

Norfolk Vanguard Offshore Wind Farm

Written summary of

the Applicant's oral

case at Issue Specific

Hearing 4

Environmental Matters

Applicant: Norfolk Vanguard Limited
Document Reference: ExA; ISH4; 10.D6.1
Deadline 6

Date: April 2019
Author: Womble Bond Dickinson

Photo: Kentish Flats Offshore Wind Farm

Glossary

AEoI	Adverse Effect on Integrity
CCATN	Cable Crossing Access Technical Note
CIA	Cumulative impact assessment
CRM	Collision Risk Modelling
dDCO	Draft Development Consent Order
DCO	Development Consent Order
DML	Deemed Marine Licence
EIA	Environmental Impact Assessment
ES	Environmental Statement
ExA	Examining Authority
HE	Highways England
HGV	Heavy Goods Vehicle
HHW	Haisborough, Hammond and Winterton
HRA	Habitats Regulation Assessment
ISH	Issue Specific Hearing
MMO	Marine Management Organisation
MPA	Marine Protected Area
NCC	Norfolk County Council
NNDC	North Norfolk District Council
NNDR	Norwich Northern Distributor Road
OCoCP	Outline Code of Construction Practice
OTMP	Outline Traffic Management Plan
OLEMS	Outline Landscape and Ecological Management Strategy
RSPB	Royal Society for the Protection of Birds
RTD	Red Throated Diver
SAC	Special Area of Conservation
SACTN	Substation Access Clarification Technical Note
SIP	Site Integrity Plan
SoCG	Statement of Common Ground
SPA	Special Protection Area

Written Summary of Oral Submissions: ISH4 – Environmental Matters

1. Introduction

- 1.1 Issue Specific Hearing 4 (**ISH**) into environmental matters for Norfolk Vanguard took place on 27 March 2019 at 10:00am at Blackfriars Hall, The Halls, St Andrew's Plain, Norwich, NR3 1AU.
- 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 ISH4 followed the form of the agenda published by the Examining Authority (the **ExA**) on 20 March 2019 (the **Agenda**).
- 1.4 The ExA, the Applicant, and the stakeholders discussed the Agenda items in turn which broadly covered the areas outlined below.

Agenda	ExA Question / Context for discussion	Applicant's Response
AGENDA ITEM 3 (Traffic and Transport)		
3	The ExA noted that matters are progressing between the Applicant and the relevant highway authorities; the ExA therefore asked for an update on the outstanding matters together with timeframes for submissions of outstanding documents.	<p>The Applicant has been engaging in constructive dialogue with Norfolk County Council (NCC) and Highways England respectively.</p> <p>The Applicant updated the ExA on the status of the outstanding documents as follows:</p> <ol style="list-style-type: none"> Substation Access Clarification Technical Note (SACTN): The SACTN was issued to Highways England at Deadline 4 (ExA; ISH1; 10.D4.2). This responded to points raised by Highways England during previous consultation. The Applicant notes that Highways England agree with the principle for the accesses referred to in the note that has been submitted. The Applicant is awaiting detailed feedback on the content of this note. <p>The Applicant noted that NCC would like to consider the impact that the diversion proposed as part of the access strategy for the National Grid works has on the county highway network. The Applicant considers that the turning movements presented in the SACTN note represent a negligible increase in relation to the background traffic flows. The Applicant does not therefore consider it necessary or appropriate to undertake a detailed assessment for the A47 junction. Notwithstanding this, the Applicant is willing to discuss this matter with NCC further. The Applicant has since been able to confirm with NCC that this</p>

