



Norfolk Vanguard Offshore Wind Farm

The Applicant's Responses to the Examining Authority's Rule 17 Requests for Further Information

Applicant: Norfolk Vanguard Limited

Document Reference: ExA; WQ; 10.D8.16

Date: 30 May 2019

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Photo: Kentish Flats Offshore Wind Farm





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Glossary

AA	Appropriate Assessment
ADMS-Roads	Atmospheric Dispersion Modelling System for Roads
AEoI	Adverse Effect on Integrity
ALO	Agricultural Liaison Officer
CfD	Contract for Difference
CIA	Cumulative Impact Assessment
CRM	Collision Risk Modelling
DCO	Development Consent Order
dDCO	Draft Development Consent Order
DML	Deemed Marine Licence
EIA	Environmental Impact Assessment
ES	Environmental Statement
ExA	Examining Authority
FFC	Flamborough and Filey Coast
HE	Highways England
HGV	Heavy Goods Vehicle
HHW	Haisborough Hammond and Winterton
HRA	Habitats Regulations Assessment
JNCC	Joint Nature Conservation Committee
km	Kilometres
MCA	Maritime and Coastguard Agency
MGN	Marine Guidance Note
MHWS	Mean High Water Springs
ММО	Marine Management Organisation
NCC	Norfolk County Council
NE	Natural England
NFFO	National Federation of Fishermen's Organisations
NPPF	National Planning Policy Framework
NV	Norfolk Vanguard
OPC	Oulton Parish Council
OSPCPP	Outline Scour Protection and Cable Protection Plan
ОТМР	Outline Traffic Management Plan
PVA	Population Viability Analysis
RIES	Report on the Implications for European Sites
RR	Relevant Representation
RSPB	Royal Society for The Protection of Birds
RYA	Royal Yachting Association
SAC	Special Area of Conservation
SIP	Site Integrity Plan
SoCG	Statement of Common Ground
SPA	Special Protection Area
SWDP	Surface Water Drainage Plan
TCE	The Crown Estate
TEMPro	Trip End Model Presentation Programme





TH	Trinity House
TMP	Traffic Management Plan





1 THE APPLICANT'S RESPONSES TO THE EXAMINING AUTHORITY'S RULE 17 REQUESTS FOR FURTHER INFORMATION

1. Following the issue of the Examining Authority's Rule 17 Requests for Further Information to the Applicant and other Interested Parties on the 21st May 2019 and to the Applicant on 28th May 2019, the Applicant has reviewed each of those relevant questions. Details of Applicant's responses are set out within this document in subsequent sections below.





1.1 Policy

PINS Question Number	Question is addressed	Question:	Applicant's Response:
1.1	Applicant	The decision-making framework for Nationally Significant Infrastructure Projects is the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure. However, the National Planning Policy Framework (NPPF) can also be important and relevant. At the time the application was prepared, the original NPPF (2012) was in force and has been referred to where appropriate. The NPPF has now been updated (February 2019). In light of this update, can the Applicant please check the application material and add or alter it as necessary in light of this update. Please provide a table setting out any revisions which have been made.	The Environmental Statement (ES) includes the following key references to the NPPF: Chapter 20 Water Resources and Flood Risk; The NPPF (2012) seeks to ensure that flood risk is considered at all stages in the planning and development process, to avoid inappropriate development in areas at risk of flooding and to direct development away from areas at risk of flooding. The NPPF (2012) directs development away from areas at highest risk of flooding via the application of the Sequential Test. These principles remain in the NPPF (2019). Surface water drainage requirements will be presented in the final Surface Water and Drainage Plan (SWDP) (DCO Requirement 20) and will be designed to meet the requirements of the NPPF. This allows further consideration of the latest version of the NPPF prior to construction, where applicable. The Applicant considers there are no new policies in the NPPF (2019) that require further consideration for Norfolk Vanguard, however certified documents allow management and mitigation to be considered against latest guidance and policies prior to construction. Chapter 22 Onshore Ecology; Chapter 23 Onshore Ornithology; and Chapter 30 Tourism and Recreation; The NPPF (2012) states that there are three dimensions to sustainable development: economic, social and environmental, and that all three are mutually dependent and gains for all should be sought jointly and simultaneously through the planning system. The NPPF (2012) defines the environmental role as "contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy".





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			 The definition in NPPF (2019) has been updated as follows, however the principles remain consistent: "an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy." The Applicant considers there are no new policies in the NPPF (2019) that require further consideration for Norfolk Vanguard, however certified documents allow management and mitigation to be considered against latest guidance and policies prior to construction. Chapter 25 Noise and Vibration NPPF (2012) states that planning policies and decisions should aim to: "Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development; Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through use of conditions; Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason." While the wording of the NPPF (2019) has been revised, these principles remain within the framework. The NPPF refers to the Noise Policy Statement for England (Defra, 2010). This statement has not been updated and therefore remains consistent in NPPF (2019).





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			 The Applicant considers there are no new policies in the NPPF (2019) that require further consideration for Norfolk Vanguard, however certified documents allow management and mitigation to be considered against latest guidance and policies prior to construction. Chapter 28 Onshore Archaeology The NPPF directs local authorities to set out "a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance." While the wording of the NPPF (2019) has been revised, these principles remain within the framework. The Applicant considers there are no new policies in the NPPF (2019) that require further consideration for Norfolk Vanguard, however certified documents allow management and mitigation to be considered against latest guidance and policies prior to construction.
1.2	Applicant	In your document Offshore Ornithology Cumulative and In-combination Collision Risk Assessment (Update), Exam library reference [AS-048], you state that you have applied additional mitigation through a revision of the wind turbine layout and an increase in turbine draught height of 5m, from 22m to 27m to further minimise collision risks. Please state on what basis you have arrived at the proposed amended draught height of 27m above MHWS and whether other draught heights have also been modelled for collision risk.	In response to requests from the ExA, Natural England and the RSPB, the Applicant undertook collision risk modelling for a range of increases in draught height. The outputs were then reviewed alongside other considerations, including logistical and cost implications associated with taller turbines, changes in potential wind yield and how the revised predicted collision rates and draught heights compared with similar consented offshore wind farm projects. Collisions decrease with increasing draught height, but the rate of decline slows with further increases and this led to a conclusion that an increase of 5m (from 22m to 27m above Mean High Water Springs) offered the most acceptable combined cost/benefit outcome in terms of the project delivery and environmental impacts. In terms of collision risk the 5m increase in draught height reduces the average collision risk by 41% (ExA; AS; 10.D7.5.2). When this reduction is combined with previous design revisions (removal of the 9MW turbine, ExA; AS; 10.D6.15 and revised layout, ExA; CRM; 10.D6.5.1) the overall average collision risk reduction





