by APBmer (Appendix 7.1 of the HRA, APP-206) to assess what the effect of levelling would be on the sandwaves within the HHW SAC.</p> <p>The report concludes that:</p> <p><i>“The proposed bed levelling works are not considered likely to disrupt the form and function of the sandwaves locally or at the sandbank systems scale within the SAC. These are governed by processes that occur at a much larger scale than the proposed works. The sandwaves are expected to continue to evolve in response to the natural regional scale processes, which will continue unaffected.”</i></p> <p>The assessment in Chapter 8 (APP-221) also considers the potential cumulative effects of the placement of cable protection on physical processes. However, due to the very small area occupied by the cable protection and the fact that cable protection would be only 0.5m high, or up to 0.9m high at cable crossings, the assessment concludes that effects on physical processes would be negligible.</p> <p>The Applicant noted the Eastern IFCA's concerns in relation to the potential for cables to become exposed and, accordingly, the Applicant explained that the project design envelope has assessed, and therefore allows opportunity for, sandwave levelling which significantly reduces the risk of cables becoming exposed. In the event that cables did become exposed, or in the case of damage to the cables, the Applicant must follow the detailed procedure outlined in Condition 9 of Schedule 9-10, Condition 4 in Schedule 11-12, and Condition 3 in Schedule 13.</p>
d)	To receive an update on the joint statement being prepared by MMO and Natural England on cable protection within designated sites,	The Applicant noted the MMO's comments that the MMO and Natural England are preparing a joint position statement on cable protection, particularly relevant for the operation and maintenance phase. The Applicant will review this statement once the MMO and Natural England have submitted it to the examination, which the Applicant understands is currently scheduled for Deadline 2.

	and in particular timescales.	
e)	To consider the effects on and recovery of sandbank features within the HHW SAC of repeated replacement or reburial of cable and need for monitoring.	<p>The Applicant explained that during the life of the project there should be no need for scheduled repair or replacement of the subsea cables. However, periodic inspection would be required and, if necessary, reactive repairs and reburial would be undertaken.</p> <p><u>Cable repairs</u></p> <p>While it is not possible to determine the number and location of unscheduled repair works that may be required during the life of the project, a precautionary estimate of one export cable repair every 10 years on average within the HHW SAC is included in the ES and Information to Support HRA.</p> <p>This worst case scenario used in the assessment is based on Vattenfall's experience at other existing wind farms including those built in the 2000's, since which time marine cables have become more reliable due to advancements in technology. The worst case scenario was also developed on the basis that sand wave levelling (or pre-sweeping) was not employed to bury the cables to the optimum depth. If cables were buried to the optimum depth, the likelihood of cables needing repair would be greatly reduced, possibly to zero.</p> <p>Cable repairs would only be for short sections of cable - no more than 300m in length - and the overall area impacted would be no more than 0.003km².</p> <p>Regardless of whether sandwave levelling has been used, the export cables will be inspected regularly and it will be critical that repairs can be instigated rapidly upon identifying a failure. Accordingly, a protocol for undertaking repairs would be agreed with the MMO in consultation with Natural England, through the Haisborough Hammond and Winterton Site Integrity Plan (an outline of which is provided as document 8.20 of the application APP- 711) (HHW SIP).</p> <p>Periodic cable inspections are likely to be non-intrusive and would use a remotely operated Vehicle (ROV) or drop-down video system to inspect the cable. The cables would also be monitored remotely and faults can be detected without the need to deploy survey vessels. [Further detail on this point will be provided in Applicants response to The Examining Authority's written questions and requests for information (ExQ1) (PD-008) Question Q8.12.8. This also responds to Action Point [11] from Issue Specific Hearing 2].</p> <p><u>Cable reburial</u></p> <p>As with cable repairs, the aim of the cable installation strategy for cables in the HHW SAC would be to bury cables below the mobile sandwaves where substrate is stable. This would avoid or minimise the requirement for re-burial of cables during the operational phase.</p> <p>The Information to Support HRA (document reference 5.3, APP-201) considers a worst case scenario that cables could become exposed due to moving sandwaves. This is based on a scenario where sandwave levelling/pre-sweeping had not been undertaken during installation. During the life of the project, periodic surveys would be required to ensure the cables remain buried and if they do become exposed, re-burial</p>

	<p>works would be undertaken.</p> <p>Reburial of up to 4km per cable within the HHW SAC - with reburial occurring at approximately 5 year intervals - has been estimated as a worst case scenario and assessed in the ES and Information to Support HRA report. As noted in the HRA, this is considered a very precautionary estimate and in reality, sections of less than 1km are likely to require reburial. Should pre-sweeping be permitted the requirement for reburial would be greatly reduced, if not removed.</p> <p>Using the very precautionary worst case scenario outlined in the HRA and ES, the area of disturbance that would occur as a result of the reburial would equate to only 0.03% of the total area of the HHW SAC or 0.07% of the total area of sandbank.</p> <p>The reburial process would not result in any sediment leaving the HHW SAC and therefore the sand banks would rapidly recover with no lasting loss of form or function. Therefore, the information to support HRA concludes that there would be no AEol on the sandbanks as a result of maintenance operations.</p> <p>The areas where the export cables are most likely to become exposed would be in the most mobile sediment. These areas are characterised by low diversity benthic communities which would rapidly recolonise the affected area. This type of habitat does not support <i>S.spinulosa</i> reef as reef requires a more stable substrate to establish and therefore there would be no effect on reef features of the HHW SAC.</p> <p>In order to limit as far as possible the amount of cable protection located within the HHW SAC, the Applicant has now made the commitment to attempt to rebury cables which become exposed within the HHW SAC during operation before installing any cable protection. Furthermore, following discussion with the MMO and Natural England, the Applicant has amended the Outline Operation and Maintenance Plan (document reference 8.11, APP-702) to make it clear that “Placement of cable protection in new areas” during operation would be subject to a separate Marine Licence to be applied for at the relevant time. An updated version of this document will be submitted at Deadline 1 (document reference 8.11. Version 2)</p> <p><u>Monitoring</u></p> <p>The proposed monitoring is presented within the Outline HHW SIP (document 8.20, APP-711). The full details of monitoring in the HHW SAC will be agreed with the MMO in consultation with Natural England prior to construction and would be presented in the final SIP (to be approved prior to construction pursuant to Condition 9(1)(m) of Schedule 11-12 of the dDCO).</p> <p>The proposed monitoring for sandbanks in the outline HHW SIP Table 6.1 is as follows:</p> <ul style="list-style-type: none"> • A single geophysical pre-construction survey within the areas which the Applicant proposes to carry out construction works, including a 500m buffer area around the site of each works and a single geophysical post construction survey around the footprint of the cable installation works to assess any changes in seabed topography. The undertaker will, prior to the survey, submit a desk based assessment to the MMO and agree the scope of the survey. • If after the post construction survey the sandbanks have not shown significant recovery, further
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		<p>surveys will be agreed with the MMO to further monitor the recovery.</p> <p>It should also be noted that – in the event of scenario 1 – the results from the Norfolk Vanguard pre-construction and post-construction surveys would also be available to inform monitoring undertaken for Norfolk Boreas within the HHW SAC.</p>
f)	<p>To consider the need for hydrodynamic modelling for sediment disposal as a result of dredging operations.</p>	<p>Sediment disposal could occur as a result of seabed levelling for foundation placement and sandwave levelling to install cables at the optimum depth. Both of these activities could occur within the Norfolk Boreas Site, however it would only be the sandwave levelling which may occur within the HHW SAC, if permitted.</p> <p>As described in Chapter 8 of the ES (APP-221), the assessment uses modelling simulations undertaken for the East Anglia ONE offshore wind farm as a proxy for Norfolk Boreas. The simulations for East Anglia ONE were conducted by ABPmer using the 'Delft3D' plume model.</p> <p>The use of a proxy model is justified as the sediment characteristics are largely similar at both sites. The East Anglia ONE modelling studies used a daily release of 22,500m³ of sediment. The estimated maximum release of sediment due to seabed levelling for a foundation at the Norfolk Boreas site is 14,137m³. The proxy use of this model is, therefore, considered to be conservative.</p> <p>The results of the modelling at East Anglia ONE showed that for the most part, the deposited sediment layer across the wider seabed was found to be less than 0.2mm thick and did not exceed 2mm at any location.</p> <p>As described in Chapter 8 Marine Geology, Oceanography and physical processes (APP-221) no sensitive receptors were identified within the Norfolk Boreas site. Furthermore, as described in Chapter 10 Benthic and Intertidal Ecology (APP-223), the benthic surveys of the Norfolk Boreas site did not identify any sensitive features, save for a couple of very small areas of <i>S.spinulosa</i> reef which would be avoided through micrositing of infrastructure. Therefore, only minor impacts on benthic ecology were predicted and as a result no additional mitigation such as hydrodynamic modelling is proposed.</p> <p>The Applicant notes that the approach of using the results of modelling for East Anglia ONE as a proxy was agreed through the EPP and this approach was also used for both East Anglia THREE and Norfolk Vanguard; the latter being closer to sensitive receptors compared to that of the Applicant's site.</p> <p>In conclusion, the Applicant maintains that the use of a proxy model is appropriate and proportionate to the magnitude of impacts that would occur especially given the distance from potentially sensitive features. Therefore no hydrodynamic modelling is required either to inform the EIA or as a future mitigation measure. The Applicant did, however, acknowledge the MMO's comments and the Applicant and the MMO will seek to capture any further updates in the Statement of Common Ground as are considered necessary following responses from the MMO's scientific advisers.</p>