		<p>matter is resolved; the Applicant has submitted a position statement at Deadline 6 to reflect this (document reference ExA; ISH4; 10.D6.3).</p> <p>2. Traffic Cumulative Impact Assessment (CIA): The Applicant explained that a CIA was submitted at Deadline 5 (ExA; ISH1; 10.D5.3) to consider the potential cumulative traffic and transport impacts of Norfolk Vanguard in combination with other relevant projects. The CIA includes an updated review of Hornsea Project Three collision data on shared road links. Twenty nine separate roads links are required by both the Applicant and Hornsea Project Three. Of these twenty nine shared road links, the Applicant has already committed to enhanced mitigation measures on four links; this was due to assessments from a Norfolk Vanguard project alone level. These enhanced mitigation measures are presented in ES Chapter 24 Traffic and Transport (document reference 6.01) and include restricting delivery times, restricting delivery routes, and monitoring construction traffic flows.</p> <p>Potentially significant cumulative impacts relating to pedestrian amenity were identified for six of the shared links. For four of these links, the cumulative impact relates to peak traffic for Norfolk Vanguard and Hornsea Project Three potentially occurring during the same 2-3 week peak construction window. The Applicant has committed to maintaining cumulative traffic flows below an identified threshold, which may be achieved either through coordination of the two construction programmes or by extending Norfolk Vanguard's construction programme by an extra week during each 2-3 week window. This commitment will be captured in an update to the Outline Traffic Management Plan for Norfolk Vanguard.</p> <p>For the remaining two links (links 34 and 68) Hornsea Project Three has been in discussion with Norfolk County Council to develop two packages of highway mitigation to address potential construction traffic impacts. The Applicant has been in regular discussion with Hornsea Project Three as these packages have progressed. In summary:</p> <ul style="list-style-type: none"> • Link 68: The scheme of mitigation proposed by Hornsea Project Three (and agreed with Norfolk County Council) on link 68 includes re-grading the road surface and introducing a temporary speed limit, which also serves to provide noise reductions. This mitigation scheme has been reviewed by the Applicant and will reduce traffic related noise impacts to negligible in the cumulative scenario. The Applicant has therefore committed to also adopt this scheme of mitigation. The first project to proceed to construction would deliver the full scheme of mitigation and the second project would be responsible for removing the measures once both projects' construction phases are complete. This commitment will be captured in an update to the Norfolk Vanguard Outline Traffic Management Plan (OTMP) (document reference 8.8). The Applicant will endeavour to submit updated plans, once the principles are confirmed, as part of the Deadline 7 submissions. • Link 34: A range of traffic management measures are proposed to manage potential cumulative impacts including enhanced pedestrian facilities, managed parking and road safety measures,
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		<p>avoiding term time school drop off and pick up times, as well as managing cumulative peak Heavy Goods Vehicle (HGV) flows. Hornsea Project Three are currently in discussion with Norfolk County Council regarding a scheme of highway mitigation that would deliver these types of measures. The Applicant is continuing to engage with Hornsea Project Three and Norfolk County Council to further understand the details of this highway mitigation scheme for cumulative construction traffic with a view to adopting those measures following a review by the Applicant to confirm its appropriateness.</p> <p>The Applicant notes the submissions from Norfolk County Council, together with the Interested Parties from Cawston Parish Council and Oulton Parish Council. The Applicant has produced a position statement in relation to the additional links (Link 32, 36, and 41) referred to by Norfolk County Council (document reference: ExA; ISH4; 10.D6.3) and has responded to issues raised by Oulton Parish Council in the Applicant's response to Deadline 5 submissions (document reference: ExA; Comments; 10.D6.14). The Applicant is meeting with Cawston Parish Council on 11 April 2019 to discuss the issues raised during the hearing and within their Deadline 5 submission.</p> <p>The Applicant has also submitted the Main Construction Compound Access Strategy VISSIM modelling update, as provided by Hornsea Project Three as part of the Hornsea Project Examination, to the ExA for their information (document reference ExA; ISH4; 10.D6.4).</p> <p>3. Cable Crossing Access Technical Note (CCATN): The Applicant and Highways England have continued to engage with respect to the content of this note, and the parties have been sharing information in order to agree a final position. Junction design drawings have been issued directly to Highways England for consideration prior to inclusion in the final CCATN and Highways England are currently reviewing these drawings. In the meantime, the Applicant has produced a position statement to explain this approach further (document reference: ExA; ISH4; 10.D6.5).</p> <p>4. Further trenchless crossings (A1067 and B1149): The Applicant explained that there are ongoing assessments in relation to these crossings:</p> <ul style="list-style-type: none"> A1067: since the traffic counts were undertaken on the A1067 to inform the Environmental Impact Assessment (EIA) (June 2018), the Norwich Northern Distributor Road (NNDR) has opened. NCC have reported that this has in turn resulted in increased traffic flows using the A1067 to access the NNDR. The Applicant has therefore commissioned further traffic counts on the A1067 and will assess the updated flows to determine whether the proposed open cut trench approach remains appropriate. The updated traffic counts are programmed to take place after Easter (23 April 2019 in order to avoid any potential effects of the holiday period on traffic flows); the results are expected in early May which will inform how the Applicant should proceed. The Applicant will continue to consult with NCC on this matter.
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		<ul style="list-style-type: none"> B1149: the Applicant has commissioned NCC's pavement laboratory to survey the condition of the B1149 at this crossing point and advise on the specification for repairing this surface to avoid uneven settlement concerns. The survey took place on 27 March 2019 and outputs are expected in early to mid-May. The Applicant will consider this position further in discussion with NCC once the results are received. <p>The Applicant has provided an update on the position regarding further trenchless crossings (document reference: ExA; ISH4; 10.D6.3).</p> <p>5. Sensitive junctions: the Applicant notes Highway England's comments and has provided an update within a position statement as part of the Deadline 6 submissions (document reference: ExA; ISH4; 10.D6.5).</p>
AGENDA ITEM 4 (Onshore Construction)		
(i) Noise, Vibration, and Air Quality	The ExA questioned whether the CIA at Link 68 considered any mitigation to residential amenity.	The scheme of mitigation proposed by Hornsea Project Three (and agreed with Norfolk County Council) on link 68 includes re-grading the road surface and introducing a temporary speed limit, which also serves to provide noise reductions. This mitigation scheme has been reviewed by the Applicant and will reduce traffic related noise impacts to negligible in the cumulative scenario. The Applicant notes that the measures related to noise and vibration are still to be agreed between Hornsea Project Three and Broadland District Council. The Applicant has provided a position statement setting out the steps to discuss and agree this with Broadland District Council as part of the Deadline 6 submissions (document reference: ExA; ISH4; 10.D6.6).
(i) Noise, Vibration, and Air Quality	The ExA asked whether Hornsea Project Three have undertaken any further work with regards to vibration through Cawston.	The Applicant confirmed that since the submission of the Applicant's cumulative traffic impact assessment at Deadline 5 (ExA; ISH1; 10.D5.3), Hornsea Project Three has submitted vibration monitoring data through Cawston and an updated vibration impact assessment to the Hornsea Project Three Examination as part of the most recent deadline submission. The Applicant has reviewed this vibration monitoring data and confirmed that the additional information does not change the Applicant's conclusions of the CIA presented at Deadline 5 and therefore the approach to mitigation remains appropriate. The Applicant has explained this approach further in a position statement submitted at Deadline 6 (document reference: ExA; ISH4; 10.D6.7).
(i) Noise, Vibration, and Air Quality	The ExA asked for a further update on Link 68, in particular with reference to air quality assessments.	An air quality impact assessment has also been undertaken by the Applicant for cumulative construction traffic flows on shared links with Hornsea Project Three on all air quality receptors that were originally assessed as part of the ES. This forms part of the CIA submitted at Deadline 5 (ExA; ISH1; 10.D5.3). No significant cumulative impacts have been identified.

