

Norfolk Vanguard Offshore Wind Farm

Written summary of the Applicant's oral case at Issue Specific Hearing 6

Environmental Matters

Applicant: Norfolk Vanguard Limited
Document Reference: ExA; ISH6; 10.D7.1
Deadline 7

Date: May 2019
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Photo: Kentish Flats Offshore Wind Farm

Glossary

AEOI	Adverse Effect on Integrity
CIA	Cumulative Impact Assessment
CoCP	Code of Construction Practise
CRTN	Calculation of Road Traffic Noise
cSAC	candidate Special Area of Conservation
DCO	Development Consent Order
DML	Deemed Marine Licence
ES	Environmental Statement
ExA	Examining Authority
HGV	Heavy Goods Vehicle
HHW	Haisborough, Hammond and Winterton
HRA	Habitats Regulation Assessment
IROPI	Imperative Reasons of Overriding Public Interest
ISH	Issue Specific Hearing
MA	Mobilisation Area
MMMP	Marine Mammal Mitigation Protocol
MMMZ	Marine Mammal Mitigation Zone
MMO	Marine Management Organisation
MPA	Marine Protected Area
OCoCP	outline Code of Construction Practice
OLEMS	outline Landscape and Ecological Management Strategy
RIES	Report on the Implications of European Sites
SAC	Special Area of Conservation
SAD	Selection Assessment Document
SIP	Site Integrity Plan
SNCBs	Statutory Nature Conservation Bodies
SNS	Southern North Sea
SPA	Special Protection Area
TMP	Traffic Management Plan

Written Summary of Oral Submissions: ISH 6 – Environmental Matters

1. Introduction

- 1.1 Issue Specific Hearing 6 (**ISH**) into Environmental Matters for Norfolk Vanguard took place on 24 April 2019 at 9:30am 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 the ISH followed the form of the agenda published by the Examining Authority (the **ExA**) on 17 April 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.

	ExA Question / Context for discussion	Applicant's Response
AGENDA ITEM 3 (Traffic and Transport)		
(i)	Substation Access Clarification Technical Note update	The Applicant confirmed that Highways England have indicated their acceptance to the Applicant's position as explained in the Applicant's position statement submitted at Deadline 5 (Document Reference: ExA; ISH6; 10.D7.4). The Applicant has submitted a copy of the approved briefing note as part of the Deadline 7 submissions (document reference: ExA; ISH6; 10.D7.15).
(ii)	Cable Crossing Access Technical Note update	The Applicant submitted a briefing note to Highways England for review on the week commencing 15 April 2019. The Applicant is liaising with Highways England's technical team and the Applicant is awaiting comments from Highways England with a view to resolving this matter prior to Deadline 8. Notwithstanding this, in order to provide the ExA with an update on the current position, the Applicant is aiming to submit a draft briefing note at Deadline 8.
(iii)	A47 sensitive junctions	The Applicant issued a Position Statement to Highways England on the week commencing 8 April 2019. Highways England are content that any remaining matters can be addressed through the Traffic Management Plan (TMP) post consent.

		<p>Accordingly, the precise mitigation measures will be subject to discussion and agreement with Highways England and Norfolk County Council under the TMP, as secured by Requirement 21 of the Development Consent Order (DCO).</p> <p>The Applicant has updated the outline Traffic Management Plan (document reference 8.8 (version 2)) which has been submitted at Deadline 7. Should any further updates be required, the Applicant would propose to submit a final outline TMP at Deadline 8.</p> <p>The Applicant has submitted a position statement on this matter as part of the Deadline 7 submissions (document reference: ExA; ISH6; 10.D7.4)</p>
(iv)	Traffic assessments for Links 32, 36 and 41	<p>Link 32:</p> <p>The Applicant confirmed that the mitigation for Link 32 has been agreed with Norfolk County Council. The mitigation includes a further commitment to ensure that Norfolk Vanguard Heavy Goods Vehicles (HGVs) will not use Link 32 between 07.30am – 09.00am to avoid the school drop off period. The Applicant has made amendments to the outline TMP (document reference 8.8 (version 2)), at Deadline 7, to capture this. Norfolk County Council confirmed that this restriction was only being applied to Norfolk Vanguard as the restriction to one of the two projects (i.e. Norfolk Vanguard or Hornsea Project Three) using this link would be sufficient to mitigate potential cumulative impacts.</p> <p>Link 36:</p> <p>The Applicant explained that Norfolk County Council has requested an alternative route is used (Shortthorn Road) to avoid the village of Horsford along Link 36 (B1149). As this proposed diversion would take traffic off the B1149 and onto an unclassified road the Applicant has proposed an alternative diversion for the cumulative scenario with Hornsea Project Three. This alternative diversion would use Link 39 (A140) and Link 37 (B1145) and ensure that traffic remains on a road of similar or greater standard, in terms of the road hierarchy, compared to the B1149. The Applicant confirmed that this alternative route falls within the Applicant's previous assessments and the Applicant's Rochdale Envelope and, therefore, no further environmental assessment work is required to enable the use of the diversion. The Applicant confirmed that this route would be used for the cumulative traffic scenario only.</p> <p>Norfolk County Council stated that whilst they welcome the Applicant's commitment to use this alternative route during the cumulative scenario, their preference would now be for all construction traffic to avoid Link 36, even though the assessment for Norfolk Vanguard alone did not identify any significant impacts nor were any issues raised within the Council's Local Impact Report. The Applicant's position remains that Link 36 is suitable for the HGV movements for Norfolk Vanguard alone. The Applicant understands Norfolk County Council's concerns from a cumulative perspective with Hornsea Project Three HGV movements but the Applicant seeks clarification from Norfolk County Council as to the level of HGV movements which Norfolk County Council consider would be</p>