g)	To consider the approach to <i>S.spinulosa</i> reef mapping and assessment.	<p>The Applicant explained that the benthic survey method was agreed with Natural England and the MMO in 2016. The method included geophysical data collection with ground truthing by grab sampling and drop down video where grab sampling could not be completed. Thereafter, Fugro produced a biotope habitat map, primarily using the geophysical data.</p> <p>The biotope of <i>Sabellaria spinulosa</i> on stable circalittoral mixed sediment was identified as potentially being present. However, the Applicant and Natural England agreed during the EPP discussions led by Norfolk Vanguard that the potential presence of a Sabellaria biotope does not determine that the biogenic reef may be present given that <i>Sabellaria spinulosa</i> is a very common worm and is not always reef forming.</p> <p>The Applicant then commissioned Envision Mapping Limited, who are widely recognised as leaders in the field of benthic mapping and especially identification of Sabellaria reef, to undertake further investigation of the potential extent of Sabellaria reef.</p> <p>Envision Mapping Limited has mapped what the Applicant considers to be the current location and extent of Sabellaria reef. Natural England, with the JNCC, have identified areas '<i>to be managed</i>' as Sabellaria reef which are therefore different to the areas which are considered to currently contain Sabellaria reef. Notwithstanding this difference, the two maps correspond reasonably well.</p> <p>In relation to progressing the two approaches to mapping, Natural England have expressed some concerns - during both the Norfolk Vanguard examination and in the Relevant Representation for Norfolk Boreas - with the methods used by the Applicant, and discussions around these concerns have not resolved the issues. The Applicant explained that it has been difficult to resolve this matter with Natural England.</p> <p>The Applicant proposed that, rather than undertake any further critique of two different mapping approaches, the Applicant proposes to undertake a further "interim" survey in 2020 to map the current extent of <i>S.spinulosa</i> reef. The results of this survey will provide the Applicant and Natural England with a clearer picture of the ability for the project to microsite.</p> <p>If, as the Applicant expects, the results of this survey in 2020 show that there would be room to microsite the export cables to avoid <i>S.spinulosa</i> reef then preliminary routing studies would begin. These would then be refined using the pre-construction surveys conducted for the Norfolk Vanguard project and then Norfolk Boreas pre-construction surveys would be used to further refine and microsite further the cable route to produce the final route design which would be agreed with the MMO and Natural England through the HHW SIP.</p> <p>If the interim survey showed that micrositing would not be possible then the Applicant would need to consider other solutions as provided for in the Outline HHW SAC SIP - for example, minor amendments to the redline boundary to provide further space for micrositing, or other mitigation measures aimed at reducing the area of disturbance.</p>
h)	To consider the need for a licence condition for releasing sediments	In order to give further confidence to Natural England and the MMO, the Applicant proposes to make a commitment to release disposal material close to the seabed using a fall pipe (sometimes referred to as a

	50m, rather than 500m, from <i>S.spinulosa</i> reef.	down pipe) when carrying out dredging within the SAC to ensure that the 50m buffer is maintained. The Applicant proposes to add this commitment to the Outline HHW SAC SIP to be submitted at Deadline 1 (document reference 8.20. Version 2).
i)	To understand the need for considering the cumulative effects on sandeel and the need for post-construction habitat assessment.	<p>Consultation with the MMO in this respect is ongoing and it is hoped that this issue will be resolved within discussions regarding the SoCG.</p> <p>Aspects that the Applicant considers are of key relevance with regard to the assessment of cumulative impacts on sandeels include the following:</p> <ul style="list-style-type: none"> • Loss of habitat associated with offshore wind farm development is relatively small, limited to localised areas around project infrastructure at each individual offshore wind farm project, rather than across the full extent of the area of projects. • Evidence from post construction monitoring in areas where sandeels constitute an important component of the fish assemblage indicates that direct loss of habitat from the introduction of offshore wind farm infrastructure and indirect effects (i.e. changes to sediment type) are too small to influence the abundance of sand-dwelling species such as sandeels. This would also apply in a cumulative context and therefore, to a large extent, it would negate the potential for any significant additive loss of grounds to occur on this species. • In the context of the cumulative assessment, the small potential contribution of Norfolk Boreas to impacts on sandeels should also be recognised. As shown in Chapter 11 Fish and Shellfish Ecology (Document reference 6.1.11 / APP- 224a) evidence from the distribution of spawning and nursery grounds (which is understood to largely mirror adult distribution), data from the sandeel fishery in the North Sea (derived from VMS data for the Danish sandeel fishery), and the distribution of known mapped sandeel grounds, all suggest that the area of the project supports sandeels in relatively low numbers. • The MMO have suggested in their Relevant Representation (RR-069) that the area of the project may become important to sandeels as other areas become unavailable in the future and that this should have been accounted for in the cumulative assessment. In this context the Applicant notes that the assessment presented in Chapter 11 Fish and Shellfish Ecology takes account of the existing baseline environment and knowledge on planned potential future developments in the North Sea. It is not possible to attempt to predict the distribution of sandeels in the North Sea in the future and the areas which may be colonised as a result of loss of habitat in other areas. In this context, it is also important to note the high site fidelity that sandeels display and the fact that they generally only undertake short distance movements (i.e. settled individuals rarely disperse over distances greater than tens of kilometres). Considering this, and given the absence of key sandeel grounds in the immediate area of the project, there would be limited potential for any high-level colonisation of the Norfolk Boreas Site to take place in the future.

j)	To understand the concerns of using Site Integrity Plans for SNS and HHW mitigation and management.	<p>The Applicant understands that the principal concern in relation to Site Integrity Plans (SIP) relates to the use of a Grampian condition which requires consideration of adverse effect on integrity (AEoI), as opposed to the mitigation secured in the actual plans.</p> <p>For Norfolk Boreas, the relevant conditions in relation to the Southern North Sea (SNS) SIP are:</p> <ul style="list-style-type: none"> • Condition 14(1)(m) of Schedules 9 and 10 (the Generation Licence DMLs); and • Condition 9(1)(l) of Schedules 11 and 12 (the Transmission Licence DMLs). <p>The relevant condition in relation to the Haisborough, Hammond and Winterton (HHW) SIP is:</p> <ul style="list-style-type: none"> • Condition 9(1)(m) of Schedules 11 and 12 (the Transmission Licence DMLs). <p>The conditions require the MMO to be satisfied that the SIP provides mitigation necessary to avoid AEoI.</p> <p>In relation to the SNS SIP, the Applicant's position is that the Secretary of State endorsed the principle of the SNS SIP as the correct approach to securing strategic mitigation in East Anglia Three (2017) and in the draft Habitats Regulation Assessment on the recent Review of Consents (2018). Whilst the Applicant understands that the MMO's concerns relate to how in-combination impacts can be managed in practice, the MMO is best placed to undertake this function given its regulatory role and its strategic oversight and control of all offshore wind projects. It is not appropriate for individual projects to manage in-combination impacts beyond securing a SIP which contains appropriate mitigation. The Applicant understands that the MMO is in the process of agreeing a process with stakeholders for implementation of this strategic mitigation.</p> <p>The Applicant is not reliant on the Grampian condition to avoid AEoI in relation to the HHW SAC. The Applicant's position is that the significant mitigation which has been committed to in the plan is sufficient to avoid AEoI. Natural England is concerned that the final route of the cable and location of cable protection is not yet known and that, in the future, the ephemeral nature of <i>S.spinulosa</i> and the restore objective for the HHW SAC could result in <i>S.spinulosa</i> reef being affected at the point of construction. The HHW SIP was introduced for this reason - to give additional comfort, confidence and control to the MMO and Natural England. Once the precise location of cabling (following micrositing) and cable protection was known, the Grampian condition would allow any impacts on the Sabellaria (as a result of its future location at the point of construction) to be established. The Applicant considers that the principle is no different to, and an evolution of, the previous position where undertakers would re-assess impacts on Annex 1 habitat at the point of construction.</p> <p>Notwithstanding this, the Applicant has noted the issues raised by Natural England and the MMO in their relevant representations (RR-099 and RR069) and the Applicant has included additional mitigation measures - in order to provide further confidence in relation to the HHW SAC post-application, which can be summarised as follows:</p> <ol style="list-style-type: none"> 1. Commitment to dispose of sediment in a linear strip close to the cable route, rather than in a
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		<p>defined location.</p> <ol style="list-style-type: none"> 2. Disposing of sediment immediately upstream of where it was dredged from. 3. Disposing of sediment at the seabed using a fall pipe to ensure sediment disposal is accurate and does not impact <i>S.spinulosa</i> reef. 4. Commitment to undertake an interim survey in 2020 to map the current extent of <i>S.spinulosa</i> reef within the HHW SAC to allow preliminary route design. 5. Commitment to not using Jack up vessels within the HHW SAC. 6. Commitment to always attempt to rebury cables in the HHW SAC prior to deploying cable protection (in which, a marine licence would be required for additional areas of cable protection). <p>These further mitigation measures will be added to the HHW SIP for Deadline 1 (document reference 8.20. Version 2).</p> <p>In response to a question as to whether the Applicant considered that this matter would be resolved with Natural England, the Applicant explained that the Applicant, and the Norfolk Vanguard applicant, has engaged in lengthy discussions with Natural England; the Applicant previously understood that many of the concerns had been allayed by the commitments within the HHW SIP. For example, Natural England agreed in the Statement of Common Ground with Norfolk Vanguard (at page 11) that the HHW SAC SIP combined with the Transmission DML Condition 9(1)(m) allows a conclusion of no AEOL to be made at the consent determination stage. The Applicant understands that the position Natural England are now taking is different to that within the Norfolk Vanguard examination. The Applicant therefore recognises that it may be difficult to progress this matter much further. The Applicant is, of course, willing to progress discussions on this matter with Natural England and in addition to the commitments (as listed at points 1-6, above) made by the Applicant since Natural England's relevant representation (RR-099), to include discussing whether a revision to the wording of the DML condition (to delete reference to the Grampian nature of the condition and to delete the requirement to be satisfied of no AEOL) would help to alleviate Natural England's concerns.</p>
k)	To understand the concerns regarding modelling of continuous noise impacts on marine mammals.	<p>The Applicant confirmed that the impulsive criteria is stricter than the non-pulse (continuous criteria). All of the results for the continuous noise using the impulsive criteria are low - less than 500m. Any ranges calculated using the non-pulse (continuous) criteria will therefore be much smaller than this. Therefore, modelling using the non-pulse (continuous) criteria would not add anything further to the assessment.</p> <p>The approach to the assessment of underwater noise, including the noise modelling method was agreed through the EPP as shown in the following SoCG:</p> <ul style="list-style-type: none"> • Marine Management Organisation (AS-027); • Natural England (AS-028);