<p>(i) Noise, Vibration, and Air Quality</p>	<p>The ExA asked NNDC and the Applicant for an update on the discussions related to the CoCP in relation to waiting times and locations for HGVs outside of the 7am-7pm construction hours.</p>	<p>The Applicant explained its approach in relation to waiting times and locations for HGVs outside of the standard construction hours specified in Requirement 26(1) of the draft Development Consent Order (dDCO), which was detailed in response to further question 12.15 submitted at Deadline 4 (ExA; FurtherWQ; 10.D4.6). Control of HGV deliveries outside of the consented hours is set out at Section 1.6.3 of the OTMP (document reference 8.8). These control measures include the following:</p> <ul style="list-style-type: none"> • Supplier contracts will specify that HGVs will be refused access and turned away if they arrive outside of their allocated time slot. This is proposed as a deterrent to ensure suppliers adhere to this control mechanism. • Delivery slots will be managed to minimise the risk of vehicle movements outside of the consented working hours. • A small number of daily slots will be reserved to accommodate any unplanned deliveries. • The contractor will be required to keep an up to date record of deliveries and exports from the project, which will take the form of delivery receipts. This information will be retained to be provided to the relevant local authority, NCC and HE upon request. • Supply chain vehicles will display a unique identifier in the cab of the vehicle. <p>Should there be any occasion where a supplier does not adhere to these requirements then enforcement action, through the supplier's contract, will be taken. This enforcement procedure is set out in section 1.9.4 (Potential Plan Breaches) and section 1.9.5 (Corrective Process) of the OTMP, which is secured through Requirement 21 of the dDCO.</p> <p>The Applicant has also committed to a communications plan and a local liaison officer for any local residents who wish to raise concerns in relation to traffic and construction management. This is set out at Section 2.4 of the OCoCP (document reference 8.1) and section 1.9.2 of the OTMP. This identifies a mechanism by which complaints received during construction related to HGV deliveries can be responded to and, where required, enforcement action taken through the supplier's contract. The commitment to a communication plan states that:</p> <p><i>"Communications will be co-ordinated on site by a designated member of the construction management team. A proactive public relations campaign will be maintained, keeping local residents informed of the type and timing of works involved, the transport routes associated with the works, the hours of likely construction traffic movements and key traffic management measures that would be provided. A combination of communication mechanisms such as posters and parish meetings will be employed to keep local residents informed."</i></p>
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(ii) Ground conditions and contamination	The ExA requested an update on discussions between the Applicant and NNDC in relation to soil management and the potential options for the Cart Gap sea wall.	<p>The Applicant explained the approach as set out in the Statement of Common Ground (SoCG) with NNDC (document reference REP2-SoCG-17.1) and the response to further question 16.32 (document reference ExA; FurtherWQ; 10.D4.6). The Applicant's position is that this matter should not be considered as part of the Development Consent order (DCO) application. The proposals do not form part of the DCO application, associated impacts (e.g. traffic flows) have not been environmentally assessed and the Applicant is not reliant on the Cart Gap sea wall proposal in order to mitigate impacts of the project. Notwithstanding this, the Applicant is open to discussing the feasibility of providing spoil to NNDC post-consent, should NNDC wish to proceed with seeking a licence to infill the Cart Gap sea wall.</p> <p>The Applicant has provided a position statement at Deadline 6 which covers this point further (document reference: ExA; ISH4; 10.D6.8).</p>
AGENDA ITEM 5 (Onshore ecology)		
(i) Water dependent designated sites	The ExA asked for an update in relation to the clarification notes provided on 27 Feb 2019 and whether the first two matters now been agreed.	The Applicant and Natural England confirmed that these matters have now been agreed and the Applicant has submitted a position statement on these matters at Deadline 6 (ExA; ISH4; 10.D6.9).
(ii) Bats associated with Paston Great Barn SAC	The ExA requested an update on this topic.	<p>The Applicant welcomes confirmation that Natural England's concerns are now withdrawn. The Applicant will update the Outline Landscape and Ecological Management Strategy (OLEMS) (Document Reference: 8.8) to include reference to 7 years of monitoring of affected hedgerows within the Paston Great Barn SAC study area. The Applicant will endeavour to submit an updated version of the OLEMS as part of the Deadline 7 submissions.</p> <p>The Applicant has submitted a position statement on these matters at Deadline 6 (ExA; ISH4; 10.D6.9).</p>
(iii) Sediment management at the	The ExA questioned the reference that Natural England made in their advice note for further	In relation to reinstatement / restoration of grassland within the River Wensum catchment area, but outside of the floodplain, the Applicant explained that this matter is being considered further and the Applicant will continue to engage with Natural England.