		<p>acceptable on Link 36. The Applicant would propose that only those HGV movements which exceed this level should be required to use the alternative diversionary route. The Applicant will continue to engage with Norfolk County Council on this matter and should any further updates be required, the Applicant would propose to submit a final outline TMP at Deadline 8.</p> <p>Link 41:</p> <p>The Applicant has held productive discussions with Norfolk County Council to understand concerns regarding HGV movements along this route during the 6 week peak tourist season, i.e. during the school summer holidays. The Applicant has agreed to reduce the peak HGV movements during this 6 week period. Norfolk County Council agree in principle with the Applicant's suggested approach and the parties are in the process of finalising a cap on numbers. Further details are set out in a position statement submitted at Deadline 7 (ExA; ISH6; 10.D7.5).</p>
(v)	Trenchless crossings on A1067 and B1149	<p>In both these cases, the Applicant would stress a note of caution in relation to other impacts associated with trenchless crossing including the potential requirement for additional land outside of the Order limits, potential for additional traffic peaks, new accesses off the road network, and noise impacts. Whilst the background traffic flows along the A1067 have changed since the application was made as a result of the Norwich Northern Distributor Road, the Applicant notes that during the Evidence Plan Process and throughout the pre-application consultation with Norfolk County Council, the Norfolk County Council highways team had not previously raised the need for trenchless crossing under the B1149. The Applicant has, however, accommodated this late request by commissioning further surveys and studies, as follows:</p> <p>A1067:</p> <p>In order to be able to consider the request for trenchless crossing further, the Applicant has commissioned additional traffic counts on the A1067. The Applicant will assess the updated traffic flows to determine whether the projected traffic flows combined with the construction traffic for the Project would lead to unacceptable traffic delays under single lane traffic management as currently proposed by the Applicant, i.e. if the proposed open cut trench remains appropriate.</p> <p>Traffic counts need to be undertaken during a neutral period; accordingly, the updated traffic counts were programmed to take place after the Easter period, with results expected in early May. The Applicant expects to engage with Norfolk County Council thereafter, and the Applicant will update the ExA at Deadline 8.</p> <p>B1149:</p> <p>The Applicant's position is that a trenchless crossing of the B1149 is not required to mitigate traffic impacts and that appropriate traffic management can be utilised to facilitate a trenched crossing within the approximate 1 week period that this crossing would take. Norfolk County Council has raised perceived concerns regarding the</p>

		<p>suitability of reinstatement of the carriageway following a trenched crossing. Subsequently, the Applicant has commissioned Norfolk County Council's pavement laboratory team to survey the condition of the B1149 at the open cut trenched crossing point in order to advise on the specification for repairing this surface to avoid uneven settlement concerns. The survey took place on 27 March 2019 and the laboratory will advise on the subsequent timescales, which is expected in early-May.</p> <p>The addition of a trenchless crossing of the B1149 will introduce a further HGV movement peak onto links of concern such as Link 32 and Link 36 in order to deliver the additional materials and plant required to conduct a trenchless crossing. Access to the trenchless crossing would also require a temporary junction directly off the B1149 at the crossing point to mitigate the transport of additional materials or plant along the running track from Mobilisation Area 6 (MA6) or MA7 which would also introduce a further HGV movement peak to Link 34 or Link 68. The Applicant refers to its response to further written question 11.35 (ExA; FurtherWQ; 10.D4.6) which outlines some of the additional environmental concerns and land requirements outside of the Order Limits necessary to implement a trenchless crossing at this location. The Applicant will continue to engage with Norfolk County Council and the Applicant will update the ExA accordingly.</p>
(vi)	Link 34, Cawston village and alternative route	<p>During Issue Specific Hearing 4 on Environmental Matters (ISH4) on 27 March 2019, Cawston Parish Council referred to a proposal to use the Applicant's onshore cable route running track to divert construction traffic, which would in turn avoid use of the B1145 through Cawston.</p> <p>The Applicant has met with Cawston Parish Council on 11 April 2019 to further discuss and understand the suggested alternative route proposed. The Applicant has considered and reviewed the proposal bearing in mind the following matters:</p> <p>Construction Methodology and Embedded Mitigation: the Applicant is intending to install below-ground cable ducts along the length of the onshore cable route to facilitate the installation of export cables for both Norfolk Vanguard and, the Applicant's sister project, Norfolk Boreas. This duct installation process involves the movement of materials (e.g. roadstone, sand and subsoil) to and from the proposed cable route. It is this duct installation stage of the construction process that involves the greatest number of HGV movements on the public road network for the Applicant's project.</p> <p>For the purpose of the duct installation process across the 60km cable route, the onshore cable route has been divided up into twenty sections to maximise the ability for multiple work fronts, minimising the overall construction programme. Mobilisation areas provide the access points to the route sections from the public highway and are the base from which all works take place along a section of the route. All materials, including roadstone for the construction of the running track, will be delivered via the mobilisation area. Duct installation will progress outwards from the mobilisation area, including associated running track establishment, at a typical interval of 150m per week.</p>