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		Also the accompanying e-mail, dated 14 May 2019, refers to a 'raised hub height' and yet in paragraph 2 of Document reference [AS-049] it states that all other parameters will remain the same as those submitted in ExA; CRM;10.D6.5.1.	for the project is 65%. Following this the Applicant has concluded there will be no Adverse Effects on Integrity of any SPA with potential connectivity to the project due to collisions risk. Paragraph 2 of AS-049 states (in full, emphasis added): The CRM has been undertaken using the deterministic Band (2012) model, summed across Norfolk Vanguard East (NV East) and Norfolk Vanguard West (NV West) using the species-specific worst case scenarios for the two sites resulting from the revised turbine layout options. With the exception of the hub height value which has been increased by 5m (thereby increasing the turbine draught height by the same amount), all other parameter values remain the same as those submitted in ExA;CRM;10.D6.5.1. In the above text the increase in height is referred to as applying to the 'hub height' because this is the parameter which is adjusted in the collision risk model. However, if all other parameters are unchanged (as stated above), the effect of this is to increase the distance between the lower rotor tip and the sea surface (the draught height).
1.3	Applicant, NE and MMO	Please set out whether an increase in turbine draught height of 5m, from 22m to 27m above MHWS would have any implications for any other matters assessed in the Environmental Statement, and if so, explain what you consider these would be?	While the turbine draught height has increased, there is no change to the maximum hub height (198.5m), as shown in the draft DCO submitted at Deadline 7 (Schedule 1, Part 3, Requirement 2(1)(b) and Schedules 9 and 10, Part 4 Condition 1(1)(b)). There is also no change to the turbine rotor diameter (303m in accordance with Schedule 1, Part 3, Requirement 2(1)(c) and Schedules 9 and 10, Part 4 Condition 1(1)(c)) and therefore the maximum height of the turbines also remains unchanged (350m in accordance with Schedule 1, Part 3, Requirement 2(1)(a) and Schedules 9 and 10, Part 4 Condition 1(1)(a)). As a result, there are no changes to the Aviation and Radar assessment and the only parameter affected by this mitigation is the draught height. The original draught height of 22m above Mean High Water Springs (MHWS) was in accordance with the minimum requirements of MGN 372 and the RYA's Position on Offshore Renewable Energy Developments (2015). Therefore, any increase to the draught height only serves to further decrease the collision risk to





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			vessels and has no implications on the conclusion of the Shipping and Navigation assessment.
			Draught height is not applicable to any other receptors and therefore there are no implications for any other matters assessed in the Environmental Statement (ES) beyond Offshore Ornithology.
1.4	Applicant	In your deadline 7 submission Development Principles, Exam library reference [REP7-029] you provide some details on matters such as the positioning of structures. Please set out how this document relates to the design plan that is required in accordance with Condition 14(1)(a) of Schedules 9 and 10 and Condition 9(1)(a) of Schedules 11 and 12 of the draft DCO.	The Development Principles have been drafted by the Applicant in consultation with the Maritime and Coastguard Agency (MCA) and Trinity House (TH) in order to facilitate the post-consent design process. Post-consent, developers must meet critical development timescales, including those required by the Contract for Difference (CfD) process. Therefore the Applicant has taken a proactive step to agree the Development Principles with the MCA and TH in the pre-consent phase which refine the design envelope in accordance with regulator guidance (e.g. MGN 543) in order to facilitate the Project design and sign off by the Marine Management Organisation (MMO). The design plan, which is to be agreed in writing with the MMO (in consultation with Trinity House and the MCA) prior to licensed activities, must be in accordance with the Development Principles. This is secured within Condition 14(1)(a) of the Generation DMLs (Schedule 9-10) and Condition 9(1)(a) of the Transmission DMLs (Schedule 11-12). These Development Principles are therefore intended to facilitate and expedite discharge of Condition 14(1)(a) of Schedules 9 and 10 and Condition 9(1)(a) of Schedules 11 and 12 of the DCO. Both the MCA and TH have agreed the Development Principles (document reference: 8.23) as demonstrated within their Statements of Common Grounds (document reference: Rep3 - SOCG - 30.1; and document reference: Rep3 - SOCG - 31.1).
1.5	Applicant	Please indicate whether you consider the information you have submitted for deadline 7 (including the late submissions [AS-048 and AS-049] and previously, has addressed the specific Adverse Effect on Integrity (AEOI) concerns that Natural England has raised in its Interim Position Statement at Deadline 7 for	With respect to the Adverse Effect on Integrity concerns identified by Natural England in REP7-075, the Applicant considers that the following aspects have been addressed in the submissions at Deadline 7 (ExA; AS 10.D7.21) and the further submissions on the 14 th May (ExA; AS; 10.D7.21.version2 and ExA; AS; 10.D7.5.2): • Little gull (at Greater Wash SPA) – section 3.6 of ExA; AS; 10.D7.21.version2





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		Offshore Ornithology [REP7-075] as detailed in paragraphs 2.5.2 (little gull at Greater Wash SPA), paragraph 2.7.1 (gannet at FFC SPA), paragraph 2.8.2 (kittiwake at FFC SPA) paragraphs 2.91 and 2.9.3 (guillemot/all three auk species at FFC SPA), 2.10.1 (razorbill at FFC SPA), and 2.11.1 (puffin at FFC SPA). If you consider that you have not yet addressed these outstanding concerns, then please indicate how you intend to do so or provide a justification as to why you propose not to.	 Gannet (at Flamborough and Filey Coast SPA) – section 3.1 of ExA; AS; 10.D7.21.version2 Kittiwake (at Flamborough and Filey Coast SPA) – section 3.2 of ExA; AS; 10.D7.21.version2. Natural England's concerns with respect to the auk species (guillemot, razorbill and puffin) from the Flamborough and Filey Coast SPA, have been addressed in ExA; AS; 10.D8.10 which has been submitted at Deadline 8. Since the revised assessment for each species reaches conclusions of no Adverse
		justification as to wify you propose not to.	Effect on Integrity, the Applicant considers that Natural England's concerns have been addressed.
1.6	Applicant	In its deadline 7 response [REP7-075] NE has referred to being able to reach a conclusion of no AEOI for red-throated diver at Greater Wash SPA should you commit to no cable installation within or affecting the Greater Wash SPA between January and March inclusive. Please comment on this matter.	The Applicant has given consideration to Natural England's suggested mitigation with respect to restricting offshore export cable installation for the Project through the Greater Wash SPA to months between April and December. The current cable installation assessment for red-throated diver (ExA; AS; 10.D6.17) assumes a worst case of two main cable laying vessels operating within the Greater Wash SPA simultaneously, which could potentially occur during the most sensitive months (January to March) and which give rise to a worst case prediction of an increase in the background mortality rate of 1.3% to 2.6% (assuming precautionary rates of 100% displacement and 10% mortality, as advised by Natural England), or 0.1% to 0.25% using the evidence based rates identified by the Applicant (90% displacement and 1% mortality; ExA; WQApp 3.1;10.D1.3). However, it should be noted that there are several layers of precaution in the assumptions included in this assessment, as follows:
			 At the speed which cable laying vessels operate, the maximum period that construction would occur within the Greater Wash SPA is estimated to be six weeks during a single year (i.e. no more than half of the period between January and March (inclusive) could be affected and only on one occasion); The density of red-throated divers used in the assessment was taken from the Greater Wash Departmental Brief (JNCC and Natural England 2016) and





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			assumed the highest density applied along the entire length of the overlap between the offshore export cable corridor and the diver distribution (1.36-3.38 birds/km²). However, this maximum density only applies to a short section of the overlap nearest to the coast, with much lower densities (up to an order of magnitude lower) encountered further offshore. Thus, the predicted number of birds at risk of mortality (4-8, using Natural England's advised rates or 0.31 to 0.76 using the evidence based rates) represents an over-estimate of the actual number of red-throated divers which could be at risk, which would probably be closer to a quarter of half of these numbers (i.e. 1-4 individuals); Installation of the offshore export cable will likely not take place during January to March, owing to unsuitable weather conditions; the Applicant aims to install the offshore export cable during the summer months, when the weather conditions are expected to be more favourable; and, Assuming 100% displacement within a radius of 2km around each cable laying vessel, and a resultant mortality of 10% of affected birds is an extreme worst case, especially when considered in conjunction with the other highly precautionary assumptions above. Furthermore, the Applicant is not aware of such a restriction being requested for any other offshore wind farm. The above sources of precaution notwithstanding, the Applicant has reviewed the construction programme and in order to address Natural England's concerns has committed that, should it be necessary to install the offshore export cable through the Greater Wash SPA between January and March inclusive, this will involve only one main cable laying vessel at any one time, which would halve the magnitude of any potential displacement. This would reduce the worst case impact estimated using Natural England's advised rates to an increase in background mortality of 0.65% to 1.3% and using the evidence based rates to 0.05% to 0.12%, and in all cases this would be a one-off impact in a single w