River Wensum	information in relation to restoration, reinstatement of works, and the number of trenchless installations at the River Wensum.	<p>With regards to the proposed reinstatement / restoration within the River Wensum catchment and within the floodplain, the Applicant welcomes Natural England's agreement to this approach and considers that the Outline Code of Construction Practice (OCoCP) (Document Reference: 8.1) is the appropriate place to capture these commitments. The Applicant will endeavour to submit an updated version of the OCoCP as part of the Deadline 7 submissions.</p> <p>In relation to trenchless installation and associated flood risk, the Applicant has shared the clarification note with the Environment Agency. The flood risk matters set out in the note have been agreed separately with the Environment Agency and are captured in the SoCG submitted at Deadline 4 (document reference: REP2 – SOCG – 6.1).</p> <p>The Applicant has submitted a position statement on these matters at Deadline 6 (ExA; ISH4; 10.D6.9).</p>
(iv) Other unresolved matters	The ExA asked for an update in relation to other unresolved matters	<p>The Applicant welcomes confirmation that most of Natural England's concerns are now withdrawn.</p> <p>In relation to the Broadland Special Protection Area (SPA) and that Natural England cannot rule out Adverse Effect on Integrity (AEoI) without further mitigation, the Applicant explained that this matter is being considered further and the Applicant will continue to engage with Natural England. Should further mitigation be identified this would be captured within an update to the OLEMS (DCO document reference 8.7) and secured through DCO Requirement 24.</p> <p>The Applicant has submitted a position statement on these matters at Deadline 6 (ExA; ISH4; 10.D6.9).</p>
AGENDA ITEM 6 (Offshore ornithology)		
(i) Collision Risk Modelling (CRM)	The ExA requested an update on whether the Applicant would be using the full stochastic results for Marine Scotland Science (MSS) stochastic Collision Risk Modelling.	The Applicant has engaged in productive discussions with Natural England and the RSPB. The Applicant has encountered technical difficulties with the MSS system. The Applicant can confirm that the Applicant will undertake the CRM assessments using the Band (2012) deterministic model with updated turbine configuration (without the 9MW turbine option) and presenting results obtained using parameter values requested by Natural England. The Applicant has submitted the revised CRM at Deadline 6 (ExA; AS; 10.D6.17).
(i) Collision Risk Modelling	The ExA asked the Applicant to comment on how feasible it would be to comply with RSPB's suggestion to run the CRM model with an avoidance	The Applicant explained that the Applicant is mindful of RSPB's suggestion in this respect however the Applicant will run the CRM based on the avoidance rate figure as recommended by the statutory advice and guidance provided by Natural England.