		<ul style="list-style-type: none"> • The Wildlife Trust (AS-031); and • WDC (yet to be submitted (ExA.SoCG-25.D2.V1)).
l)	To discuss the value of the Memorandum of Understanding (MoU) between the Applicant and the Wildlife Trust in relation to the development of EPS injury and disturbance licences post consent.	<p>Vattenfall has prepared a Memorandum of Understanding for The Wildlife Trusts, which applies in relation to Vattenfall's relevant offshore wind projects including Norfolk Boreas. The Memorandum of Understanding sets out how Vattenfall proposes to engage with The Wildlife Trust in relation to relevant offshore wind projects. The draft Memorandum of Understanding has been sent to The Wildlife Trusts and their comments are awaited. A meeting is being arranged to discuss the Memorandum with The Wildlife Trusts in late November.</p> <p>The Memorandum of Understanding does not expressly deal with EPS injury or disturbance licences post consent. For the purposes of the Norfolk Boreas application, whilst the anticipated need for UXO and boulder clearance was considered in the ES, consent for these activities is not sought in the DCO application given that there is not yet sufficient detail on the amount of UXO or boulder clearance which will be required. This will only be established once further, more detailed surveys are conducted post consent. A separate Marine Licence for UXO and boulder clearance will therefore be sought at the appropriate time, and this will be supported by a specific MMMP for UXO and boulder clearance. EPS Licences in relation to this, will be sought as necessary in due course. Given this, and the wider application of the Memorandum of Understanding, the Applicant does not consider the Memorandum of Understanding to be relevant to the determination of the Norfolk Boreas DCO application.</p>
N/A	The ExA asked for an update regarding the statement in Natural England SoCG (ExA.SoCG-17.D0.V1): <i>“Natural England would welcome further discussion with the Applicant regarding their conclusion of no adverse effect on integrity of the Humber Estuary SAC considering up to 37% of the grey seal population of the SAC could potentially be impacted from Norfolk Boreas and all other projects and plans.”</i>	The Applicant confirmed that this matter has been discussed with Natural England and the Applicant expects to take this forward through the Statement of Common Ground with Natural England.
AGENDA ITEM 4 (Terrestrial Ecology and Surface Water)		
a)	To consider the need for further information regarding potential	The Applicant explained that Natural England had requested site specific water crossing plans to address their concerns. The Applicant's position is that Requirement 25 contains the commitment to the water

	<p>impact of open cut trenching and management measures on fish species.</p>	<p>crossing plans and further information to this effect will be included in the OCoCP at Deadline 1.</p> <p>With respect to impacts on fish species, Section 22.7.5.17 ES Chapter 22 Onshore Ecology (document 6.1.22, APP- 235) considers the potential impact of open cut trenching on fish species during construction. Baseline information has identified three watercourses where sensitive fish species may be present within the onshore project area. For these three watercourses (Booton watercourse, Reepham Stream (eastern branch) and Reepham Stream (western branch)), post-consent surveys of the river substrate at open cut trench crossings are secured through the OLEMS (section 9.14.3.1). Further mitigation with respect to fish is proposed to be agreed in consultation with Natural England and included in the Ecological Management Plan (pursuant to Requirement 24 of the dDCO), following these post-consent surveys. The possible options for this mitigation include ecological supervision during works, timing of works to avoid sensitive seasons or micrositing, and this is included within the OLEMS (document reference 8.7, APP-698).</p> <p>Section 11.1.5 of the OCoCP (document 8.1, APP-692) also identifies mitigation measures at watercourse crossings, including specific reference to fish rescue being undertaken where appropriate, such as if required in the areas between the temporary dams prior to dewatering.</p> <p>As set out above, the Applicant has committed to the development of a scheme and programme for each watercourse crossing, diversion and reinstatement, to be submitted to and approved by the relevant planning authority in consultation with Natural England. This is secured through Requirement 25 (Watercourse Crossings) of the dDCO and this commitment will be captured within an update to the OCoCP, to be submitted at Deadline 1. The requirement for any specific mitigation with respect to fish will be considered during the development of these site specific plans.</p>
<p>b)</p>	<p>To understand the concerns, and further information required, related to possible HDD drilling mud breakouts, particularly in relation to the River Wensum SAC.</p>	<p>The Applicant explained that concerns have been raised by Natural England and the Environment Agency (EA) with regards to trenchless crossings and the potential risk of drilling fluid breakout. These concerns have been raised in view of breakouts that have occurred on other projects. The EA agree with the use of trenchless crossings at the proposed locations but the EA are keen to ensure the method is controlled. Natural England have acknowledged that the impacts associated with trenchless techniques have been assessed but Natural England request more detail on the method to be used, incorporating lessons learned from the previous projects, with particular reference to the River Wensum SAC. The Applicant's position is that the trenchless crossing has been embedded within the scheme to avoid impacts on the larger and more sensitive watercourses. However, the Applicant acknowledges that during the trenchless crossing there is the potential for accidental release / breakout of the inert drilling fluids such as bentonite.</p> <p>The Applicant refers the ExA to Chapter 20 Water Resources and Flood Risk (APP-233), which addresses potential impacts of the accidental release of fluids into watercourses, including inert drilling fluids from trenchless crossings. Mitigation measures to reduce potential impacts are detailed in the OCoCP including a commitment to a breakout contingency plan. In order to attempt to further allay the concerns raised by the EA and Natural England, the Applicant is preparing a Clarification Note which will provide further information on the potential for drilling fluid breakout and examines the potential effects on the River</p>

		<p>Wensum. This will be submitted at Deadline 1 (document reference ExA.AS-3.D1.V1).</p> <p>The Applicant also explained the difference in methods for installation of ducts between open cut trenching and trenchless (surface to surface) techniques. The Applicant has agreed to avoid sensitive features and this commitment is secured in Requirement 16 of the dDCO. The drill uses fluid, and the concern for Natural England and the EA is in relation to fluid breakout, which is why the Applicant is proposing to provide a clarification note. The Applicant also noted that the trenchless method is embedded mitigation in itself and the more detailed design to ensure any breakouts are minimised and/or mitigated would be part of ground investigations post-consent and prior to commencement of works.</p> <p>The Applicant explained that there is an option to utilise other methods of trenchless technologies but this decision will be taken prior to construction once the Applicant has assessed the suitability of the method respective to the site in question.</p> <p>In respect of the landfall works, Requirement 17 provides that the Applicant must use a long horizontal directional drill. For the purposes of the dDCO, the definition of HDD does not preclude other trenchless methods which do not require vertical shafts given it is defined as:</p> <p><i>"horizontal directional drilling" means a trenchless technique for installing an underground duct between two points without the need to excavate vertical shafts.</i></p> <p>A Method Statement for the landfall works, which must be approved by North Norfolk District Council in consultation with Natural England, is secured under Requirement 17.</p> <p>The Applicant will also produce a method statement for the River Wensum to outline the proposed crossings in more detail, which addresses Action Point 4 and will be submitted at Deadline 2.</p>
c)	<p>To understand the potential impact of trenchless crossings and the implications of construction plant compounds adjacent to water courses on fish species and how these will be mitigated.</p>	<p>The Applicant explained that the baseline information and commitment for site-specific watercourse crossing plans discussed under point a) of Agenda Item 4 also applies with respect to construction plant compounds associated with watercourse crossings. Good environmental practice will be followed during the construction phase of the project, in accordance with the Environment Agency's Pollution Prevention Guidance (PPG1, PPG5, PPG6, PPG21 and PPG22), as detailed in section 6.1 of the OCoCP.</p> <p>The Applicant has set out sediment management measures which will be implemented during construction within the vicinity of watercourse crossings, as secured in section 11.1 of the OCoCP.</p> <p>Separate measures are detailed within Section 11.1 of the OCoCP which apply within (1) the functional floodplain, (2) the Wensum catchment but outside the functional floodplain, and (3) other onshore areas. The measures include details of the series of measures which will be implemented to minimise the risk of sediment release into nearby watercourses, for example measures in relation to topsoil management, runoff management and soil storage, together with the use of buffer strips. Following implementation of this mitigation, the potential impact arising from sediment release (as identified in Section 20.7.4.2 of Chapter 20 Water Resources) is considered to be negligible to minor adverse.</p>