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			The Applicant considers that this further supports a conclusion of no Adverse Effect on Integrity as a result of export cable installation through the SPA.
			This commitment has been included in the dDCO submitted at Deadline 8 (Condition 18 of the Transmission DMLs (Schedules 11-12)).
1.7	Applicant and NE	Natural England in its deadline 7 response [REP7-075], and previously, has strongly advised against the use of cable protection within designated sites. In light of the Interim Cable Burial Study that has been submitted at Deadline 7 (Appendix 2 of the draft Outline HHW SAC Site Integrity Plan [REP7-026]), please comment on the feasibility of such an approach.	The Applicant is not able to commit to having no cable protection within the Haisborough, Hammond and Winterton (HHW) SAC as there are operational cables and pipelines in the SAC which would require cable protection at the locations where the Norfolk Vanguard cables cross these assets. In addition, the pre-construction surveys (required under Condition 13 of the Transmission DMLs) and cable burial risk assessment (required under Condition 9(1)(g) of the Transmission DMLs) will inform the potential for unburied cable and hence cable protection requirements along the offshore cable route. An Interim Cable Burial Study (provided in Appendix 2 of the HHW SAC Site Integrity Plan (SIP)) shows that at least 95% of the offshore export cable length within the HHW SAC is likely to be able to be buried. It is therefore necessary to maintain a contingency of cable protection for up to 5% of the cable length in the SAC.
			As a result of the Interim Cable Burial Study and ongoing consultation with Natural England, the Applicant has committed to reducing cable protection for unburied cables from 10% to 5% of the cable length within the HHW SAC. This commitment is reflected in the Outline HHW SAC SIP and the maximum area and volume of cable protection in the SAC has been included in the draft DCO submitted at Deadline 8 (Schedules 11 and 12, Condition 3(f)).
			The Applicant has also made a firm commitment through Condition 9(1)(m) of the Transmission DMLs to agree the HHW SAC SIP with the MMO, in consultation with Natural England pre-construction. This must be in accordance with the Outline HHW SAC SIP (document 8.20) which demonstrates that detailed consideration will be given to the potential scale of loss of Annex 1 Reef or Sandbank. Section 5.5 of the Outline HHW SAC SIP shows that prior to installation, the location, extent, type and quantity of cable protection must be agreed with the MMO in consultation with Natural England. In accordance with Condition 9(1)(m) of the Transmission DMLs, construction cannot commence





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			until the MMO is satisfied that there would be no adverse effect on the integrity of the HHW SAC.
			The Applicant considers that this is in accordance with the Natural England Advice note regarding consideration of small scale habitat loss within Special Areas of Conservation (SACs) in relation to cable protection provided at Deadline 4. This states:
			"Whilst there are no hard and fast rules or thresholds, in order for Natural England to advise that there is no likelihood of an adverse effect the project would need to demonstrate the following:
			1) That the loss is not on the priority habitat/feature/ sub feature/ supporting habitat and/or
			2) That the loss is temporarily and reversible (within guidelines above) and/or
			3) That the scale of loss is so small as to be de minimus alone and/or
			4) That the scale of loss is inconsequential including other impacts on the site/feature/sub feature"
1.8	Applicant, NE and RSPB	Please comment on the areas that contain question marks, ie where there is not	Sections 6 and 7 of the Applicant's Comments on the Report on the Implications for European Sites (RIES) (document reference ExA; RIES; 10.D8.5) submitted at
		agreement between the Interested Parties and the Applicant that LSE and/or an AEOI can be excluded, as set out in Annexes 2 and 3 of the Report on the Implications for European Sites (RIES) [PD-016].	Deadline 8 provides the Applicant's comments on Annexes 2 and 3 of the RIES, including the areas that contain question marks.
1.9	NE and RSPB		
1.10	French Government		
1.11	ММО		





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
1.12	ММО		
1.13	Applicant	The Examining Authority (ExA) understands that the Applicant's clear position at the time of ISH6, as set out in [REP7-039], is that it would not be putting forward alternatives, a case for IROPI or compensatory measures and wishes the application to be determined on the basis of the evidence submitted and the findings of the ExA which lead to an overall recommendation. Please confirm that you do not wish to put forward a fallback position in the form of alternatives/IROPI/compensatory measures even if the ExA were to conclude that there is some/limited AEOI in relation to any species/ecological interests.	The reasons given by the Applicant in their summary of oral case at Issue Specific Hearing 6 (ExA; ISH6; 10.D7.1) for not putting forward alternatives, a case for IROPI or compensatory measures as a "fall-back position" at this stage are that the "fall-back" only arises (i.e. the engagement of Article 6(4)) if the Secretary of State concludes that the Project will adversely affect the integrity of one or more relevant site(s), and to what extent. Should such a conclusion be reached, 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 issue at that stage. At that point, the Statutory Nature Conservation Bodies (including Natural England) would then need to be asked to advise on the nature of appropriate compensation measures, to the extent that an Adverse Effect on Integrity (AEOI) is concluded, and to what extent, and on which sites. The Applicant notes that during the examination of Hornsea Project THREE (HP3), the ExA expressly requested in second written questions 2.2.7 and 2.2.44 "If the Secretary of State were to conclude that there may be an adverse effect on the integrity of the [] either alone or in-combination then what alternative solutions and compensatory measures have you considered? Please set out your case for imperative reasons of overriding public interest." In response to this request by the ExA for the HP3 Applicant's case, HP3 provided the response which is attached at Appendix 1 (document Reference ExA; Rule17; 10.D8.16A). That response makes the following key points in respect of HP3: i. the Applicant's primary case is that Article 6(4) is not engaged as a result of Hornsea Three (either alone or in-combination) (para 3.1); ii. the Applicant's evidence demonstrates that there would be no adverse effect on the integrity of any European site (para 3.2); iii. Article 6(4) is only engaged if an Appropriate Assessment (AA) reaches a negative conclusion and it relies upon the nature and exte





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			adverse effect on integrity having been identified through the AA under Article 6(3). That underpins any proper consideration of alternative solutions, IROPI and compensatory measures (para 3.4); iv. consideration of alternative solutions, IROPI and compensatory measures is premature. Formally these matters only arise if the ExA and in turn the Secretary of State do not accept the Applicant's primary position and identify an adverse effect on the integrity of one or more European sites (para 3.8); v. since the Applicant does not identify any adverse effect on integrity of any European site – and neither NE nor RSPB has yet explained to what extent (in their opinion) there is an adverse effect on integrity – these considerations cannot be addressed by the Applicant. This can only be done if the precise nature and quantified extent of any contended adverse effect on integrity is identified (para 3.8); vi. it is not considered reasonable to go further with submissions regarding Article 6(4) at this stage, given it can only be on a speculative basis (para 3.9); vii. in the event the ExA and/or the Secretary of State produce a negative AA or NE carry out a "shadow" AA or provide further reasoning and quantitative analysis to support their conclusion of adverse effect on integrity in respect of one or more European sites the Applicant respectfully asserts its legitimate expectation of the right to be afforded sufficient time to make further detailed representations (para 3.10). The Applicant considers that the points noted above made for HP3 align with the position of Norfolk Vanguard as put forward in Issue Specific Hearing 6 and the summary of oral case at Issue Specific Hearing 6 (ExA; ISH6; 10.D7.1). The HP3 response then goes on to make preliminary submissions on Article 6(4) with regard to the IROPI case (section 5); the absence of alternative solutions (section 6) and issues relating to compensatory measures (section 7), but these submissions are made in the light of the HP3 ExA's express request (in tha