		<p>This methodology is captured as embedded mitigation throughout the onshore chapters of the Environmental Statement (ES) as this approach minimises the amount of land being worked on at any one time and also minimises the duration of works on any given section of the route.</p> <p>The proposed alternative route, as presented, would therefore not be compatible with the proposed construction method which is identified as embedded mitigation for a range of environmental impacts.</p> <p>Notwithstanding this, the Applicant has considered how the Applicant could modify the construction method to try to accommodate the proposal – for instance, through constructing the running track in advance. However, as noted above the sectionalised approach to construction is relied upon as embedded mitigation to minimise other environmental impacts. The alternative route would require a 2.8km length of the running track to be pre-constructed prior to duct installation works and retained in place for 3-4 years if utilised for the benefit of Hornsea Project Three also. The impacts and other consideration of this have not been assessed but would include some of the following:</p> <ul style="list-style-type: none"> • A requirement for additional land outside of the Order limits to accommodate a small mobilisation area at the B1149 to facilitate pre-construction of the running track from this location, westwards for 2.8km to MA6. • A new junction from the B1149 onto the running track for all construction traffic associated with Norfolk Vanguard and Norfolk Boreas duct installation and also Hornsea Project Three construction. This junction would be in proximity to the crossroads of the B1149 and The Street The Applicant acknowledges Norfolk County Council’s concerns regarding the creation of such an additional access. As a result, a further element of traffic management, which is outside of the impacts assessed, would be required. • The materials required to pre-construct the running track in advance of duct installation would need to be delivered over a condensed period, compared to the current projected rate of 150m/week over 24 weeks in line with duct installation. Furthermore, in order for the running track to support the required quantity of HGV movements for Norfolk Vanguard and Hornsea Project Three, over an extended timescale, the specification of the running track would need to be more robust such as the use of different materials or material depths. This would require a greater volume of materials to be delivered and in turn an increase in the number of HGV movements for the purpose of running track construction, with resulting impacts on the local and wider road network, particularly Link 32, Link 33 and Link 36. • Environmental impacts associated with the 3-4 year retention of the running track, including construction noise, water quality at designated water bodies (crossing the Blackwater Drain which feeds into the River Wensum Special Area of Conservation), flood risk (land drainage and soil
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		<p>storage within the functional floodplain), and ecological impacts to protected bat species related to delayed hedgerow reinstatement.</p> <ul style="list-style-type: none"> Increased disturbance effects to properties in proximity to the running track, which would be retained for an extended period (in the order of 3-4 years), compared to 1-2 weeks associated with the sectionalised duct installation. <p>The Applicant also acknowledges Norfolk County Council's concerns over a further alternate diversion route making greater use of Heydon Road due to the limitations of the unclassified public highway between the B1145 and Heydon Road.</p> <p>Accordingly, the proposals do not align with the Applicant's design, construction methodology, or environmental mitigation and have shown that the overall impacts would be greater and more prolonged. There is a viable route along the B1145 which is designated by Norfolk County Council as a Main Distributor Road and the environmental impacts of the use of the B1145 have been assessed and suitable mitigation proposed. As such, there is not considered to be a compelling case to progress the proposed alternative route.</p> <p>The Applicant has provided a full response to Cawston Parish Council on this matter at Deadline 7 (ExA; Comments; 10.D7.20).</p>
(vi)	Environmental and cumulative impact associated with Link 34	<p>The Applicant referred the ExA to the Cumulative Impact Assessment Traffic and Transport report (Cumulative Impact Assessment (CIA) report) submitted at Deadline 5 (ExA; ISH1; 10.D5.3) in order to explain the Applicant's peaks in HGV movements through Link 34 together with the CIA position on HGV movements.</p> <p>The Applicant's initial assessment provided the Applicant with a primary peak figure of 168 daily HGV movements for one week (Peak 1), a secondary peak of 152 daily HGV movements for one week (Peak 2), and a third peak of 144 daily HGV movements for two weeks (Peak 3). The Applicant's typical average HGV movements across the 24 week period is 90 daily HGV movements. The Applicant also explained that a HGV movement represents a single leg of each delivery, i.e. one delivery to site would generate two movements (one there and one return) such that the numbers quoted represent the maximum two-way movements on a Link in a single day.</p> <p>In the cumulative scenario with Hornsea Project Three, the Applicant has committed to not exceed Peak 3 of 144 daily movements; the Applicant can achieve this by reallocating peak activities and this is captured within an update to the Outline Traffic Management Plan (document reference 8.8) submitted at Deadline 7. Hornsea Project Three have assessed their impact using a maximum figure of 127 HGV movements across a full 3 year period, compared to the Applicant's profiled HGV movements over an approximate 1 year period to complete duct installation and trenchless crossings in cable sections 9/9a and 10, in which some weeks have very low HGV activity.</p>