d)	To consider the need for post construction surveys or monitoring of protected habitats and species.	<p>The Applicant recognises that Natural England raised some specific points on post-construction monitoring. The Applicant has, therefore, included a provision for post-construction monitoring where it is an appropriate part of mitigation for an identified impact upon a habitat or species. All monitoring proposed as part of the mitigation has been developed following Natural England's Standing Advice on legally protected species. Details of post-construction monitoring for reinstated habitats and for specific species is set out within the OLEMS (APP-698). Specific post-construction monitoring programmes set out in the OLEMS (APP-698) include monitoring with respect to hedgerows in the Paston Great Barn SAC and SSSI study area (section 7.2.3.3); watercourses which are subject to mitigation for water voles (section 9.8.3.2); and great crested newt (section 9.10.3.3) populations affected by the onshore project area.</p> <p>The Applicant acknowledges the request from Natural England for the monitoring of United Kingdom Habitats Principal Importance and Norfolk Local Biodiversity Action Plan grassland habitats, and 1 year of post-construction monitoring of these habitats will be included within an updated OLEMS (section 9.3.3.3), to be submitted at Deadline 1.</p> <p>In relation to any potential enhancement, the Applicant has identified a number of specific environmental receptors which may be suitable for habitat enhancement - for example, with respect to Paston Great Barn SAC, improving the ecological value of the hedgerows as part of reinstatement. The Applicant has committed to undertake enhancement wherever possible particularly at the open-cut trenching locations, and this will be considered further within the site-specific watercourse crossing plans.</p>
e)	To understand the difference in definition of chalk rivers between EA and the Applicant, and to consider if the definition affects the outcome of the Applicant's assessment.	<p>In response to comments from the Environment Agency (EA) on the designations for Chalk Rivers, the Applicant refers to Chapter 22 Onshore Ecology which explains that rivers are UK Habitats of Principal Importance (UKHPI) but are not included under the Norfolk Local Biodiversity Action Plan priority habitat (provided by Norfolk Biodiversity Partnership). However, UK Habitats of Principal Importance have been given the highest level of importance ('high importance') within the Ecological Impact Assessment presented in Chapter 22. Therefore, discrepancies in the definition of this habitat do not change the outcome of the Applicant's assessment as rivers, including the relevant chalk rivers, have been classified as the highest importance. The Applicant also notes that the Environment Agency do not dispute the assessment findings as reflected by their agreed position in the SoCG (AS-026).</p> <p>In relation to the comments in the Environment Agency's Relevant Representation [RR-095], the EA had concerns with the connectivity between ground and surface water. The Applicant can confirm that, at this stage, the Applicant has only been in the position to carry out a limited number of intrusive surveys. Notwithstanding this, based on the findings of these investigations to date, it was acknowledged there was potential connectivity between the groundwater and the surface water. The Applicant has therefore assessed a worst case in the assessment by assuming that there is connectivity.</p>
AGENDA ITEM 5 (Ornithology)		