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			The Applicant does not intend to make such preliminary submissions for the reasons set out above, and particularly because the Applicant has concluded that there is no AEOI which arises from the Project either alone or in combination with other projects. However, if in due course the Secretary of State were to invite further representations from the Applicant on these matters, having specified the precise nature and quantified extent of any contended AEOI, the Applicant would respond appropriately at that time.
1.14	Applicant	Having regard to FQ 1.13 above, why should the Secretary of State not be entitled to assume that the ExA considered and placed before him all relevant available information to enable him to conclude whether the project would adversely affect the integrity of the site concerned, without searching for further information to address lacunae in the case put forward?	 The Applicant considers that all relevant available information has been provided, both in the Information to support HRA (document reference 5.03) and in the further detailed information provided to the ExA in the course of the examination, including: Deadline 1 Appendix 3.1 Red-throated diver displacement (ExA; WQApp3.1; 10.D1.3) Deadline 1 Appendix 3.2 Collision Risk Modelling: update and clarification (ExA; WQApp3.2; 10.D1.3) Deadline 1 Appendix 3.3 Operational Auk and Gannet Displacement: update and clarification (ExA; WQApp3.3; 10.D1.3) Deadline 2 Appendix 23.1 – Greater Wash SPA common scoter distribution and Norfolk Vanguard Offshore Windfarm (ExA; WQRApp23.1;10.D2.3) Deadline 4 Appendix 3.1 Ornithology Aerial Surveys: Dates and Times (ExA; FurtherWQApp3.1; 10.D4.6) Deadline 6 Norfolk Vanguard Offshore Wind Farm Offshore Ornithology: Deterministic Collision Risk Modelling (ExA; AS; 10.D6.15) Deadline 6 Lesser Black-backed Gull Alde Ore Estuary Population Viability Analysis (ExA; AS; 10.D6.16) Deadline 6 Norfolk Vanguard Offshore Wind Farm Offshore Ornithology: Assessment Update for Deadline 6 (ExA; AS; 10.D6.17) Deterministic Collision Risk Modelling for revised layout scenarios (additional submission on 16th April) (ExA; CRM; 10.D6.5.1) Deadline 7 Offshore Ornithology Cumulative and In-combination Collision Risk Assessment Update for Deadline 7 (ExA; AS; 10.D7.21)





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			 Deadline 7 Responses to Natural England initial comments on the Alde-Ore Estuary SPA lesser black-backed gull PVA (ExA; AS; 10.D7.21A) Offshore Ornithology Cumulative and In-combination Collision Risk Assessment Update following Deadline 7 (Additional submission on 14th May 2019) (ExA; AS; 10.D7.21 (version 2)) Deterministic Collision Risk Modelling for revised layout scenarios and increased draught height (Additional submission on 14th May 2019) (ExA; AS; 10.D7.5.2) Deadline 7 Haisborough Hammond and Winterton Special Area of Conservation (SAC) Site Integrity Plan (Document 8.20) Screening Matrices (Additional submission on 16th April 2019) (ExA;Screening;10.D6.5.2) Deadline 7 Integrity Matrices (ExA; WQApp23.1; 10.D1.3 (version 2)) Deadline 8 Precaution in ornithological assessment for offshore wind farms (ExA; AS; 10.D8.8) Deadline 8 Natural England Position Statement North Sea (ExA; AS; 10.D8.11) Deadline 8 Natural England Position Statement - Appendix 2_Clarification Note - Remaining unresolved issues -Broadland SPA and Ramsar (ExA; AS; 10.D8.17) The information provided by the Applicant enables the Secretary of State to conclude whether the project would adversely affect the integrity of the sites concerned; in the opinion of the Applicant this information demonstrates that there would be no AEOI of any European site. As noted in response to question 1.13 above, the issues of alternatives/IROPI/compensatory measures only arise in the event that an Appropriate Assessment (AA) by the Secretary of State reaches a negative conclusion, and which identifies the precise nature and quantified extent of any contended AEOI of one or more European sites.





1.2 Compulsory acquisition

PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
2.1	Applicant	Guidance related to procedures for the compulsory acquisition of land (September 2013) states that the funding statement should provide as much information as possible about the resource implications of implementing the project for which the land is required. The Funding Statement [APP-009] states that the Company has substantial net assets as well as a positive track record in the field of renewable energy development and is therefore able to provide the required funding for the Project. The reported fixed assets for 2016/2017 state a total of £270,162,000, however the capital-intensive nature of a project of this scale would appear to require very significant funding beyond any assets specifically identified thus far. No costings appear to be given for the cost of the Project, but it is said that "as a result of the Company's experience and reputation, funds are likely to be available" (para 3.7). Please supply as much information as possible to demonstrate what the costs would be and how the necessary funds for the construction of the Project would be secured, explaining what funding would be derived from within the company group, the Swedish State and any outside person or body as appropriate. Please identify any key potential	The Funding Agreement has now been completed with the company providing the financial security through the Funding Agreement being the overall parent company - Vattenfall AB (publ); there is no higher company within the Vattenfall group and it is owned by the Swedish state. With regard to funding of projects, Vattenfall AB (publ) funds all of its UK wind farms via the immediate parent company of the Applicant, Vattenfall Wind Power Ltd. Vattenfall Wind Power Ltd then funds the UK wind companies with equity and long term debt. The size of the Norfolk Vanguard project brings a higher inherent risk of funding the whole project on balance sheet. Vattenfall AB (publ) is monitoring, and will continuously monitor, its funding situation, including considering opportunities to use investment partners or project finance. Investment decisions are made on the basis of available funding opportunities. In terms of the actual costs, given the size of the project, it is likely that this would be constructed in phases, thereby allowing funding to be staged. In addition, the highly competitive nature of the Contracts for Difference (CfD) bid process and with it the associated commercially confidential nature of the process is also a reason not to indicate the likely cost of the project at this time. Vattenfall have publicly stated that the Norfolk Vanguard Project is a multi-billion pound infrastructure project. The Applicant considers that there are no specific risks in procuring the necessary funds to construct the project other than those that would apply in the ordinary course of project finance or securing investment for offshore windfarms or other renewable projects, and to the extent that the Applicant would seek any external investment or funding beyond balance sheet funding. The Applicant would not seek to implement the Order (and exercise any powers) until a Final Investment Decision is made which would require the funding of the project to be secured.





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
		risks inherent in procuring the necessary funds to construct the project.	
2.2	Applicant	Please supply a copy of the consent letter from the Crown Estate Commissioners pursuant to Section 135 Planning Act 2008, referred to in the Position Statement with TCE [REP6-016].	The Consent letter from the Crown Estate Commissioners pursuant to Section 135 Planning Act 2008 is provided in Appendix 2 (document reference ExA; Rule17; 10.D8.16B).
2.3	Applicant	The additional submission of Castle Farms and Peggy Carrick, represented by LIG/NFU dated 17 May 2019 [AS-051] refers to your proposed use of an access route across a track, that forms part of their land, to help facilitate the construction of the scheme. The track is off the Woodgate Road, Swanton Morley NR20 4JU. Please comment on the concerns expressed in the numbered points in the submission, identifying the affected Plot number or numbers in the Book of Reference. If no land in the BoR is directly affected, please describe how you have engaged with the representors or their agents as to forms of compensation potentially available to them. If you consider a potential claim under the LCA 1973 or s10 CPA 1965 is effectively ruled out, please justify your view with reasoning.	The affected land that is being referred to in the representation of Castle Farms and Peggy Carrick, can be seen on Sheet 30 of the Onshore Land plans (Document reference 2.2). The specific plots referred to relate to a proposed permanent right of access, over plots 30/04, 30/05 and 30/06. The specific plots which would be shared with those using the wedding venue are 30/05 and 30/06. In response to the concerns raised in the submissions the Applicant wishes to raise the following matters: 1. The Applicant would like to confirm that the following were consulted at both the S42 consultation stage (in October 2017) and served with S56 notices (in August 2018): 9. John Carrick 9. Peggy Carrick 9. Hunters Hall Limited 9. Matthew Stevenson It therefore follows that the above named parties were aware of the inclusion of the access within the project Order Limits from, at least, Section 42 consultation in October 2017. The locations of the proposed access tracks were first introduced through the formal land referencing process plans that were issued to John and Peggy Carrick in July 2017.