	rate figure of 98% for Gannet.	
(i) Collision Risk Modelling	The ExA asked the parties to explain whether they were content with the methodology and parameters used in the CRM	The approach that the Applicant has taken has been to present results for the alternative parameters requested by Natural England and the RSPB alongside those derived from reviews of evidence which the Applicant considers are more appropriate and which have informed the Applicant's assessments.
(ii) Displacement	The ExA asked the Applicant for an update on the operational displacement for Auks in relation to the FFC SPA.	The Applicant confirmed that an update to the operational auk displacement assessment, both at an EIA scale and also with consideration for impacts on SPA populations (HRA) would be submitted at Deadline 6 (ExA; AS; 10.D6.17). This will present results using Natural England's advised methods.
(ii) Displacement	The ExA explored whether the parties were in agreement with the methodology for the Gannet cumulative displacement, as well as for the impacts on lesser black-backed gulls.	The Applicant confirmed that a cumulative gannet displacement assessment would be submitted at Deadline 6 and that this would present assessment following agreed methods.
(ii) Displacement	The ExA asked for an update on the approach to assessing the Kittiwake data provided at Deadline 4 in Appendix 23.2 [REP 4049]	<p>The Applicant has discussed this matter with Natural England and RSPB. The seasonal apportionment used for Norfolk Vanguard follows the same approach originally developed for the East Anglia THREE project, which was used with Natural England's agreement. The most recent report presenting these methods was submitted as Appendix 23.2 to the Deadline 4 response to further questions (ExA; FurtherWQApp23.2; 10.D4.6). The Applicant recognises that Natural England and RSPB will need time to review this detail further, and the Applicant welcomes a response on this piece of work by Deadline 6.</p> <p>The analysis of Kittiwake tracking data supplied by the RSPB was in the context of the 2017 breeding season. Birds were tracked and this made clear that some birds were travelling further than had previously been considered. Preliminary outputs for how these data could be used to inform the Norfolk Vanguard apportioning rates have been discussed with the RSPB and Natural England. This work has suggested that a foraging range of 250km would be appropriate for estimating breeding season connectivity. This work to estimate connectivity to the Flamborough and Filey Coast SPA and appropriate apportioning rates for kittiwakes is still</p>