N/A	The Applicant was asked to set out the background and context to discussions on offshore ornithology	<p>The Applicant explained that Natural England provided detailed comments on the Norfolk Boreas ornithology assessment (REP-099) and these were discussed with Natural England during calls on the 10th September and 31st October 2019. The Applicant has produced an updated assessment which addresses all of the requests for extra information made by Natural England in their Relevant Representation (RR). The updated assessment was submitted to Natural England on 7th November for review, and there is a call scheduled between the Applicant and Natural England to discuss any comments on 29 November 2019. At the request of the ExA, the updated assessment will be submitted to the Planning Inspectorate at Deadline 2, with incorporation of revisions following Natural England's review, if time permits.</p> <p>The Applicant considers that the additional work requested by Natural England has increased the level of precaution in the assessment over and above what was already a highly precautionary assessment. Specifically this has included:</p> <ul style="list-style-type: none"> • An over-emphasis on assessment conclusions derived from predictions using the upper 95% confidence intervals of abundance; • No consideration of the reductions in collision risk for existing wind farms obtained when estimates are updated to as built designs rather than consented ones (which can reduce collision estimates by up to 40%); • Over-emphasis on the use of precautionary parameter estimates in assessment modelling (e.g. in collision risk modelling these include the values used for: nocturnal activity rates, flight speed and avoidance rates; in displacement assessments the use of precautionary rates of displacement and mortality; and in Population Viability Analysis (PVA) reliance on precautionary density independent models). <p>The key concern with the levels of precaution applied is that, while each of the individual elements of precaution alone may be justified (to a greater or lesser extent), once they are brought together in the process of estimating impact magnitude the overall effect is to generate predictions which are highly over precautionary. These and other aspects have previously been discussed in detail (submission for Deadline 8 during the Norfolk Vanguard examination) and are also highlighted in the Norfolk Boreas Environmental Statement (ES; APP-226), Habitats Regulations Assessment (HRA; APP-201) and the updated assessment for both ES and HRA (ExA;AS-1.D2.V1).</p> <p><u>Summary of topics included in the updated assessment</u></p> <p>The Applicant summarised the updated assessments, which covers both ES and HRA issues and has aimed to address all the points made in Natural England's RR. These include:</p> <ul style="list-style-type: none"> • An extension of the range of breeding season apportioning rates for the Flamborough and Filey Coast Special Protection Area (SPA) population of kittiwake (note that Natural England also requested this change for lesser black-backed gull in their RR, however following discussions
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		<p>between the Applicant and Natural England it has been clarified that this is not required and the range presented in the HRA was appropriate);</p> <ul style="list-style-type: none"> • Additional consideration of uncertainty through presentation of assessment using the upper and lower 95% confidence intervals of the population abundance; • A review and update of the cumulative and in-combination assessments with inclusion of additional offshore wind farms requested by Natural England and a review of figures presented for all other wind farms. Cumulative and in-combination totals have also been presented for all wind farms included in the assessment and with the omission of Hornsea Project Three (following Natural England's advice) and also Hornsea Project Four which has only submitted a preliminary assessment; • Natural England also requested that the collision assessment be supplemented with outputs from the Marine Scotland stochastic Collision Risk model (sCRM). The Applicant has attempted to provide these, however following a comparison of the outputs this model produces with those from the original version of the CRM it appears that there are errors in the underlying programme code. These were brought to the attention of Marine Scotland Science and the model developer, but have not yet been addressed (as of 12th November 2019). Therefore it has not been possible to provide these additional outputs. However, it is important to note that, since the deterministic CRM outputs currently presented for Norfolk Boreas use the mean values for the input parameters, these estimates will be the same as the mean outputs from the sCRM and therefore it is only the distribution of outputs around the mean values which may differ. If the error is fixed and time permits the Applicant will provide these additional outputs for Natural England 's review and submit them into the Examination. <p>The Applicant considers that the update, produced to address Natural England's requests, adds considerable precaution to the assessed impact magnitudes and these are in addition to the precaution which was already included in the original assessment. Overall, the key sources of precaution, many of which act together to further inflate the precaution of the impact assessment include:</p> <ul style="list-style-type: none"> • Over emphasis on conclusions obtained using the upper 95% confidence interval predictions. The 95% confidence intervals cover the range within which it is expected that 95% of outcomes would lie (for example if the surveys were repeated). Therefore the upper 95% interval in fact represents the threshold at which there is only a 2.5% probability of such an event occurring (i.e. a 1 in 40 chance). • A presumption that up to 100% of the kittiwakes observed on Norfolk Boreas during the breeding months (March to August) are breeding adults from the Flamborough and Filey Coast SPA. This assumption is based on a limited Royal Society for the Protection of Birds (RSPB) dataset
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		<p>comprising 18 individuals tagged between mid-June and mid-July in a single year with possible biases due to tag effects and limitations on areas of the colony where birds can be safely caught (it should be noted that the RSPB acknowledges some of these concerns but disagrees that these influenced the tracking data).</p> <ul style="list-style-type: none"> • Use of a 10% mortality rate for birds predicted to be displaced from wind farms, despite the absence of evidence that such a high rate is appropriate, and one which is not supported in the literature from other similar effects (e.g. disturbance due to vessel movements). The Applicant's reviews of available evidence for auks and red-throated divers indicate that even a mortality rate of 1% for displacement is precautionary. Application of Natural England's preferred 10% rate therefore risks over-estimating the impact by a factor of 10 compared with the evidence-based rate. • Natural England considers that gannet are at risk of both collision and displacement, despite the mutually exclusive nature of these two impacts. This therefore risks double counting of impacts to an unknown extent. • Many offshore wind farms have been built (or are planned to be built) using designs which considerably reduce the predicted collision risks, due to the use of a smaller number of higher generating turbines. Collision risks for these as-built designs are always lower than those for the consented design, and it is straightforward to adjust collision estimates for these design changes. The typical reduction in collision mortality obtained for these changes is 40%, however Natural England does not accept these points despite the considerable precaution this introduces into cumulative and in-combination assessments. <p><u>Updated Assessment Conclusions</u></p> <p>EIA project alone:</p> <p>On the basis of the original ES, the Applicant understands that Natural England is in agreement with the Applicant that there will be no significant impacts on any ornithological receptors, with the exception of:</p> <ul style="list-style-type: none"> • Red-throated diver displacement from the wind farm when assessed using the upper mortality value of 10% from the range preferred by Natural England; and • Guillemot displacement from the wind farm when assessed using the upper mortality value of 10% from the range preferred by Natural England and the upper 95% confidence interval abundance estimate. <p>The updated assessment has presented additional assessment for these and other aspects as requested by Natural England, however the Applicant's conclusions (of no significant impacts) remain the same as those presented in the original assessment.</p> <p>CIA:</p> <p>The Applicant has included the additional offshore wind farms in this assessment as requested by Natural</p>
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	<p>England (Beatrice Demonstrator, Gunfleet Sands, Kentish Flats, Kentish Flats Extension, Methil, Rampion and Scroby Sands) and also reviewed figures for other wind farms, as highlighted by Natural England.</p> <p>Although Natural England has not yet provided the Applicant with comments on the updated assessment, Natural England has advised that at the end of the Norfolk Vanguard Examination they considered there to be the following significant cumulative impacts:</p> <ul style="list-style-type: none"> • Significant cumulative displacement impacts for guillemot, razorbill and red-throated diver; • Significant cumulative collision impacts for kittiwake and great black-backed gull; and • Significant cumulative combined impacts from collision and displacement for gannet. <p>Natural England has advised the Applicant that since Norfolk Boreas and other wind farms are adding to the magnitudes of cumulative impact the same advice is expected to be provided for the current assessment.</p> <p>The Applicant does not agree with Natural England conclusions on cumulative significance for the reasons outlined above with respect to over precaution (i.e. consent vs. built designs, precautionary parameter estimates and reliance on density independent population models).</p> <p>HRA project alone:</p> <p>In their relevant representation Natural England advised that, on the basis of the information provided in the original assessment, they could not rule out adverse effects on integrity (AEol) for Norfolk Boreas alone for:</p> <ul style="list-style-type: none"> • Lesser black-backed gull collision risk at the Alde-Ore Estuary SPA; • Gannet collision risk, displacement and the two impacts combined at the Flamborough and Filey Coast SPA; • Kittiwake collision risk at the Flamborough and Filey Coast SPA; • Seabird assemblage collision risk and/or displacement at the Flamborough and Filey coast SPA; and • Little gull collision risk at the Greater Wash SPA. <p>With the exception of assessment of the Flamborough and Filey Coast SPA seabird assemblage (see below for further details), the Applicant has provided the additional information for these potential impacts, as requested by Natural England, in the updated assessment. Using robust and appropriately precautionary methods the Applicant considers that AEol can be ruled out for the above effects (and others) for Norfolk Boreas alone.</p> <p>The Applicant has discussed the requirement for an assessment of impacts on the Flamborough and Filey Coast SPA seabird assemblage, and the methods by which such an assessment should be conducted and Natural England has acknowledged that such an assessment is not straightforward to conduct, and as far</p>
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	<p>as the Applicant is aware has not been conducted for any other projects to date. However, the Applicant considers that there is no requirement for this assessment since the individual species which comprise the assemblage have either been assessed in their own right (gannet, kittiwake, guillemot and razorbill) or there is no risk of an impact due to there being:</p> <ul style="list-style-type: none"> • No likelihood of overlap due to restricted foraging ranges (herring gull, shag and cormorant), • Very low abundance on the Norfolk Boreas wind farm (puffin), or, • No predicted impacts (fulmar). <p>HRA in-combination:</p> <p>In their relevant representation Natural England advised that, on the basis of the information provided in the original assessment, they could not rule out adverse effects on integrity (AEol) for Norfolk Boreas in-combination with other wind farms for:</p> <ul style="list-style-type: none"> • Lesser black-backed gull collision risk at the Alde-Ore Estuary SPA; • Gannet collision risk, displacement and the two impacts combined at the Flamborough and Filey Coast SPA; • Kittiwake collision risk at the Flamborough and Filey Coast SPA; • Seabird assemblage collision risk and/or displacement at the Flamborough and Filey coast SPA; • Little gull collision risk at the Greater Wash SPA; • Guillemot displacement at the Flamborough and Filey Coast SPA; • Razorbill displacement at the Flamborough and Filey Coast SPA; and • Red-throated diver displacement at the Greater Wash SPA). <p>With the exception of assessment of the Flamborough and Filey Coast SPA seabird assemblage (see above for details), the Applicant has provided the additional information for these potential impacts, as requested by Natural England, in the updated assessment. Using robust and appropriately precautionary methods the Applicant considers that AEol can be ruled out for the above effects (and others) for Norfolk Boreas in-combination with other wind farms.</p> <p><u>Summary</u></p> <p>In the original ES (APP-226) and HRA (APP_201), and in the updated assessment to be submitted at Deadline 2, the Applicant has undertaken a robust assessment using best available evidence and applying appropriate levels of precaution. On the basis of these assessments, the Applicant has concluded there will be no significant effects for the project alone or cumulatively and no risks of AEol for the project alone or in-combination. Furthermore, even when additional levels of precaution are added, as requested by Natural</p>
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		England, the Applicant has still reached the same conclusions.
a)	To understand the differences in approach in assessing impacts and effects from the project alone on displacement for red-throated diver and guillemot.	<p><u>Applicant's position:</u></p> <p>The Applicant's position is that the magnitude of effects and conclusions on significance resulting from displacement impacts during operation are correctly identified and predicted. No impacts of greater than minor adverse significance are predicted.</p> <p><u>Natural England's position</u></p> <p>The Applicant understands that this is agreed for all species except red-throated diver, where Natural England advises moderate adverse impact when the mean estimates of abundance are combined with the upper range of impact magnitudes, and guillemot, for which moderate adverse significant effects are predicted when upper 95% confidence interval estimates of abundance are combined with the upper range of impact magnitudes.</p> <p><u>Additional Information</u></p> <p>The Applicant considers that Natural England applies an over-precautionary approach in order to reach these conclusions. For red-throated diver, Natural England considers that a mortality rate of up to 10% is appropriate, however no evidence has been provided in support of this rate, while the Applicant has provided supporting evidence (included in the updated assessment for Norfolk Boreas to be submitted at Deadline 2) that a rate of 1% is appropriate and still precautionary. The application of Natural England's approach generates impact magnitudes up to 10 times greater than those using the Applicant's evidence based approach.</p> <p>For guillemot, Natural England has reached this conclusion only when using the most precautionary combination of rates (the upper 95% confidence interval on abundance, and the upper end of the 30-70% displacement range and the upper end of the 1-10% mortality range). The Applicant considers that the mean abundance is the appropriate abundance estimate, combined with evidence based displacement of 50% and consequent mortality of 1% (an approach which retains proportionate levels of precaution). The combination of these different rates (Natural England: upper 95% confidence estimate of abundance, 70% displaced, 10% mortality, the Applicant: mean abundance estimate, 50% displaced, 1% mortality) leads to a 20 times difference in predicted magnitude of impact between the Applicant and Natural England, which accounts for the different conclusions on significance between Natural England and the Applicant.</p> <p>The Applicant's conclusions of no significant impacts remains unchanged following this update.</p>
b)	To receive an update on the assessment of combined/ in-combination effects of collisions and displacement from the project alone and cumulatively with other projects	<p><u>Applicant's position:</u></p> <p>No impacts of greater than minor adverse significance are predicted for gannet resulting from the combined effects of collisions and displacement for the project alone. As requested by Natural England, an assessment covering this specific combined impact will be submitted as part of the updated assessment at</p>

	for gannet.	<p>Deadline 2 (ExA;AS-1.D2.V1), as will be the case with other requests being made by Natural England.</p> <p><u>Natural England's position</u></p> <p>The Applicant understands that Natural England welcomes the completion of the additional assessment and that this matter will be discussed further during the course of the examination.</p> <p><u>Additional Information</u></p> <p>The original assessment included gannet displacement and collision risk for the HRA in-combination assessment. Natural England has now requested the same approach is applied to the EIA project alone, EIA cumulative and HRA project alone assessments. These have been included in the updated assessment sent to Natural England on 7 November for review and to be submitted at Deadline 2.</p> <p>The Applicant's conclusions of no significant impacts and no AEoI remain unchanged following this update.</p>
c)	To understand the issues around cumulative impact assessment in relation to the number of wind farm project assessed and potential missing projects, and displacement impacts for red-throated diver, razorbill and guillemot.	<p><u>Applicant's position:</u></p> <p>The magnitude of effects and conclusions on significance resulting from cumulative displacement impacts during operation are correctly identified and predicted and no impacts of greater than minor adverse significance are predicted.</p> <p><u>Natural England's position</u></p> <p>The Applicant understands that Natural England considers that significant cumulative displacement impacts cannot be ruled out at present for red-throated diver, razorbill and guillemot due to missing wind farm projects (see above) and potentially incorrect figures for some wind farm projects (Galloper, Greater Gabbard and the Hornsea projects). Natural England also noted in its Relevant Representations that for red-throated diver they had concerns that an inappropriate approach to cumulative assessment had been taken for this species. Furthermore, Natural England stated that gannet may be added to the species of concern once cumulative displacement and cumulative collision assessment is considered.</p> <p>At the end of the Norfolk Vanguard examination Natural England advised the Applicant that a significant adverse effect could not be ruled out for Norfolk Vanguard in respect of cumulative displacement for razorbill, guillemot and red-throated diver and for the combined impact of displacement and collision cumulatively for gannet. Natural England have stated that it is likely that they will provide similar advice for Norfolk Boreas since Norfolk Boreas will be adding additional mortality to the cumulative figures presented for Norfolk Vanguard.</p> <p><u>Additional Information</u></p> <p>Natural England requested inclusion of additional wind farms and these have been included in the updated assessment, and the figures for other wind farms reviewed.</p> <p>With respect to Natural England's comment in their relevant representation that an 'inappropriate approach'</p>