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			 In response to point 2, the intended use of the access track is for the purposes of cable pulling (post duct installation) and subsequently as an operational access, if required for emergency repairs. Use of this access will minimise the length of running track required to be replaced/retained from duct installation for the purposes of cable pulling.
			The length of time that the access is likely to be in use for the purposes of cable pulling is up to 10 weeks per annum for a maximum of two years for Norfolk Vanguard. The joint bay construction and cable pulling activity will typically be completed within a 5 week period per annum, however the 10 week period provides recognition that any one joint pit could be open for this extended period to allow its neighbouring joint pit to be opened and the cables pulled from one pit to the next, dependant on the level of parallel working being conducted. Appendix 24.4 of Chapter 24 Traffic and Transport of the ES provides an outline of the typical materials, associated transport movements and construction programme associated with joint bay construction and cable pulling for which this access is proposed, post duct installation.
			The Applicant is keen to work with the landowner and wedding venue operator to minimise the impact that any construction activities may have on the operation of the venue. It is the Applicant's understanding that wedding dates will be confirmed a considerable length of time in advance, it is therefore possible that through careful planning and liaison with the Agricultural Liaison Officer (ALO), the activities and use of the track can be programmed to minimise impact.
			In response to point 3, referring to the Outline Traffic Management Plan, AC132 is a construction access to serve the cable pull and jointing stage of construction only. It is proposed to use the same mobile traffic management measure to access AC132 as has been proposed for Link 74. Please refer to Table 1.9 – Proposed traffic management measures of the OTMP. The use of mobile traffic management would avoid the





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
	Analizana		need for temporary road closures or road widening and control low HGV demand on the lightly trafficked narrow access roads. The impacts from the construction are likely to be temporary in nature during the cable pulling phases and therefore be unlikely to have a permanent impact on the value of the property interest. Due to the interested parties having an interest in land in relation to plots 30/04, 30/05, 30/06 they may not be eligible to submit a claim under S.10 CPA 1965 or part 1 LCA 1973. However, they may be eligible to submit a claim under the Land Compensation Act 1961, which would be considered in line with the compensation code, as covered in Articles 21 and 26 of the dDCO. Article 21 of the dDCO also permits claims to be determined under Section 152 of the Planning Act 2008 under Article 21(4). The Applicant would seek to resolve any compensation issues by negotiation before any formal claims are made. In this particular case, the Applicant would encourage the parties to seek professional advice as to their ability to make a claim for compensation through the Royal Institution of Chartered Surveyors from a compulsory purchase specialist surveyor.
2.4	Applicant	Please confirm that the "key onshore components" of the project referred to in the revised Statement of Reasons [REP2-022] at paragraph 4.2 are not all to be equated to the "principal development" as referred to in paragraph 5.4 of "Guidance on associated development applications for major infrastructure projects". The SoR at paragraph 2.8 states "The current application seeks consent for up to four cablesfor Norfolk Vanguard, and up to four ducts for Norfolk Boreas in which the cables for Norfolk Boreas may be installed in the future."	The Applicant confirms that that the "key onshore components" of the project referred to in the revised Statement of Reasons (document reference 4.1 version 2) at paragraph 4.2 are not all to be equated to the "principal development" as referred to in paragraph 5.4 of "Guidance on associated development applications for major infrastructure projects". "Key" is used here with a nonstatutory meaning. Regarding principles 5(iv) and principle 5(ii): The Applicant has considered principle 5 (iv) and notes in particular footnote 3, which permits the Secretary of State to deem associated development on "a larger scale than is necessary" as appropriate where "the impacts of one or more other planned future projects which could make use of that infrastructure would be reduced by taking advantage of it."





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
		Please explain: (A) how, notwithstanding that principle 5 (iv) would not exclude associated development on a larger scale than is necessary to serve the principal development, the number of cable ducts remains proportionate to the nature and scale of the principal development and (B) how principle 5 (ii) (that associated development should not be an aim in itself but should be subordinate to the principal development) would be met. What weight was given to the possibility that the Boreas project for whatever reason may not proceed? In that eventuality how was this specifically factored into a formal assessment that weighed the adverse impacts of increased disruption due to unnecessary duct laying, against the benefits to individuals and communities in avoiding repeat operations? Please confirm that no person who is a landowner or holder of an interest in land affected by the Boreas associated development has been identified other than those persons already identified as affected by the principal development. Alternatively, please provide the appropriate reference in the Book of Reference to such person(s) and relevant Plot no(s).	The associated development required for Norfolk Boreas is substantially comprised of cable ducts that will be installed below the surface of the ground, alongside the cables for Norfolk Vanguard. In terms of physical footprint, other than having a wider cable corridor than would be the case for Norfolk Vanguard alone, this does not add any length to the cable route, nor does it add any significant additional areas of land for temporary usage. The additional land is primarily agricultural land and the impact of the Norfolk Boreas cable ducts has been assessed under the worst case scenario within the design envelope considered in the Environmental Impact Assessment (EIA) for Norfolk Vanguard. The Applicant has assessed up to four ducts within the EIA. As described within the Explanatory Memorandum (document reference 3.02) at paragraphs 5.17 and 5.18, installing the ducts for Norfolk Boreas as part of the onshore construction works for Norfolk Vanguard will reduce the duration of the overall onshore cable laying activities, reduce the overall land take, enable earlier restoration of the onshore cable corridor to agricultural use (or other relevant former uses), and reduce the overall working width required for installation in comparison to the two projects progressing independently. As to the weight given to the possibility that Norfolk Boreas may not proceed, the Applicant notes that a consent decision for Norfolk Boreas is expected to be determined prior to the commencement of construction of Norfolk Vanguard (consent decision expected Q4 2020). The Applicant will therefore be able to make a decision prior to commencement of construction of the onshore works for Norfolk Vanguard in respect of the associated development for Norfolk Boreas. The Applicant also notes that Norfolk Vanguard has been costed and can be funded and brought into operation regardless of whether or not Norfolk Boreas is consented. (B) The Applicant considers that the Norfolk Boreas cable ducts are clearly "subordinate" as they are not r





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			and nor could Norfolk Boreas be constructed using only the elements authorised to be constructed under Norfolk Vanguard's consent.
			The Applicant notes that there is precedent for the principle of two separate offshore wind farm DCOs sharing substantially the same onshore cable corridor. The East Anglia ONE offshore wind farm DCO includes consent for empty ducts to be constructed with the intention of pulling through the onshore cables for the East Anglia THREE offshore wind farm, if the latter project obtained development consent.
			The Applicant confirms it is the case that no person who is a landowner or holder of an interest in land affected by the Boreas associated development has been identified other than those persons already identified as affected by the principal development.
2.5	Applicant	Please provide an update to the CA Schedule.	An updated version of the CA schedule has been provided. Please refer to document reference ExA; CA; 10.D1.6 (version 4).

1.3 Content of the draft DCO (dDCO)

PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
3.1	Applicant	Article 2(3) - should there be an "in" before "requirements 2 to 11"? Is the use of bold text consistent within the sub-paragraph?	The Applicant agrees with this change and has amended the dDCO, submitted at Deadline 8, accordingly. The Applicant has decided to remove the bold text in order to ensure consistency.
3.2	Applicant	Article 2(6) "The expression "includes" may be construed without limitation" – should this read "The expression "includes" shall be deemed to be followed by the phrase "without limitation"?	The Applicant considers that the wording in Article 2(6) should remain as it is currently worded save for the addition of the wording in red below: (6) The expression "includes" may is to be construed without limitation unless the contrary intention appears.