	<p>The Applicant referred to Appendix E of the CIA report which outlines the Applicant's full profile of HGV demand. The Applicant's peak activity for Peak 1, Peak 2, and Peak 3 relates to the trenchless crossings of Hornsea Project Three and the Marriot's Way. The Applicant will liaise with Hornsea Project Three post-consent in relation to staggering peak activities for these stages of work, especially in view of the Applicant's low levels of HGV movements outside of the peak activity. In any event, the Applicant has committed to not exceed the third peak of 144 daily HGV movements as the Applicant considers that this level of HGV movements can be managed and mitigated cumulatively with Hornsea Project Three's maximum HGV movements. This would result in a cumulative maximum figure of 271 daily HGV movements. The Applicant notes that Norfolk County Council agree with the strategy and that the cumulative cap on HGV daily movements is acceptable. This cap on daily HGV movements is captured within an update to the Outline Traffic Management Plan (document reference 8.8) submitted at Deadline 7.</p> <p>Hornsea Project Three use of Heydon Road</p> <p>The Applicant explained that the CIA report is based on Hornsea Project Three's final outline Construction Traffic Management Plan, which the Applicant has enclosed within the Deadline 7 submissions (document reference ExA; ISH6; 10.D7.6). The Applicant understands that Hornsea Project Three have committed to using Heydon Road for 62 HGV movements and 127 HGV movements on the B1145. The Applicant recognises that Norfolk County Council's understanding is that the diversion along Heydon Road may allow Hornsea Project Three to reduce their 127 HGV movements along Link 34, however, the Applicant has undertaken a worst case assessment for the combined HGV numbers on Link 34 using the maximum 127 HGV movements. The worst case assessment has resulted in the combined cap of 271 daily HGV movements, which is made up of the Applicant's 144 daily HGV movements and Hornsea Project Three's worst case peak figure of 127 daily HGV movements.</p> <p>Mitigation measures</p> <p>The Applicant has identified a range of traffic management measures that are required to manage potential cumulative impacts along Link 34, including enhanced pedestrian facilities, managed parking and road safety measures including a 20mph speed restriction, avoiding term time school drop off and pick up times, as well as managing cumulative peak HGV flows.</p> <p>The Applicant is aware that Norfolk County Council are continuing to engage with Hornsea Project Three to amend the scheme of mitigation measures they have proposed along Link 68. The Applicant is therefore awaiting the final scheme from Hornsea Project Three to be submitted to Norfolk County Council on 3 May 2019 and the Applicant expects to be in a position to review this soon after. In the absence of an agreed scheme from Hornsea Project Three, the Applicant will put forward their own scheme for consideration and approval by Norfolk County Council.</p> <p>The Applicant welcomes Norfolk County Council's confirmation that a mitigation scheme of this nature is feasible and can be delivered in order to alleviate concerns. The Applicant will confirm the position to the ExA prior to the close of Examination and, in any event, the Applicant notes that the scheme will be finalised post consent, and</p>
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		<p>secured through the final Traffic Management Plan to be submitted to Norfolk County Council for approval prior to commencement of development for that stage.</p> <p>Conservation area objectives</p> <p>The Applicant acknowledges that part of Cawston is designated as a Conservation Area. The Applicant noted that the B1145 is already a distributor road that is deemed suitable for HGVs and as part of the assessment the Applicant has not identified any permanent changes to the nature of this area as a result of the 24 week construction period for the Project. The traffic mitigation proposed through Cawston relates to temporary signage and temporary marking of parking bays. However, the Applicant acknowledges the action points for Deadline 8 including Action Point 12 (details of hard of measures proposed through Cawston) and Action Point 13 (undertake a Conservation Area impact assessment). The Applicant will undertake this assessment taking into account the current Conservation Area Appraisal that is in place for this site.</p>
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AGENDA ITEM 4 (Onshore Construction)

(i)	<p>Noise and vibration - proposed mitigation measures for link 68 and 34, operational noise;</p>	<p>Noise Transformers</p> <p>The Applicant confirmed that the transformers at the onshore project substation will be sited outside of the converter hall. Section 25.8.6 of Chapter 25 Noise and Vibration of the ES details the unmitigated operational noise assessment which concluded a minor adverse impact. The assessment continues in Section 25.8.6.2 to include acoustic barrier mitigation which includes a structure surrounding the transformer. The results of the noise assessment with this form of mitigation concluded a negligible impact.</p> <p>Noise and Link 68</p> <p>The Applicant acknowledges that the mitigation matters between Hornsea Project Three and Broadland District Council are agreed, as highlighted through the Statement of Common Ground between these respective parties dated 27 March 2019. The Applicant is content to adopt the measures identified for Hornsea Project Three that mitigate the identified noise and vibration impacts, which are as follows:</p> <ul style="list-style-type: none"> • 30mph speed limit; • Re-grading of the road surface within the proximity of Old Railway Gatehouse; and • Signage giving priority to oncoming vehicles approximately 40-50m south of the Old Railway Gatehouse, which will avoid vehicles waiting outside the property.
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(ii)	Air quality – link 68 and impact on Old Railway Gatehouse	<p>The Applicant explained its approach to the cumulative air quality impact assessment, which was carried out on a receptor-based approach rather than a Link-based approach. This did not therefore capture potential air quality impacts at the Old Railway Gatehouse. The Applicant has since re-run the Air Quality model adding the Old Railway Gatehouse as a receptor, which has concluded a negligible impact on Old Railway Gatehouse. The Applicant has submitted this assessment together with an explanation of the methodology used at Deadline 7 (document reference: ExA; ISH6; 10.D7.9).</p> <p>Additional sources of pollutants were discussed including the effects of idling and accelerating away from the passing place approximately 40-50m south of the property, the effect of other polluting activities including the biomass boiler and agricultural practices (poultry farming etc.) and the potential for elevated ammonia. The Applicant has captured these aspects with the assessment submitted at Deadline 7 (document reference: ExA; ISH6; 10.D7.9).</p> <p>The Applicant has also engaged with Broadland District Council to share the results of the air quality assessment and to allow Broadland District Council the opportunity to comment on the assessment.</p>
(iii)	Human Health - EMFs	<p>The Applicant has submitted, at Deadline 7, the document titled Technical Guidance Regarding Interaction between Cables and Parallel Assets (document reference: ExA; ISH6; 10.D7.10) in response to a request from the ExA and further to the Applicant's response to Further Written Question 12.10 (document reference: ExA; FurtherWQ;10.D4.6).</p>