		to be finalised by the Applicant, however further updates would be provided at Deadline 6. The Applicant noted that Norfolk Vanguard is made up of East and West sites; there is a 30km difference in the distance of the East and West parts of the site to the Flamborough and Filey Coast SPA. The Applicant will therefore also provide consideration of this aspect in the updated analysis to be submitted at Deadline 6.
(ii) Displace- ment	The ExA explored what other mitigation might be possible, for instance raising the draught height.	The Applicant has taken the approach to assessment in a step by step manner. It is considered necessary to first determine the methodology for modelling and thereafter consider the result of the assessment. At that point, it would be suitable to consider whether other mitigation measures may be required or appropriate. The Applicant therefore believes that it would be premature to consider mitigation or alternative options prior to the results being known. Notwithstanding, the Applicant is continuing to consider refinements to the Project as part of the design assessment.
(ii) Displace- ment	The ExA asked the Applicant to respond on Natural England's comments on Red-Throated Diver (RTD).	<p>The Applicant notes that there are two separate sources of disturbance impacts for RTD (offshore export cable installation and operational vessel movements):</p> <p>1. Offshore export cable installation:</p> <p>Updated assessment of Greater Wash SPA RTD displacement due to cable installation from the project alone and in-combination will be provided at Deadline 6. Following completion of this assessment the Applicant will review the requirements for seasonal restrictions, with consideration given to the proportionate nature of such measures in relation to the potential impact magnitude based alongside the significant implications for delivery of construction and maintenance programmes, especially offshore where operations can only be undertaken in safe and optimal weather conditions.</p> <p>2. Operational vessel movements:</p> <p>The Applicant received Natural England's advice on best practice measures for minimising disturbance to RTD from vessels transiting either the Greater Wash SPA or Outer Thames SPA and confirmed that these best practice will be included in the next version of the draft DCO.</p> <p>In addition, the Applicant confirmed that the operational and maintenance strategy for the Norfolk Vanguard project is not based on the use of fast vessels; rather, the intention is to deploy a large vessel every two weeks – crew would circulate on a two-weekly cycle. There would be some requirement for other vessels but the main deposit for crew will be by way of larger slower vessels. The Applicant therefore considers that the impacts on RTD would be minimised in relation to operational vessel movements. The Applicant is also considering including wording in the DMLs to secure operational mitigation in this respect.</p>
(iii) Cumula- tive; and In-	The ExA asked Natural England and the Applicant to explain if there was a fall-back position in the event that Hornsea Project Three	The Applicant's figures on a project alone level are appropriate. However, the Applicant notes Natural England's concerns with the dataset for Hornsea Project Three. Following suggestions by Natural England and RSPB, in the updated cumulative and in-combination assessments to be submitted at Deadline 6 the Applicant

combinati on effects	could not overcome the concerns raised by Natural England in relation to birds.	will produce two sets of in-combination and cumulative impact assessments: (1) including the dataset from Hornsea Project Three; and (2) without the dataset from Hornsea Project Three . The Applicant responded to Natural England's comments on the 'Building Block' approach and explained that, in the Applicant's view, the Building Block was previously dealt with in the context of projects that had been consented. Whereas in this context, the Norfolk Vanguard application and the Hornsea Project Three application are being considered on similar timescales; each application is likely to be with the Secretary of State for consideration at the same time (albeit recognising that the Secretary of State is likely to receive the Hornsea Project Three application first). In accordance with the advice from Natural England, the Applicant is drafting an in-combination assessment with figures that do not include Hornsea Project Three.
(iii) Cumula- tive; and In- combinati on effects	The ExA queried whether there was the need for updated integrity matrices and screening matrices.	The Applicant explained that the matrices already submitted would need to be reviewed, and that if changes are required these were likely to be small and non-material. The Applicant will however assess this in light of the information being submitted at Deadline 6 and provide updated matrices as necessary.
(iv) Other points	The ExA asked the parties whether there were any further submissions.	The Applicant welcomes RSPB's and Natural England's acknowledgements that progress has been made. The Applicant considers that the information submitted at Deadline 6 will help to alleviate any remaining concerns. The Applicant also notes comments regarding the composition of turbines across Norfolk Vanguard East and Norfolk Vanguard West. The Applicant will consider these submissions further as part of the final project design considerations.
AGENDA ITEM 7 (Benthic Ecology)		
(i) Potential impacts on Sabellaria and sandbanks	The ExA asked the parties to provide an update in relation to the Outline Site Integrity Plan for the Haisborough Hammond and Winterton (HHW) Special Area of Conservation (SAC) which was proposed by the Applicant in version 3 of the dDCO (condition 9(1)(m) of Schedule 11-12).	The Applicant notes that Natural England's main concerns in relation to cable installation and cable repairs are related to the HHW SAC. The Applicant has therefore proposed that mitigation associated with the HHW SAC is secured in a single plan (a Norfolk Vanguard Haisborough, Hammond and Winterton SAC Site Integrity Plan (SIP) (Document Reference 8.20)) and through a separate condition in the transmission asset DMLs (Condition 9(1)(m) of Schedule 11-12). The Applicant will endeavour to submit the outline SIP for the HHW SAC at Deadline 7 after consulting with Natural England and the MMO on the content of the plan. The final detail in relation to cable installation and any proposed mitigation will be included in the final Site Integrity Plan to be produced pursuant to Condition 9(1)(m) of the Transmission DMLs (Schedule 11-12). The final plan will be in accordance with the outline plan. As the final design progresses, the SIP will be completed to reflect the detailed cable installation plan within the HHW SAC; a review of the potential effects on the HHW SAC; proposed mitigation; and monitoring will be provided in the final SIP. At this stage, the Applicant can therefore seek to agree the process and mechanism which will provide the framework to avoid adversely affecting the integrity of the HHW SAC.