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			This additional wording is consistent with the equivalent drafting in the as made East Anglia Three DCO and the final draft of the Hornsea Project Three DCO.
3.3	Applicant	Please review the use of the word 'approximately' in conjunction with dimensions throughout the dDCO in light of Article 2(2) and Advice Note 15 (Drafting Development Consent Orders July 2018), for example Schedule 1, Paragraph 1 which is not referred to in Article 2(3); likewise in Schedules 3 and 4. Please supply a revised dDCO that amends Article 2(3) by including additional parts of the DCO that are intended to give exact measurements; or that omits the use of "approximately" from parts not made the subject of specific exclusion from the effect of Article 2(3).	The Applicant has revised the dDCO (submitted at Deadline 8) to include the measurements stated in Schedule 1 Part 1, paragraph 1(c) and 1(e) (works in connection with Works No. 1 to 4B) within the list of exact figures at Article 2(3). These measurements refer to: 1. the total amount of inert material of natural origin (49,329,712 m³) to be removed from the seabed and disposed of in connection with Work Nos. 1 to 4B; and 2. the total volume for the disposal of drill arisings in connection with any foundation drilling (414,761 m³). Whilst the Applicant has included the above volumes within the list of parameters that are considered to be exact measurements within Article 2(3), it should be noted that the figures listed in Schedule 1 are overall totals for the Project. These figures are subsequently apportioned between the DMLs as appropriate at Schedule 9-12. The individual disposal volumes are therefore secured within the relevant conditions of the Generation and Transmission DMLs and these corresponding conditions are already included in the list of requirements/conditions that should be treated as providing exact measurements under Article 2(3). Otherwise, the Applicant can confirm that 'approximate' or 'approximately' does not appear in relation to measurements (i.e. distances, directions and lengths) that are exact. The lengths in Schedule 3 (Public rights of way to be temporarily stopped up) and Schedule 4 (Streets to be stopped up) are approximate as they are measured using Ordnance Survey (OS) mapping. The distances are therefore accurate so far as is reasonable based on the scale with which they have been measured. OS mapping includes a small tolerance ("specified accuracy tolerance") with respect to replicating the exact position of each physical feature on the ground. Notwithstanding this, the areas in question are covered by the relevant assessments within the Environmental Statement (ES) and are secured within the





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			detail of the relevant plans (i.e. the temporary stopping up of public rights of way plan (document reference 2.6) and the streets to be temporarily stopped up plan (document reference 2.7)). This approach is also in line with DCO precedents for other offshore wind schemes, namely the as made East Anglia One DCO and the East Anglia Three DCO.
			The Applicant therefore considers that the dDCO need not be amended further and that the dDCO is in accordance with paragraph 3.3 of Advice Note 15.
3.4	Applicant	In light of Advice Note 15 Drafting Development Consent Orders July 2018 (not to use obliques in operative text), please justify the inclusion of obliques where they occur in the dDCO [REP7-003]: there appear	The current drafting within the dDCO is in line with statutory precedent for offshore wind farms, namely the as made East Anglia One DCO, the East Anglia Three DCO, the Hornsea Project Two DCO, and the final draft of the Hornsea Project Three DCO.
		to be sixty occasions of such use starting on page 5: "direct lay cables and/or cables pulled through cable ducts" and ending on page 260: "any authorised works and/or any other works authorised"; or alternatively revise the wording to exclude the possibility of ambiguity as to whether they signify 'and' or 'or'.	The use of "and/or" is necessary as the matter in question requires a certain degree of flexibility when it comes to final engineering design. As to the definition of 'cable', in some instances cables may be direct laid, and in some instances cables may be pulled through ducts. However, it is not appropriate to refer only to 'and' in the event that direct lay cables are not used and all cables are laid in ducts, this is covered by the use of the word 'or'. For example, for the cabling around joint bays, the ducts will be cut back and the joint will be direct buried along with a short length of cable as it enters/exits the ducts.
			As a further example, in relation to the definition of "pin piles" (pin piles means steel cylindrical piles driven and/or drilled into the seabed to secure steel jacket foundations), the mechanism to secure the steel jacket foundations could be implemented through the process of driving pin piles into the seabed, or through drilling into the seabed, or it could be a combination of both.
			Equally, the same applies for a monopile foundation ("monopile foundation" means a steel pile, typically cylindrical, driven and/or drilled into the seabed and associated equipment including scour protection, J-tubes, transition piece,





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			corrosion protection systems, fenders and maintenance equipment, boat access systems, access ladders and access and rest platform(s) and equipment). The steel piles could be driven into the seabed, or drilled into the seabed, or it could utilise a method of both pile drilling and pile driving. By way of further example, "works to secure vehicular and/or pedestrian means of access" (Schedule 1, Part 1, paragraph 1(a) (works in connection with Work No. 4C to 12) needs to use the convention of "and/or" otherwise the meaning of the sentence would change. For instance, "works to secure vehicular and pedestrian means of access" would imply that the Applicant only had the power to secure access where that access was for both vehicles and pedestrians; likewise, "works to secure vehicular or pedestrian means of access. In this context, the Applicant could only secure one or the other means of access. In this context, the Applicant may require both, or just one option and this drafting allows that flexibility. In view of Advice Note 15 (paragraph 3.1), the use of "and/or" in this context also allows the drafting to remain concise and in line with drafting conventions from previously made DCOs such as East Anglia Three. The Applicant therefore considers that, as with precedents to date in offshore wind Orders, the use of "and/or" in the contexts used within the dDCO are appropriate. The Applicant does not consider that the dDCO needs to be amended further.
3.5	Applicant	Please review the use of "notify to" on pages 244, 251 in light of the use of "notify" with a direct object throughout the rest of the dDCO.	The Applicant considers that "notify to" is appropriate in these two instances in view of the sentence structure. This is also in accordance with the form of protective provisions agreed with National Grid and Cadent Gas; the Applicant therefore does not propose to change this in the dDCO.
3.6	Applicant	Please review the use of "will" throughout the dDCO and consider whether any ambiguity over whether it is an imperative or a statement of future intention should be	The Applicant has reviewed the use of the word "will" throughout the dDCO and the Applicant has made a small number of changes to provide greater clarity to some of the drafting. This is shown within the dDCO (document reference 3.1 (Track Changes)) and explained further in the Schedule of Changes to the DCO





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
		resolved by substituting "must". For example in requirement 12 (Aviation Safety): "Lighting installed specifically to meet Ministry of Defence aviation safety requirements will remain operational"	(document reference: ExA;DCOSchedule;10.D2.6 (version 5)). For example, whilst the wording of Requirement 12 has been agreed with the Ministry of Defence, the Applicant agrees that the relevant part of requirement 12(1) should reads as follows: "Lighting installed specifically to meet Ministry of Defence aviation safety requirements will must remain operational".
		Please revise the dDCO that removes such ambiguity by replacing where appropriate "will" with "must"	Otherwise, reference to the word "will" is generally used in the context of expressing a future intention rather than imposing a strict obligation or requirement on the Applicant. In the Applicant's view it is appropriate to use the word "will" in this context. For example, the aids to navigation management plan (condition 14(1)(k) of Schedules 9 and 10) is to include details of how the undertaker will (in the future) comply with the provisions of condition 10 (Aids to Navigation) for the lifetime of the scheme. It is not appropriate to substitute "will" with "must" in this circumstance as the plan shows the Applicant's intention of how the Applicant proposes to comply with the Aids to Navigation conditions. It is then for the MMO to determine whether this 'intention' is acceptable, and the MMO will decide when it comes to approval of the aids to navigation plan under condition 14(1)(k). The imperative element of the condition is provided for by the introductory text within Condition 14(1) which stipulates that licensed activities must not commence until the [following] plans and documents have been submitted to and approved by the MMO.
			Similarly, the definition of Norfolk Vanguard East uses the word "will" ("Norfolk Vanguard East" means the eastern area located in the offshore Order limits within which wind turbine generators will be situated). The Applicant considers that the definition is a description and should not in itself be used as a way to place a restriction or obligation on the Applicant, which would be implied by replacement of "will" with "must". The future intention of the Applicant, should the project gain consent and proceed to construction, is to place wind turbine generators (WTGs) in Norfolk Vanguard East; this definition is, accordingly, a description of a future event. The obligation and use of the word "must" is then appropriate within the requirement (1(3)) itself which states that:





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			"1.— (3) The total number of wind turbine generators forming part of the authorised project must not exceed 180 and must be configured such that at any time: (a) No more than two-thirds of the total number of wind turbine generators
			(rounded to the nearest whole number) must be located in Norfolk Vanguard West; and
			(b) No more than one-half of the total number of wind turbine generators (rounded to the nearest whole number) must be located in Norfolk Vanguard East. "
			The Applicant's interpretation of paragraph 3.3 of the Advice Note is that "shall" or "will" should not be used when attempting to place an obligation on the Applicant. As demonstrated by Requirement 1(3) above, the Applicant considers that the use of the word "must" has been applied correctly within the dDCO in these circumstances, as has the use of the word 'will'. Accordingly, the Applicant does not propose to amend the dDCO further in this respect. The Applicant considers that its approach to drafting in this respect complies with the guidance contained in Advice Note 15, together with the Model Provisions and other previously made offshore wind farm DCOs including East Anglia One and East Anglia Three.
3.7	Applicant	Please review and revise the dDCO to ensure that where the year and chapter of an Act are cited at the start of any footnote, the chapter number is not enclosed within brackets. Conversely, if an Act is cited anywhere else within the footnote then the chapter number should appear within brackets. (See for example page 5, footnote (e): brackets should be removed to be consistent with other footnotes).	The Applicant has revisited the dDCO in light of the ExA's comments and any changes are reflected within the version of the dDCO submitted at Deadline 8.





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
3.8	Applicant	Please review Conditions 13(1) of Schedules 9 and 10 and 8(1) of Schedules 11 and 12 (Force majeure): "If, due to stress of weather or any other cause the master of a vessel determines that it is necessary to deposit the authorised deposits within or outside of the Order limits because the safety of human life and/or of the vessel is threatened, within 48 hours full details of the circumstances of the deposit must be notified to the MMO." Is the object of the notification requirement to capture all deposits made due to a threat to life/ vessels; or to capture unauthorised deposits made for such reasons? If the latter should sub-paragraph (1) read: "If, due to stress of weather or any other cause the safety of human life and/or of the vessel is threatened and the master of a vessel determines that it is necessary to make deposits not authorised under this licence, whether within or outside the Order Limits, within 48 hours full details of the circumstances of the deposit must be notified to the MMO"?	The Applicant confirms that the purpose of this Condition is to report unauthorised deposits only. Whilst the Applicant notes that this Condition is a standard condition for offshore wind schemes and DMLs of this nature, the Applicant agrees that the Condition should be amended to provide clarity. The Applicant has amended the dDCO submitted at deadline 8 accordingly and has agreed this approach with the MMO.





1.4 Health, air quality, noise and vibration

PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
4.1	4.1 Applicant Having regard to B response at D7 in assessment for th [REP7-066], please raised pertaining to levels, local source turkey sheds, pig re	Having regard to Broadland District Council's response at D7 in relation to the air quality assessment for the Old Railway Gatehouse [REP7-066], please comment on the points raised pertaining to DEFRA background noise levels, local sources of pollution including turkey sheds, pig rearing units and the extant permission for 6no. biomass boilers.	Broadland District Council's Deadline 7 response queries if the Defra background level mapping (Air Quality) has been used in the assessment. The Applicant can confirm that these background levels have been applied in the assessment. The Atmospheric Dispersion Modelling System for Roads (ADMS-Roads) assessment requires the derivation of background pollutant concentration data that are then factored to the year of assessment, to which contributions from the Project from the assessed roads are added. Background NO ₂ , PM ₁₀ and PM _{2.5} concentrations were therefore obtained for the relevant 1km x 1km grid squares covering the onshore project area and receptor locations for 2023 (the peak year for assessment), derived from the latest 2015-based background maps provided by Defra. This approach is set out in detail within the methodology section of ES Chapter 26 Air Quality. Further to this, the methodology for the air quality impact assessment was agreed through the expert topic group which included Broadland District Council.
			A further assessment of air quality impacts at The Old Railway Gatehouse was submitted to the examination by the Applicant at Deadline 7 (ExA; ISH6; 10.D7.9), which considered the effect of idling and accelerating vehicles in proximity to The Old Railway Gatehouse. This assessment concluded that any construction traffic impacts in relation to air quality at The Old Railway Gatehouse would be negligible. The assessment added the potential pollutant emissions associated with the biomass boilers (based on the application information available) and also considered the potential for ammonia (from nearby agricultural practices) as a source of pollution.
			The nearby poultry farm would represent an additional source of particulate matter. These operations would form part of the existing baseline air quality in the area, and as such any contribution from this facility has been included in the assessed scenarios as part of the baseline. The assessment is based on the contribution that the Project may have in relation to the air quality Objectives set by Defra. The dispersion modelling carried out shows that the increase in particulate matter concentrations as a result of the Project would be less than 1%





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			of the annual mean Objective, which is classed as an 'imperceptible' change, as set out in ExA; ISH6; 10.D7.9. Therefore, irrespective of the overall particulate matter concentration associated with the poultry farm, the contribution that Norfolk Vanguard would have in relation to the relevant air quality Objective would remain negligible. The assessment also considered the cumulative effects of the Project and Hornsea Project Three. This also concluded that the construction for both projects in relation to the relevant air quality Objective would remain negligible.
4.2	Applicant Broadland DC	Please comment on whether the cumulative noise and vibration assessment for Cawston has taken into consideration idling and accelerating vehicles which may occur as a result of single way priority working in the proposed highway intervention scheme. If not, should such assessments be completed?	The proposed highway intervention scheme seeks to formalise the approach that is currently employed through Cawston, i.e. two way traffic is not currently possible on some stretches of the High Street when cars are parked, and hence vehicles already have to idle and give way to oncoming vehicles. The intervention scheme proposed by both Norfolk Vanguard and Hornsea Project Three seeks to control the current parking so that there is the appropriate spacing between parked cars and to remove double parking so that the route through the parked cars maintains traffic flows more efficiently than the informal system at present. However, an assessment has been undertaken that assumes the effect of heavy goods vehicles (HGVs) idling and accelerating away from waiting locations as part of the proposed formalised priority system. This uses the same calculation method that was used for the assessment at The Old Railway Gatehouse that was submitted at Deadline 7 (ExA; ISH6; 10.D7.7). The results of the calculation for properties in Cawston is given below. This compares the cumulative traffic scenarios with and without the intervention scheme (as reported in the cumulative impact assessment submitted at Deadline 5) and goes on to consider the introduction of idling and accelerating HGVs. It should be noted that since the cumulative impact assessment was undertaken, the Applicant has sought to further reduce the peak traffic numbers through Cawston. The Applicant has further optimised the construction programme and can now commit to reducing peak daily HGV movements through Cawston (for Norfolk Vanguard alone) down from 144 to 112. This reduces the peak daily cumulative HGV movements down from 271 to 239. This reduction is also reflected in the table below.