AGENDA ITEM 5 (Onshore Ecology)		
(i)	Impacts on Broadland SPA/Ramsar site – assessment of cropping rotation	<p>The Applicant explained the final outstanding concern in relation to the Onshore Ecology Clarification note with Natural England (document reference ExA; ISH4; 10.D6.9) submitted at Deadline 6. The Applicant has committed to a second year of wintering bird surveys to be undertaken post-consent. If this demonstrates that qualifying birds are present then the Applicant has committed to working in only one of the two areas of the Broadland Special Protection Area (SPA) and Ramsar site that overlap with the onshore works footprint during the winter period. This follows a similar approach that Natural England has agreed with Hornsea Project Three. The Applicant has therefore responded to Natural England's concern through a further clarification note which sets out this approach.</p> <p>The Applicant has submitted an interim Position Statement with Natural England to explain the above approach (document reference: ExA; AS; 10.D7.22) and the Applicant has also updated the outline Landscape and Ecological Management Strategy (OLEMS) (document reference 8.7 (version 2)) to secure these commitments.</p>
(ii)	Review of timescales for submission of various changes to O/LEMS and O/CoCP re various matters including sediment management at Wensum crossing; affected hedgerows near Great Paston Barn	<p>The Applicant confirmed that the mitigation agreed in relation to the outstanding points on hedgerows and sediment management will be captured in the OLEMS, which has been submitted at Deadline 7 (document reference 8.7 (version 2)).</p> <p>The Applicant also confirmed that the further mitigation identified for reinstatement within the functional floodplain and within the wider Wensum catchment will be captured within the outline Code of Construction Practice (OCoCP), which has been submitted at Deadline 7 (document reference 8.1 (version 2)).</p>
AGENDA ITEM 6 (Offshore ornithology)		
(i)	Update on D6 submissions and any information outstanding	<p>The Applicant provided an update in view of the Applicant's submissions at Deadline 6 (document references: ExA; AS;10.D6.15; ExA; AS;10.D6.16; ExA; AS;10.D6.17; and ExA; AS; 10.D6.18) as well as the Applicant's additional submissions dated 16 April 2019 (document references: ExA;CRM;10.D6.5.1; and ExA;Screening;10.D6.5.2). The Applicant explained that the basis of the documents submitted at Deadline 6 and the additional submissions dated 16 April 2019 centred on the elements classified as 'not agreed' within the Statement of Common Ground with Natural England submitted at Deadline 5 (document reference: Rep1 - SOCG - 13.1). Accordingly the Applicant provided an update on the outstanding matters and these are captured within a position statement that the Applicant has submitted at Deadline 7 (document reference: ExA; AS; 10.D7.22).</p> <p>In summary, the updated assessments submitted at Deadline 6 and the collision risk modelling for the revised wind turbine layout between Norfolk Vanguard East and Norfolk Vanguard West submitted on 16 April 2019 (ExA; CRM; 10.D.6.5.1) represent a significant step in reducing the potential impacts of the Norfolk Vanguard Offshore Wind Farm and have been provided in response to requests from Natural England the Royal Society for the Protection of Birds to explore potential mitigation options to minimise collision impacts from the Project. These steps provide additional confidence in the original conclusions presented in the ES and subsequent submissions</p>