		<p>The Applicant is committed to burying cables where substrate conditions allow and therefore minimising cable protection. In addition, in response to requests from Natural England, the Applicant has commissioned an Interim Cable Burial Study which was based on geophysical, geotechnical and environmental surveys carried out by Fugro Survey B.V. This has identified that at least 95% of the offshore export cable length within the SAC is capable of burial. As a result, the length of potential cable protection required for unburied cable is 5% of the cable length within the HHW SAC, in addition to cable protection for cable/pipeline crossings. This 5% represents a significant reduction in cable protection for unburied cables from the 10% assessed in the ES and Information to Support HRA report (document reference: 5.3). The Applicant notes that the Interim Cable Burial Study does not constitute the final cable burial risk assessment. The final cable burial risk assessment study will be agreed and commissioned as part of the cable specification, installation and monitoring plan pursuant to Condition 14(1)(g) of Schedule 9-10 and Condition 9(1)(g) of Schedule 11-12. It is at this time, prior to commencement of licenced activities, that the Applicant will select the proposed cable route based on the pre-construction survey data and in consultation with the MMO and Natural England.</p>
(i) Potential impacts on Sabellaria and sandbanks	The ExA asked the Applicant to respond to Natural England's submission regarding a recent consultation on a Marine Protected Area.	<p>The Applicant has only become aware of this consultation throughout the course of the day (ISH4, 27 March 2019), as Natural England notified the Applicant prior to the hearing starting. The Applicant therefore needs to consider the detail of the consultation and decide whether there are any implications which are relevant for offshore wind farms and hence the Project. However, from the submissions given by Natural England, it appears to the Applicant that the consultation and related objectives of the proposed Marine Protected Area (MPA) would seek to limit fishing activity, rather than any activity associated with an offshore wind farm. Furthermore, the Applicant has not been consulted on the proposed MPA. This perhaps further characterises that the proposals are applicable and relevant to fishing activity only and that it would appear to the Applicant that the MPA would not apply to the Applicant's project.</p> <p>The Applicant also notes that, in any event, as part of the proposed SIP for the HHW SAC the Applicant is required to agree the exact cable route and requirement for cable protection with the MMO in consultation with Natural England.</p>
(ii) Further assessment mitigation and removal of cable protection	The ExA asked the Applicant and Natural England for an update regarding the percentage figure for cable protection.	<p>As the Applicant outlined previously, the Applicant has commissioned an interim cable burial study and, accordingly, the Applicant can commit to reduce the amount of cable protection from 10% to 5% for the cable length within the HHW SAC (excluding cable protection required for crossings). The Applicant will capture this commitment, by way of area (in m²) and volume (in m³), within the SIP for the HHW SAC, which will be secured in the DCO pursuant to Condition 9(1)(m) of Schedule 11 and 12.</p>