		<p>had been used for the assessment of cumulative displacement for red-throated diver, this was a reference to the description in the ES of the older wind farms being 'part of the baseline' (although it should be noted that these wind farms were in fact still included in full in the quantitative assessment so there was no material effect of this terminology on the assessment as presented) and also that Natural England requested a 'like-for-like' assessment using large scale seabird distribution data. This has now been included in the updated assessment which is being reviewed by Natural England and will be submitted at Deadline 2. The Applicant's conclusions of no significant displacement impacts for the project alone or cumulatively remain unchanged following this update.</p>
d)	To consider the conclusions on significance resulting from cumulative impacts on seabirds during operation.	<p><u>Applicant's position:</u></p> <p>Using the Band collision model option 2, with Natural England's preferred input parameters (see above) and methods, combined with like for like figures for other projects (as far as possible given the information available), the magnitude of effects and conclusions on significance resulting from cumulative collision impacts for seabirds during operation are correctly identified and predicted.</p> <p><u>Natural England's position</u></p> <p>The Applicant understands that Natural England do not agree with the Applicant's position in relation to gannet, kittiwake, lesser black-backed gull, herring gull and great black-backed gull for which Natural England consider that insufficient information was provided in the ES for some wind farms (Vanguard, Thanet Extension, Kentish Flats, Methil and Moray West) to enable Natural England to reach a conclusion.</p> <p>At the end of the Norfolk Vanguard examination Natural England advised the Applicant that a significant adverse effect could not be ruled out for Norfolk Vanguard in respect of cumulative collision risk for kittiwake and great black-backed gull and for the combined impact of displacement and collision cumulatively for gannet. Natural England have stated that it is likely that they will provide similar advice for Norfolk Boreas since Norfolk Boreas will be adding additional mortality to the cumulative figures presented for Norfolk Vanguard.</p> <p><u>Additional Information</u></p> <p>The Applicant has provided an updated assessment of cumulative collision risk as requested by Natural England, which includes the additional wind farms listed by Natural England and a review of figures used for all wind farms. This will be submitted at Deadline 2.</p> <p>The assessment has been conducted using agreed methods (i.e. estimation of the increase in background mortality followed by use of PVA for those impacts where the increase is greater than 1%). The Applicant's conclusions of no significant collision impacts for the project alone or cumulatively remain unchanged following this update.</p>
e)	To understand the concerns around the conclusion of no AEol for lesser	<p><u>Applicant's position (project-alone):</u></p>

<p>black-backed gull of Alde-Ore Estuary SPA, for both the project alone and in-combination with other projects.</p>	<p>The Applicant considers that the conclusion of no AEol alone for the lesser black-backed gull population at the Alde-Ore Estuary SPA on the basis of collisions at Norfolk Boreas is appropriate.</p> <p><u>Natural England's position (project alone)</u></p> <p>The Applicant understand that Natural England do not agree with the Applicant's position. Natural England acknowledges that the Applicant has considered a range of apportionment values of 3%, 12% and 30% to the Alde-Ore Estuary SPA in the breeding season, which covers the range of values (10-30%) previously recommended by Natural England. However, Natural England considers that there remains a need to consider the range of predicted figures from the 95% CIs of the density data (for the range of apportionment rates), as has been done for other receptors.</p> <p><u>Applicant's position (in-combination)</u></p> <p>The Applicant considers that the conclusion of no AEol for the lesser black-backed gull population at Alde-Ore Estuary SPA is appropriate, on the basis of collisions for the project in-combination with other plans and projects.</p> <p><u>Natural England's position (in-combination)</u></p> <p>The Applicant understands that Natural England disagrees with the Applicant about the methods used (apportioning rates, missing wind farms from the in-combination table and incorrect values for other wind farms) and also does not agree with the assessment conclusions.</p> <p>At the end of the Norfolk Vanguard examination Natural England advised the Applicant that an AEol could not be ruled out in-combination for Norfolk Vanguard. Natural England has stated that it is likely that they will provide similar advice for Norfolk Boreas since Norfolk Boreas will be adding additional mortality to the in-combination figure presented for Norfolk Vanguard.</p> <p><u>Additional Information:</u></p> <p>The Applicant has provided the additional assessment (using the 95% confidence interval estimates, which the Applicant considers to be precautionary, as outlined above) for the project alone in the updated assessment which has been sent to Natural England for review, and which will be submitted at Deadline 2. The Applicant's original conclusion of no AEol remains unchanged following this update.</p> <p>The Applicant has reviewed and updated the figures used for other wind farms in the updated assessment sent to Natural England for review. The Applicant's original conclusion of no AEol remains unchanged following this update.</p> <p>The Applicant considers that Natural England's position at the end of the Norfolk Vanguard examination was based on over-precautionary approaches (e.g. consented vs. built wind farm designs and over-estimated levels of nocturnal activity). Assessment based on more robust evidence based levels of precaution concludes that there is no risk of an AEol for the project alone and in-combination with other plans and projects.</p>
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f)	To discuss RSPBs concerns regarding the lack of the assemblage feature when considering the list of species for Flamborough and Filey Coast SPA.	<p><u>Applicant's position:</u></p> <p>The following sites and species have been screened in for further assessment:</p> <ul style="list-style-type: none"> • Alde-Ore Estuary SPA (lesser black-backed gull for collisions); • Flamborough and Filey Coast SPA (gannet and kittiwake for collisions and gannet, guillemot and razorbill for displacement); • Greater Wash SPA (red-throated diver for displacement and little gull for collisions); and • Outer Thames Estuary SPA (red-throated diver for displacement). <p><u>The RSPB's position</u></p> <p>The Applicant understands that the RSPB considers that the list of species for which the Flamborough and Filey Coast SPA has been screened in for further assessment is incomplete as it does not include the assemblage feature.</p> <p><u>Additional Information</u></p> <p>The Applicant considers that the assemblage feature has been assessed since those species with a pathway for potential impact (gannet, kittiwake, guillemot, razorbill) have been assessed in their own right, and all other species in the assemblage either have negligible or no likelihood of connectivity (herring gull, shag, cormorant), very low on-site abundance (puffin) or are not considered at risk of predicted impacts (fulmar). On this basis further assessment of the assemblage feature is not considered necessary.</p>
g)	To understand the concerns around the conclusion of no Aeol for gannet and kittiwake of Flamborough and Filey Coast SPA, for both the project alone and in-combination with other projects.	<p><u>The Applicant's position (gannet, project alone)</u></p> <p>The Applicant considers that the conclusion of no AEol for the gannet population at Flamborough and Filey Coast SPA is appropriate on the basis of the predicted collisions, displacement and these impacts combined for the project alone.</p> <p><u>Natural England's position (gannet, project alone)</u></p> <p>The Applicant understands that this is not currently agreed as Natural England considers that additional information on the impacts of the sum of collision and displacement for the project alone is required to allow determination of impact magnitude and significance.</p> <p><u>Additional information (gannet, project alone)</u></p> <p>The Applicant has provided the additional information in the updated assessment sent to Natural England for review, which will be submitted at Deadline 2 (ExA;As-1,D2.V1). The Applicant's original conclusion of no AEol remains unchanged following this update.</p> <p><u>The Applicant's position (gannet, in-combination)</u></p>