		<p>that impacts on offshore ornithology from the Norfolk Vanguard Wind Farm at a project alone and cumulative level (Environmental Impact Assessment) are not significant and the project alone and in-combination will not have an Adverse Effect on the Integrity (AEOI) of any relevant SPA.</p>
(ii)	<p>Habitats Regulations Assessment considerations, including any potential Adverse Effect on Integrity (AEOI) finding</p>	<p>In response to questions from the ExA regarding the Applicant's position in the event that Natural England maintained their view on AEOI, the Applicant responded from a technical perspective and a legal perspective as follows:</p> <ol style="list-style-type: none"> 1. The provision of evidence in support of the conclusions that the Applicant has reached will be included within the documents, details and submissions that the Applicant has, and continues, to provide as part of the Examination. The Applicant is confident in the conclusions presented in the Information to Support Habitats Regulations Assessment (HRA) (document reference 5.3) and subsequent submissions through the Examination, and there are unlikely to be any further aspects to consider or material to submit in support of the Applicant's conclusions at this stage. In support of this position, for Deadline 8 the Applicant intends to produce a summary of the sources of precaution applied to the assessment (making reference to existing pieces of work as appropriate) and how these combine to inflate the magnitude of impact predictions. 2. The consideration of alternatives, compensatory measures and whether the project is justified by Imperative Reasons of Overriding Public Interest (IROPI), only arises if the HRA Report concludes that the project will adversely affect the integrity of the site(s) or is inconclusive (see Planning Inspectorate advice note 10: Habitats Regulations Assessment relevant to nationally significant infrastructure projects November 2017 Version 8, paragraph 4.5). However the Applicant's HRA Report does not so conclude. <p>Unless the Applicant's HRA Report concludes that no reasonable scientific doubt remains that the project will not adversely affect the integrity of any European site, alone or in combination with other plans or projects, the Applicant's assessment will need to move to Stage 3: Assessment of Alternatives and Stage 4: Consideration of IROPI (paragraph 4.26). However, the Applicant's HRA Report does not so conclude.</p> <p>In the event that the Secretary of State was minded to conclude that, notwithstanding the conclusions in the Applicant's HRA Report and in light of the Report on the Implications of European Sites (RIES), the project will affect the integrity of the site(s), the Applicant would then expect the Secretary of State, as competent authority, to revert back to the Applicant to ask the Applicant to consider the elements of no alternatives, IROPI and compensatory measures, in which case the Statutory Nature Conservation Bodies (SNCB's) (including Natural England) would then need to be asked to advise on the nature of appropriate compensation measures (Summary Section 10).</p> <p>The Applicant would also stress the heavily precautionary nature of the HRA Report's conclusions.</p> <p>Irrespective of the above points, the Applicant's view, which is supported by detailed written submissions made during the Examination is that there is no adverse effect on integrity for the project alone or in combination.</p>

AGENDA ITEM 7 (Benthic Ecology)

(i)	Progress on HHW SAC Site Integrity Plan (SIP)	<p>The Applicant provided a draft Outline Haisborough Hammond and Winterton (HHW) Site Integrity Plan (SIP) to Natural England and the Marine Management Organisation (MMO) for review on 3 April 2019. A conference call was held with Natural England and the MMO on the 11 April 2019 to discuss feedback and written comments were received from Natural England on 17 April 2019 and from the MMO on 23 April 2019.</p> <p>The Applicant is currently working to address comments and an updated draft of the Outline HHW SIP will be submitted at Deadline 7 (document reference: 8.20). An overview of the key feedback received to date can be summarised as follows:</p> <ul style="list-style-type: none">• The HHW SIP was welcomed by Natural England as bringing together of all of the relevant information relating to the HHW Special Area of Conservation (SAC) into one document;• However the MMO and NE have questioned whether the assessment relating to the HHW SAC has the same level of uncertainty as the Southern North Sea (SNS) SAC marine mammal cumulative assessment, and therefore question whether a SIP approach is necessary or appropriate for the HHW SAC. In response, the Applicant would make the following points: <p>The Applicant maintains that there is significant uncertainty relating to the HHW SAC, particularly for Annex 1 reef features due to its ephemeral nature. This is exemplified by Appendix 2 of Natural England's Deadline 6 submission in relation to Natural England's formal advice on the use of an adaptive approach to management in the HHW SAC (document reference Rep6-032) which states that:</p> <p><i>“We [Natural England] recognise that confidence in our understanding of the extent and distribution of Annex 1 reef in this site is relatively low, in particular due to the low density of ground truthing. HHW was designated as an SAC relatively recently, its geographic location and size mean that it requires considerable resource to survey. We therefore do not have a complete baseline of feature extent and distribution. The data used is the best available evidence on which we must base our advice, and it does indicate that the area can support S.spinulosa reef. If appropriate management is not put in place then there is therefore the risk of not meeting the requirements of the Habitats Directive. The moderate density S.spinulosa polygons describe areas which may be crust and patches rather than extensive reef”:</i></p> <p>In addition, the detailed installation method, cable crossings and requirement for any cable protection for the Project will be informed by pre-construction surveys which cannot be undertaken earlier than 12 months prior to cable installation. Cable crossings will also be determined by crossings agreements with cable and pipeline operators which will be finalised post consent.</p>
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¹ Natural England Offshore wind cabling: ten years experience and recommendations (July 2018): www.gov.uk/natural-england