<p>(ii) Further assessment mitigation and removal of cable protection</p>	<p>The ExA asked the Applicant to explain whether it would be feasible to remove the cable protection.</p>	<p>The Applicant explained that polymeric rope is commonly used in cable protection products such as concrete mattresses and rock bags. The fibres in the rope tend to become embrittled over time, which can result in failure of the rope elements when placed under stress. As a result, it is problematic to remove cable protection that has been 'in situ' on the seabed for a long period.</p> <p>The Applicant notes that this is aligned with Natural England's experience and therefore the impacts of cable protection have been assessed as permanent in the ES and Information to Support HRA report (document 5.3).</p>
<p>(ii) Further assessment mitigation and removal of cable protection</p>	<p>The ExA questioned the separation distances for the Norfolk Vanguard cable with the Norfolk Boreas cable.</p>	<p>As outlined in ES Appendix 5.1 Export Cable Installation Study (document reference 6.2.5.1), a minimum distance of 75m in shallow water (around 7m) or 120m in deeper water (around 48m) is needed for the separation between the two pairs of cables for Norfolk Vanguard. A figure of 250m is then needed for the distance between Norfolk Vanguard's cable and Norfolk Boreas' cable. These distances are necessary in order to facilitate the safe repair of cables (discussed in Section 5.4.18.3 of ES Chapter 5 Project Description). In the event that a cable requires repair, the project company will need to bring the cable to the surface to remove the damaged section of the cable and then insert two new cable joints. The cable is then laid back to the seabed and the spacing includes the area required for the extra loop of cable.</p> <p>This process will be carried out from a vessel that is likely to require anchor placements. The separation distance between Norfolk Vanguard and Norfolk Boreas therefore allow the anchor placements to be secured a safe distance away from each of the respective cables.</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 Vanguard Limited:

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

Onshore

2. **Andy Ross**, Technical Director Transport Planning, Royal HaskoningDHV (**RHDHV**)

Speaking on behalf of Norfolk Vanguard Limited on:

- Transport and highway safety
- Access arrangements to the onshore substation
- A47 crossing arrangements and sensitive junctions
- Cumulative impacts

3. **Jon Allen**, Principal Environmental Consultant, **RHDHV**

Speaking on behalf of Norfolk Vanguard Limited on:

- Transport and highway matters
- Noise and other impacts during construction
- Cumulative impacts (where relevant)
- Ground conditions
- Air quality, contamination, light pollution
- CoCP and public rights of way (where relevant)

4. **Alasdair Baxter**, Senior Acoustic Consultant, **RHDHV**

Speaking on behalf of Norfolk Vanguard Limited on:

- Noise and other impacts during construction.

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

Speaking on behalf of Norfolk Vanguard Limited on:

- Onshore Ecology

6. **Chris Jones**, Technical Leader Engineering Consultant, **GHD**; and **Rob Driver**, Grid Manager, **Vattenfall**.

Speaking on behalf of Norfolk Vanguard Limited on:

- Onshore construction
- Project design and the onshore project substation
- Construction traffic (where relevant)

7. **Jo Phillips**, Associate Landscape Architect, **Optimised Environments**

Speaking on behalf of Norfolk Vanguard Limited on:

- Landscape and Visual

Offshore

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

Speaking on behalf of Norfolk Vanguard Limited on:

- Offshore ornithology

9. **Gemma Keenan**, Senior Marine Biologist/ Project Manager, Royal HaskoningDHV (**RHDHV**);

Speaking on behalf of Norfolk Vanguard Limited on:

- Benthic ecology
- HRA implications
- Marine mammals
- Assessment findings, including cumulative impacts

10. **Robin Peters**, Technical Project Manager, **Vattenfall**; and **Rob Driver**, Offshore Grid Manager, **Vattenfall**

Speaking on behalf of Norfolk Vanguard Limited on:

- Offshore construction and physical processes

Various

11. **Catrin Jones**, Stakeholder Engagement Manager, **Vattenfall**

Speaking on behalf of Norfolk Vanguard Limited on:

- Socio-economic considerations and community consultation.

12. **Rebecca Sherwood**, Consents Manager, **Vattenfall**; and **Ruari Lean**, Senior Development Manager, **Vattenfall**

Speaking on behalf of Norfolk Vanguard Limited on:

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