	<p>The Applicant considers that the conclusion of no AEol for the gannet population at Flamborough and Filey Coast SPA is appropriate on the basis of collisions, displacement and these impacts combined for the project in-combination with other plans and projects.</p> <p><u>Natural England's position (gannet, in-combination)</u></p> <p>The Applicant understands that this is not currently agreed as Natural England consider that figures for some wind farms need to be reviewed, and additional information on the impacts of the sum of collision and displacement for project alone is required along with the addition of projects currently missing from the in-combination list (Beatrice Demonstrator, Gunfleet Sands, Kentish Flats, Kentish Flats Extension, Methil, Rampion and Scroby Sands) to allow determination of impact magnitude and significance.</p> <p>At the end of the Norfolk Vanguard examination Natural England advised the Applicant that an AEol could not be ruled out for Norfolk Vanguard in-combination when Hornsea Project Three was included. Natural England has advised that it is likely that they will provide similar advice to Norfolk Boreas since Norfolk Boreas will be adding additional mortality to the in-combination figure presented for Norfolk Vanguard.</p> <p><u>Additional information (gannet, project alone)</u></p> <p>The Applicant has provided the additional information in the updated assessment sent to Natural England for review (and to be submitted at Deadline 2; ExA;AS-1.D2.V1), including the additional wind farms identified by Natural England. The Applicant's original conclusion of no AEol remains unchanged following this update.</p> <p>The Applicant considers that Natural England's position at end of the Norfolk Vanguard examination was based on over-precautionary approaches (see sections 2 and 3 for further discussion). Assessment based on more robust evidence based levels of precaution reaches conclusions of non-significance and no AEol both alone and in-combination.</p> <p><u>The Applicant's position (kittiwake, project alone)</u></p> <p>The Applicant considers that the conclusion of no AEol alone for the kittiwake population at Flamborough and Filey Coast SPA is appropriate on the basis of the predicted collisions for the project.</p> <p><u>Natural England's position (kittiwake, project alone)</u></p> <p>The Applicant understands that this is not currently agreed as Natural England considers that additional information on age classes of kittiwakes recorded during baseline surveys should be provided in the assessment and that a range of breeding season apportioning rates should be presented to allow determination of impact magnitude and significance.</p> <p><u>Additional information (kittiwake, project alone)</u></p> <p>The Applicant has provided both requested pieces of information (age ratios from survey data and wide range of breeding season apportioning rates) in the updated assessment submitted to Natural England for</p>
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		<p>review. The Applicant's original conclusion of no AEol remains unchanged following this update.</p> <p><u>The Applicant's position (kittiwake, in-combination)</u></p> <p>The Applicant considers that the conclusion of no AEol for the kittiwake population at Flamborough and Filey Coast SPA is appropriate on the basis of predicted collisions for the project in-combination with other plans and projects.</p> <p><u>Natural England's position (kittiwake, in-combination)</u></p> <p>The Applicant understands that this is not currently agreed as Natural England considers that additional information on age classes of kittiwakes recorded during baseline surveys should be included in the assessment and that a range of apportioning rates for the SPA during the breeding season should be presented to allow determination of impact magnitude and significance for the Boreas project. In addition, Natural England has requested that certain projects (Beatrice Demonstrator, Gunfleet Sands, Kentish Flats, Kentish Flats Extension, Methil, Rampion and Scroby Sands) are added and that figures are reviewed for some wind farms.</p> <p>At the end of the Norfolk Vanguard examination Natural England advised the Applicant that an AEol could not be ruled out in-combination for Norfolk Vanguard. Natural England has advised that it is likely that they will provide similar advice for Norfolk Boreas since Norfolk Boreas will be adding additional mortality to the in-combination figure presented for Norfolk Vanguard.</p> <p><u>Additional information (kittiwake, in-combination)</u></p> <p>The Applicant has provided the requested additional information (age ratios from survey data, an extended range of breeding season apportioning rates and updated figures for other wind farms) in the updated assessment submitted to Natural England for review (which will be submitted at Deadline 2; ExA;AS-1.D2.V1). The Applicant's original conclusion of no AEol remains unchanged following this update.</p> <p>The Applicant considers that Natural England's position at the end of the Norfolk Vanguard examination was based on over-precautionary approaches (see sections 2 and 3 for further discussion). Assessment based on more robust evidence based levels of precaution reaches conclusions of no AEol for Norfolk Boreas in-combination with other wind farms.</p>
h)	To understand the concerns around the conclusion of no Aeol for razorbill of Flamborough and Filey Coast SPA, in-combination with other projects.	<p><u>The Applicant's position</u></p> <p>The Applicant considers that the conclusion of no AEol for the razorbill population at Flamborough and Filey Coast SPA is appropriate on the basis of displacement impacts for the project in-combination with other plans and projects.</p> <p><u>Natural England's position</u></p> <p>The Applicant understands that this is not currently agreed for in-combination impacts as Natural England considers that additional displacement information from other wind farms (Beatrice Demonstrator, Gunfleet</p>

		<p>Sands, Kentish Flats, Kentish Flats Extension, Methil, Rampion and Scroby Sands) plus an update on displacement information for Firth of Forth wind farms (Seagreen sites) should be added to the assessment to allow determination of impact magnitude and significance.</p> <p>At the end of the Norfolk Vanguard examination Natural England advised the Applicant that an AEol could not be ruled out for Norfolk Vanguard in-combination when Hornsea Project Three was included. Natural England has advised that it is likely that they will provide similar advice to Norfolk Boreas since Norfolk Boreas will be adding additional mortality to the in-combination figure presented for Norfolk Vanguard.</p> <p><u>Additional information</u></p> <p>The Applicant has provided the requested additional assessment (additional wind farms and a review of figures for other wind farms) in the updated assessment submitted to Natural England for review (and due to be submitted at Deadline 2; ExA;AS-1,D2.V1). The Applicant's original conclusion of no AEol remains unchanged following this update.</p> <p>The Applicant considers that Natural England's position at the end of the Norfolk Vanguard examination was based on over-precautionary approaches (see sections 2 and 3 for further discussion). Assessment based on more robust evidence based levels of precaution reaches conclusions of non-significance and no AEol for alone and in-combination impacts.</p>
i)	<p>To understand the concerns around the conclusion of no AEol for guillemot of Flamborough and Filey Coast SPA, in-combination with other projects.</p>	<p><u>The Applicant's position</u></p> <p>The Applicant considers that the conclusion of no AEol for the guillemot population at Flamborough and Filey Coast SPA is appropriate on the basis of displacement impacts for the project in-combination with other plans and projects.</p> <p><u>Natural England's position</u></p> <p>The Applicant understands that this is not currently agreed for impacts in-combination with other plans and projects as Natural England considers that additional displacement information from other wind farms (Beatrice Demonstrator, Gunfleet Sands, Kentish Flats, Kentish Flats Extension, Methil, Rampion and Scroby Sands) plus an update on displacement information for Firth of Forth wind farms (Seagreen sites) should be added to the assessment to allow determination of impact magnitude and significance.</p> <p>At the end of the Norfolk Vanguard examination Natural England advised the Applicant that an AEol could not be ruled out for Norfolk Vanguard in-combination when Hornsea Project Three was included. Natural England has advised that it is likely that they will provide similar advice to Norfolk Boreas since Norfolk Boreas will be adding additional mortality to the in-combination figure presented for Norfolk Vanguard.</p> <p><u>Additional information</u></p> <p>The Applicant has provided the requested additional assessment (additional wind farms and a review of figures for other wind farms) in the updated assessment submitted to Natural England for review (due to be submitted at Deadline 2; ExA;AS-1.D2.V1). The Applicant's original conclusion of no AEol remains</p>

		<p>unchanged following this update.</p> <p>The Applicant considers that Natural England’s position at the end of the Norfolk Vanguard examination was based on over-precautionary approaches (see sections 2 and 3 for further discussion). Assessment based on more robust evidence based levels of precaution reaches conclusions of non-significance and no AEol for alone and in-combination impacts.</p>
j)	To understand why RSPB consider puffin should be assessed separately for the Flamborough and Filey Coast SPA	<p><u>The Applicant’s position</u></p> <p>Individual species which comprise the seabird assemblage feature of the Flamborough and Filey Coast SPA have either been assessed separately (gannet, kittiwake, guillemot, razorbill) or lack connectivity with the project or have extremely low predicted impacts at the project (fulmar, puffin, herring gull, shag and cormorant). Therefore there is no requirement to assess these species separately.</p> <p><u>RSPB’s position</u></p> <p>The Applicant understands that the RSPB does not agree with regard to assessment of puffin.</p> <p><u>Additional information</u></p> <p>The assessment did not include puffin as this species was recorded in very low numbers (10 individuals were recorded in total across all 24 surveys, giving an abundance in the wind farm and 2km buffer of 5 in February and 23 in March, which are both months in the nonbreeding season). Once these abundance estimates are apportioned to the Flamborough and Filey coast SPA using agreed rates this equates to an estimate that <0.1 individuals originate from the SPA. On this basis the Applicant considers that impacts on puffin can be screened out of assessment.</p>
k)	To understand the concerns around the conclusion of no AEol for red-throated diver at the Greater Wash SPA, in-combination with other projects.	<p><u>The Applicant’s position</u></p> <p>The Applicant considers that the conclusion of no AEol for the red-throated diver population at the Greater Wash SPA is appropriate on the basis of displacement impacts during the operational phase for the project in-combination with other plans and projects.</p> <p><u>Natural England’s position</u></p> <p>The Applicant understands that this is not currently agreed as Natural England considers that additional assessment using a like for like approach across wind farm sites (as conducted for Thanet Extension and Norfolk Vanguard) is required to allow determination of impact magnitude and significance.</p> <p><u>Additional information</u></p> <p>The Applicant has provided the additional information requested (‘like-for-like’) in the updated assessment sent to Natural England for review (due to be submitted at Deadline 2; ExA; AS-1.D2.V1). The Applicant’s original conclusion of no AEol remains unchanged following this update.</p>