		<p>The method for cable installation will be agreed with the MMO in consultation with Natural England based on the pre-construction survey data and any relevant available evidence from other projects in accordance with the Outline HHW SAC SIP (document 8.20).</p> <p>The Outline HHW SAC SIP (document 8.20) shows that the aim of the installation strategy for cables in the SAC would be to bury cables below the mobile sandwaves to avoid or minimise the requirement for routine re-burial of cables during the operational phase. This will be considered through the design and execution of the installation process, taking account of relevant knowledge regarding seabed morphology and mobility. The Applicant acknowledges that Natural England has experienced situations (notably during and after the construction of other offshore wind projects in the Greater Wash area) where the outcome of cable installation operations has fallen short of the undertakings that were made by developers and contractors prior to construction. Norfolk Vanguard can benefit from this experience and underpin the detailed design and installation methodology with a comprehensive evidence base to provide confidence that execution of the burial strategy will meet the relevant burial requirements. Table 5.1 of the Outline HHW SIP (document 8.20) outlines the process for developing this evidence base.</p> <p>The Applicant maintains that the HHW SIP provides a framework to agree the installation strategy with the MMO in consultation with Natural England based on all available information at the time of finalising the SIP to maximise the opportunities for ensuring installation activities are minimised as far as possible.</p> <ul style="list-style-type: none"> • Natural England are seeking complete avoidance of any Annex 1 reef. <p>The Outline HHW SIP (document 8.20) demonstrates that the preference will be to avoid areas of reef identified during the pre-construction surveys and to take routes which would have the least effect on the Areas to be Managed as Reef that have informed the proposed byelaw areas. The Outline HHW SIP shows that, in the unlikely event that there is not sufficient space to route cables around reef identified during the pre-construction surveys, the route through reef, which would result in the least temporary disturbance would be subject to further assessment, and a conclusion of no AEoI would have to be agreed with the MMO in consultation with Natural England. If this could not be agreed, construction cannot commence and the onus would be on the Applicant to consider alternative solutions in consultation with Natural England and the MMO. If a solution cannot be agreed, the Applicant would need to consider a DCO variation application or a Marine Licence application.</p> <p>The Applicant maintains that it is unlikely that reef will develop to such an extent that it is not possible to microsite two approximately 30m swathes for Norfolk Vanguard and a further two for Norfolk Boreas through the 2-4km wide offshore cable corridor. If avoidance is not possible due to</p>
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		<p>the colonisation of the reef then cable installation works would be a localised and temporary disturbance to a large reef.</p> <p>In addition to the temporary disturbance of cable installation, cable protection has been assessed as permanent and the worst case scenario of cable protection is 0.03km² (0.002% of the SAC) based on the additional commitment made by the Applicant to limit cable protection for unburied cable to 5% of the cable length. The Applicant considers that cable protection can be colonised by <i>S. spinulosa</i>. The Applicant recognises that Natural England's position is that <i>S. spinulosa</i> on cable protection is not natural and therefore not an Annex 1 feature however the Applicant maintains that any reef regardless of what it is growing on would have the same effect on biodiversity, noting also that the large priority area to be managed as reef which has been identified in relation to the DEFRA joint recommendation area, extensively tracks existing pipelines. The Applicant also notes that Annex B of Natural England's Deadline 6 submission in relation to The Joint Nature Conservation Committee's and Natural England's advice to the MMO for protecting designated features in Haisborough Hammond and Winterton SCI/cSAC (document reference Rep6-032) states "<i>Sabellaria spinulosa</i> reef extent is identified along the Baird Bacton pipeline, as in the HHW SAC SAD [Selection Assessment Document] and Regulation 35 package"</p> <ul style="list-style-type: none"> Natural England has also requested further information on disposal locations. <p>In accordance with advice from Natural England, the Applicant has committed to ensuring that disposal would not be undertaken within at least 50m of Annex 1 reef and therefore it is not possible to identify disposal locations until the pre-construction surveys have identified the location of reef. The final cable route and installation strategy (to be agreed with the MMO) will also affect the location and volumes of sediment disposal. The Outline HHW SIP provides a commitment to agree the location and method for sediment disposal with the MMO in consultation with Natural England prior to construction.</p> <p>Accordingly, in view of the matters outlined above, the SIP mechanism is appropriate in this context for the HHW SAC. The Applicant has included further detailed submissions on why the SIP approach is a suitable mechanism for the HHW SAC. The Applicant has submitted Consideration of the Purpose of the Haisborough Hammond and Winterton Special Area of Conservation Site Integrity Plan at Deadline 7 (document reference: ExA; AS; 10.D7.19).</p>
(ii)	Habitats Regulations Assessment considerations, including any potential AEOL finding	<p>The wording of the DCO condition (Schedules 11 and 12, Condition 9(1)(m)) means that the project cannot commence until the MMO, in consultation with Natural England, is satisfied that there would be no AEOL, as shown from the draft condition:</p> <p><i>"The licensed activities, or any phase of those activities must not commence until a site integrity plan which accords with the principles set out in the outline Norfolk Vanguard Haisborough, Hammond and Winterton Special Area of Conservation Site Integrity Plan has been submitted to the MMO and the MMO (in consultation</i></p>

		<p><i>with the relevant statutory nature conservation body) is satisfied that the plan provides such mitigation as is necessary to avoid adversely affecting the integrity (within the meaning of the 2017 Regulations) of a relevant site, to the extent that sandbanks and Sabellaria spinulosa reefs are a protected feature of that site.”</i></p> <p>This approach has been accepted on the consented East Anglia Three, and the Applicant explains this further within the Consideration of the Purpose of the Haisborough Hammond and Winterton Special Area of Conservation Site Integrity Plan (document reference: ExA; AS; 10.D7.19) submitted at Deadline 7.</p>
AGENDA ITEM 8 (Marine Mammals)		
(i)	Mitigation, including update on MMMP and SIP	<p>SNS SAC</p> <p>The Applicant confirmed that the formalised designation of the SNS SAC (from a candidate SAC (cSAC)) does not change the outcome of any assessments. In carrying out its assessment and in preparing documents, the Applicant treated the cSAC in the same way as a SAC would have been treated.</p> <p>At the request of the ExA, the Applicant has submitted a copy of the conservation objectives from the designated SAC at Deadline 7 (document reference: ExA; ISH6; 10.D7.12).</p> <p>Marine Mammal Mitigation Zone (MMMZ)</p> <p>The Applicant can confirm that the reference to page 40 of the Statement of Common Ground with Natural England (document reference: Rep1 - SOCG - 13.1) relates to ensuring that the MMMZ is related to the noise modelling, not just an arbitrary 500m. However, the Applicant has confirmed with Natural England that Section 4.1 of the Norfolk Vanguard Marine Mammal Mitigation Protocol (MMMP) states:</p> <p><i>“The MMMP would involve the establishment of a mitigation zone around the pile location before each pile driving activity based on the maximum predicted distance for permanent auditory injury (PTS). Norfolk Vanguard Limited would ensure that the mitigation measures are adequate to minimise the risk of marine mammals being present within the mitigation zone prior to piling activity commencing, to reduce the risk of any physical or auditory injury.”</i></p> <p>Therefore, by relating the MMMZ to the predicted distance for permanent auditory injury, this would be based on the noise modelling rather than an arbitrary distance. The Applicant therefore considers that the Applicant and Natural England are in agreement on this matter. Regardless, Natural England has confirmed that the MMMZ would be agreed post consent during the development of the final MMMP.</p>
AGENDA ITEM 9 (Fishing and Navigation)		
(i)	Matters ‘not agreed’ in most recent Statement of Common Ground with NFFO/VisNED	The Applicant is considering various layouts whilst having regard to matters such as wind modelling and search and rescue requirements. The Applicant has engaged in discussions with the MCA on design principles and the

	[REP5-010] and any further discussion on turbine layout	Applicant has agreed an approach to inform the design layout. This is captured in the revised draft DCO (document reference 3.1) submitted at Deadline 7.
(ii)	Discussion on potential implications of the DEFRA fisheries management area and EIFCA byelaw recommendation	<p>In relation to the wider principle and implications of the byelaws, the Applicant confirmed that:</p> <ol style="list-style-type: none"> 1. It is clear that the only activity that the byelaw and DEFRA joint recommendation seeks to restrict is in relation to specific fishing methods. The DEFRA joint recommendation makes clear that all other existing activities will continue to be managed in line with current consenting and licensing processes; 2. The byelaw restrictions on fishing activity are designed to avoid numerous repeat activities which damage the seabed, which is quite distinct from the limited activity required for cable laying and its impact on the seabed; and 3. There is significant uncertainty surrounding the timescales for implementation of these measures, both in relation to the byelaw and particularly for the DEFRA joint recommendation given the need for affected Member State's agreement before submission of the joint recommendation to the European Commission. <p>Further details on this matter are provided in Appendix 2.</p> <p>The ExA also asked the Applicant whether the current proposals for closed areas to fishing in Marine Protected Areas (MPAs) may have any implications on the cumulative assessment presented in Chapter 14 Commercial Fisheries. The Applicant confirmed that the Applicant intends to undertake an evaluation of the potential implications of the proposals for closed areas to fishing in MPAs in UK, German and Dutch waters based on the current available information. The outcome of this exercise is submitted at Deadline 7 with reference ExA; ISH6; 10.D7.14.</p>
AGENDA ITEM 10 (Any other matters including landscaping)		
(i)	Landscaping and replacement tree planting	The Applicant has engaged in discussions with North Norfolk District Council in relation to replacement tree planting and the Applicant will continue to discuss these matters in order to attempt to reach an agreed position.

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 and technical note updates
- Crossing arrangements and sensitive junctions
- Link 34, Cawston village

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

Speaking on behalf of Norfolk Vanguard Limited on:

- Transport and highway matters
- Link 34, Cawston village
- Noise and other impacts during construction
- Air quality – Old Railway Gatehouse
- Onshore ecology, O/CoCP and O/LEMS
- Cumulative impacts (where relevant)

4. **Andrew Hardcastle**, Senior Power Engineering Consultant, **GHD**; and **Rob Driver**, Grid Manager, **Vattenfall**.

Speaking on behalf of Norfolk Vanguard Limited on:

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

Offshore

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

Speaking on behalf of Norfolk Vanguard Limited on:

- Offshore ornithology

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

Speaking on behalf of Norfolk Vanguard Limited on:

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

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

Speaking on behalf of Norfolk Vanguard Limited on:

- Fishing and navigation
- Impacts on fishing interests (NFFO/VisNED)

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

Speaking on behalf of Norfolk Vanguard Limited on:

- Offshore construction, design and physical processes

Various

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

Speaking on behalf of Norfolk Vanguard Limited on:

- Socio-economic considerations and community consultation (where relevant)

10. **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).

APPENDIX 2: Summary of the proposed Byelaw areas

Insert byelaw note when PDFing