l)	To understand the concerns around the assessment of collision risk to little gull of the Greater Wash SPA.	<p><u>The Applicant's position (project alone)</u></p> <p>The Applicant considers that the conclusion of no AEol for the little gull population at the Greater Wash SPA is appropriate on the basis of collision impacts for the project alone.</p> <p><u>Natural England's position (project alone)</u></p> <p>The Applicant understands that this is not currently agreed as Natural England considers that a range of collision impacts accounting for variability/uncertainty in the input parameters in the assessments is required to allow determination of impact magnitude and significance.</p> <p><u>Additional information (project alone)</u></p> <p>The Applicant has provided the additional assessment (presenting precautionary 95% confidence intervals on abundance, see sections 2 and 3 for further discussion) in the updated assessment sent to Natural England for review (and due to be submitted at Deadline 2; ExA; AS-1.D2.V1). The Applicant's original conclusion of no AEol remains the same following this update.</p> <p><u>The Applicant's position (in-combination)</u></p> <p>The Applicant considers that the conclusion of no AEol for the little gull population at the Greater Wash SPA is appropriate on the basis of collisions impacts for the project in-combination with other plans and projects, based on availability of estimates for other wind farms.</p> <p><u>Natural England's position (in-combination)</u></p> <p>The Applicant understands that this is not agreed because Natural England are of the view that incorrect figures have been used. Natural England have also requested that numbers included for East Anglia ONE North and East Anglia TWO are included if available.</p> <p><u>Additional information (in-combination)</u></p> <p>The Applicant has provided the additional assessment (review of figures for other OWFs) in the updated assessment sent to Natural England for review (due to be submitted at Deadline 2; ExA; AS-1.D2.V1). The Applicant's original conclusion of no AEol remains unchanged following this update.</p>
AGENDA ITEM 6 (Comments on the dDCO)		
N/A	Following the first DCO ISH to consider comments specifically related to environmental matters	The ExA explained that there was nothing additional to cover at this stage, further to the ISH into the DCO held on the 13 November 2019, and the Applicant agreed.
AGENDA ITEM 7 (Hornsea Project Three Offshore Wind Farm and Norfolk Vanguard)		

a)	Implications of the SoS decision to defer the decision on Hornsea Project Three Offshore Wind Farm until the end of March 2020 and undertake additional consultation in relation to offshore matters.	<p>The Applicant referred to the letter from the Secretary of State (SoS) dated 27 September 2019 to the Hornsea Project Three (HP3) applicant and considered the potential implications for the Norfolk Vanguard decision and on the Norfolk Boreas examination. The Applicant explained that the reasons for setting a new deadline on HP3 were due to:</p> <ul style="list-style-type: none"> (1) Seeking further evidence and representations under the Habitats Regulations in respect of SACs in relation to sandbanks; (2) Seeking further evidence and representations under section 126(7) MCAA 2009 in relation to 2 MCZs; (3) Seeking comments on 2 late representations received by the SoS; (4) Seeking evidence in light of the ornithological information submitted in (3) above; and (5) Requesting an update to the SNS SAC SIP.
b)	Potential implications should the SoS decide to put back any decision on the Norfolk Vanguard application until the end of March 2020.	<p>In relation to (1) above, Norfolk Vanguard and Norfolk Boreas does not affect the two SACs referred to. For the SAC which Norfolk Vanguard and Norfolk Boreas does affect, the Haisborough, Hammond and Winterton SAC (HHW SAC), a Site Integrity Plan (SIP) has been put forward which, together with the relevant conditions contained in the deemed Marine Licences, will enable the Secretary of State to determine that adverse effects on the integrity of the HHW SAC will be avoided.</p> <p>In relation to (2) above, Norfolk Vanguard and Norfolk Boreas does not affect any MCZs.</p> <p>Item (3) above, related to offshore ornithology, where two late representations were submitted – one from the HP3 applicant in relation to bird surveys, and the other from the RSPB. Comments were invited on those representations.</p> <p>In relation to (4) above, as part of the Norfolk Vanguard examination Natural England requested that Norfolk Vanguard prepare assessments on a with and without HP3 basis for offshore ornithology; Norfolk Vanguard did this and Norfolk Boreas has since been requested by Natural England to follow the same approach. Accordingly a without HP3 assessment will be included in the further offshore ornithological assessment to be submitted at Deadline 2.</p> <p>Norfolk Vanguard's clear and firm position is that there would be no alone or in-combination adverse effects on offshore ornithology, given the highly precautionary nature of Natural England's approach to assessment, and the same position applies to Norfolk Boreas (as outlined in response to Agenda Item 5).</p> <p>In relation to (5) above, neither the SIP for the Southern North Sea SAC nor the SIP for the HHW SAC submitted by Norfolk Vanguard or Norfolk Boreas require any updates of the nature stipulated by the Secretary of State for HP3.</p> <p>The Applicant explained that responses from the HP3 consultation are due to be submitted to the Secretary of State by 31 December 2019. The Applicant considers that the Secretary of State will be the person best</p>

		<p>placed to advise of the current implications arising from the information submitted and that, in any event, this position will become clear once a decision is made on the HP3 application. In the case of Norfolk Boreas, until the Applicant and the ExA know the basis on which HP3 has been decided, and the conclusions on impact; it is too early to establish the implications for Norfolk Boreas. The Applicant considers that it would be helpful for the Secretary of State to make a decision on HP3 by 31 March 2020 and that it should not be necessary for the Secretary of State to consult further beyond this date.</p> <p>As the Applicant outlines in its response to Rule 6 (document reference: ExA.CL.D0.V1/ AS-017), one option to consider the HP3 decision could be for the ExA to issue further questions or clarifications as part of the Rule 17 request for information (entry 25 of the Rule 6 letter). Alternatively, a separate hearing could be reserved for the middle of April once parties have had the opportunity to consider the implications of the decision.</p> <p>In relation to the Norfolk Vanguard decision, as far as the Applicant is aware, the SoS still plans to make a decision by 10 December 2019 in accordance with the timetable set under s107 of the Planning Act 2008. This is particularly so since no such request, as was made in respect of HP3, has been made in respect of Norfolk Vanguard - either at the time of the HP3 request or since then. The SoS has all the information on which to make a decision on Norfolk Vanguard by 10 December 2019.</p> <p>In light of this, the Applicant takes the view that it would be unfortunate if the SoS were now to decide to put back any decision on the Norfolk Vanguard application until the end of March 2020, and there is no current reason why the SoS should do so. If the SoS were to do so, the principal implication for the Norfolk Boreas examination would be to prevent the ExA, the Applicant, and the Norfolk Boreas stakeholders from then potentially being able to focus on those aspects which are specific to the Norfolk Boreas application, with consequent duplication of both time and effort for all parties concerned.</p>
ANY OTHER MATTERS		
N/A	Consents & Licences – in particular with Natural England and European Protected Species (EPS)	<p>The Applicant provided an update on the Great Crested Newt Licence, for which Natural England provided a letter of no impediment on 9 September 2019. This will be attached to the updated version of the OLEMS (document reference 8.7) to be submitted at Deadline 1.</p> <p>The Applicant also explained that bat surveys have not identified the need for any bat licences at this stage of the process. However, there are still trees and hedgerows to be assessed, which will be undertaken prior to construction.</p> <p>The Applicant recognises that document reference 5.4 (Consents and Licences required under other legislation) provides a list of consents required outside of the DCO process. Whilst most of these licences will be obtained post-consent and prior to construction, the Applicant will review the Consents and Licences document (document reference 5.4 / APP-213) to capture any updates as a result of recent discussions with stakeholders, including to acknowledge that a letter of no impediment has been issued by Natural England.</p>

APPENDIX 1: THE APPLICANT'S LIST OF APPEARANCES

1. **John Houghton**, Senior Counsel, **Womble Bond Dickinson**; and **Victoria Redman**, Partner, **Womble Bond Dickinson**

Speaking on behalf of Norfolk Boreas Limited:

- In response to the Examining Authority's questions and for general advocacy

Onshore

2. **Claire Davies**, Senior Environmental Consultant, Industry and Buildings Europe, Royal HaskoningDHV (**RHDHV**)

Speaking on behalf of Norfolk Boreas Limited on

- Onshore environmental matters
- Cumulative impacts (where relevant)
- Onshore ecology (where relevant)

3. **Gordon Campbell**, Senior Environmental Consultant, **RHDHV**

Speaking on behalf of Norfolk Boreas Limited on:

- Onshore ecology

4. **Andrew Hardcastle**, Senior Power Engineering Consultant, **GHD**

Speaking on behalf of Norfolk Boreas Limited on:

- Onshore construction
- Project design and trenchless crossing (where relevant)

Offshore

5. **David Tarrant**, Senior Environmental Consultant, **RHDHV**

Speaking on behalf of Norfolk Boreas Limited on:

- Marine ecology
- Benthic ecology and HHW SAC Site Integrity Plan
- HRA implications

6. **Jen Learmonth**, Senior Marine Mammal Consultant, **RHDHV**

Speaking on behalf of Norfolk Boreas Limited on:

- Marine mammals

7. **Sara Xoubanova**, Senior Consultant **Brown and May Marine Ltd**; and **Esther Villoria**, Offshore Coordinator (as necessary), **Vattenfall**;

Speaking on behalf of Norfolk Boreas Limited on:

- Fishing and navigation

8. **Mark Trinder**, Principal Ornithologist, **McArthur Green Limited**.

Speaking on behalf of Norfolk Boreas Limited on:

- Offshore ornithology

Various

9. **Jake Laws**, Consents Manager, **Vattenfall**

Speaking on behalf of Norfolk Boreas Limited on:

- Any other matters including project updates (if necessary).