PINS Question Number	Question is addressed to:	Question:	A	pplicant's Response:			
				Link No.	Assessed dB Change LA _{10, 18hr}	Speed (km/h)	Impact magnitude
				34 - without mitigation (based on cumulative peak of 397)	+3.0	43.3	Moderate
				34 – with mitigation scheme as reported and peak of 271 (Deadline 5)	+2.7	32.2	Minor
				34 – with mitigation scheme and reduced cumulative peak of 239	+2.4	32.2	Minor
				34 – with mitigation + 239 peak + consideration of idling vehicles	+2.8	32.2	Minor
			th Th	s shown in the table above, following calculated noise increase from behive taking into account the effect f single way priority working represtignificance.	oth Norfolk V of idling and a	anguard and I	Hornsea Project ehicles as a result
4.3	Breckland DC						
4.4	Applicant	Please comment on the questions raised by Professor Tony Barnett at D7 [REP7-086] and in particular please provide a response to Q2.	1	he Applicant has responded fully to arnett in its response to Deadline 7	•	•	•





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			The response to question 2 raised by Professor Barnett is repeated here for completeness.
			"What effects will additional project traffic movements along the B1149 and B1145 have on the 100 metre Particulate emission plumes along both sides of the B1149 and B1145 during the project's life and over the following 30 years taking account of: a. The particular susceptibility of the ageing population characteristics of the area AND b. The Child population in the area, AND c. Considering the Model outputs provided in the 2018 Ricardo Energy & Environment report, what will be the effects of this additional traffic on ambulance response times in North Norfolk during the construction period, once again taking into consideration the ageing population in this area and its special needs in relation to emergency responses; AND What impact will additional traffic generated by the extensive housing developments planned over the next several years at Corpusty & Saxthorpe have on project related and other traffic movements, including that generated from many additional homes recently constructed in Holt, some for people who commute to Norwich daily and whose movements have already increased the burden of traffic on a narrow country road?"
			Applicant's response: The Norfolk Vanguard onshore construction will generate the majority of associated traffic during the 12 month cable duct installation works (2022/2023) and small volumes of traffic during the 12 month cable pull (2024/2025). Once operational the onshore infrastructure is unmanned. During the 30 year operation of the Project there will be annual inspections along the onshore cable route and planned maintenance at the onshore project substation representing approximately 1 visit per week to the onshore project substation in a light goods vehicle, i.e. the onshore cable route and onshore project substation will not generate any significant traffic over the 30 years of operation.





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			An assessment of air quality (PM ₁₀ and PM _{2.5}) has been undertaken for the B1145 and the B1149 associated with Norfolk Vanguard construction traffic and also cumulatively with Hornsea Project Three construction traffic. The assessment is provided in ES Chapter 26 Air Quality and the cumulative impact assessment was submitted separately at Deadline 5 (ExA; ISH1; 10.D5.3). The assessments are based on the air quality Objectives defined by Defra as required under the 1995 Environment Act. Objectives for eight key air pollutants have been established by the UK Government, based on the best available medical and scientific understanding of their effects on health and vulnerable age classes, as well as taking into account relevant developments in Europe and the World Health Organisation. These are the recognised UK assessment criteria against which air quality impact assessment is undertaken for projects of this nature. The assessments concluded that air quality impacts related to the increased traffic for both the Project alone and cumulatively would be negligible. Traffic impacts are assessed in full within ES Chapter 24 Traffic and Transport, and the Traffic and Transport Cumulative Impact Assessment submitted at Deadline 5 (ExA; ISH1; 10.D5.3). The impact assessment considers the effect that the additional construction traffic would have on driver delay. This assessment has been undertaken for all the road links that Norfolk Vanguard require for construction traffic. No significant impacts have been identified associated with driver delay for Norfolk Vanguard alone or cumulatively with Hornsea Project Three. On this basis no driver delay impacts are anticipated for the emergency services.
			With regard to future increases in traffic associated with new housing development the traffic impact assessment considers potential traffic growth related to changes in housing and employment. All vehicle flows used for the assessment year (2022) have been factored to the future year baseline traffic demand using the Department for Transport Trip End Model Presentation Programme (TEMPro) for Norfolk. Further details on this are provided in section 24.6.6 of ES Chapter 24 Traffic and Transport.





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:

1.5 Highways

PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
5.1	Applicant	Please provide further details in relation to the proposed arrangements for the importation and storage of cable drums and the consequential implications for HGV traffic to the Oulton compound and link 68 in response to the queries raised by Oulton Parish Council's submission at deadline 7.	 "Seeks clarification whether Vattenfall anticipate its cable drums arriving at port in batches of, say, 20 – which may well need to be brought straight to Oulton, if sufficient work sections along the cable route are not yet ready? Will the Cable Logistic Area remain in situ for 'Boreas', which is believed will take up to 2 years for the cable pulling phase, as pre-ducting for that project would have been carried out during NV's construction? Will the 360 cable drums required for the Norfolk Vanguard project be repeated for the Boreas project, equating to a total of 720 cable drums to complete both phases?" Applicant's response: The nature in which cable deliveries are made to port locations will be defined during detailed design, guided by the supplier of the cable. Deliveries will be aligned so far as possible to joint bay preparations such that cable drums can be delivered directly to joint bay locations. As the Applicant outlined in its response to Oulton Parish Council (OPC) submission at Deadline 5 (ExA; Comments; 10.D6.14), Applicant's Response to the ExA's Further Written Questions Q11.39 (ExA; FurtherWQ; 10.D4.6) and Applicant's Response to the ExA's Written Questions Q11.25 and Q22.31 (ExA; WQ; 10.D1.3), the cable logistics





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
			 area will act as a buffer only. The intention is for the majority of cable drums to be delivered directly to the joint locations. 2. The cable logistics area is proposed to be utilised for cable pulling operations associated with Norfolk Boreas for up to a further 2 years, should that project be consented and proceed to construction. The cable logistics area requirements for Norfolk Boreas will be secured within the Norfolk Boreas DCO application. If Norfolk Boreas does not proceed to construction then the area would be returned to its previous use following the completion of the Norfolk Vanguard cable pulling works. 3. Norfolk Boreas will require up to a further 360 cable drums over a period of up to 2 years to be installed throughout the onshore cable route to facilitate cable pulling of that project. The cable pulling activities for Norfolk Boreas will be assessed as part of that application and mitigation secured within the Norfolk Boreas DCO.
5.2	Applicant	Please confirm the position with regards to the mitigation measures for link 41 as requested by Norfolk County Council (NCC).	The Applicant has agreed to cap construction traffic to 128 daily HGV movements for Norfolk Vanguard on Link 41 during the six week school summer holiday period as requested by NCC. This cap represents typical average HGV demand and will be achieved by rescheduling non-critical construction activities. After the six week school summer holiday period, the cap will revert to the level set out in the CIA submitted at Deadline 5 (ExA; ISH1; 10.D5.3) i.e. 338 daily HGV movements for Norfolk Vanguard alone. This has subsequently been agreed with NCC and is reflected in the position statement submitted at Deadline 8 (ExA; ISH6; 10.D8.2). This commitment has been captured within the updated Outline Traffic Management Plan that was submitted to the examination at Deadline 7.





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
5.3	Applicant	Please comment upon Norfolk County Council's proposal (included within its deadline 7 submission) in relation to amendments to the wording of requirement 22 of the DCO to require the removal of temporary accesses.	The Applicant amended the dDCO at Deadline 7 to read as follows: Highway accesses 22.—(1) The access management plan submitted for approval under Requirement 21(1)(c) must include details of the siting, design, layout and any access management measures for any new, permanent or temporary means of access (including, where relevant, details of reinstatement measures) to a highway to be used by vehicular traffic, or any alteration to an existing means of access to a highway used by vehicular traffic. The highway accesses for each stage of the onshore transmission works must be constructed or altered and the works described in paragraph (1) above in relation
			to access management measures must be carried out, as the case may be, in accordance with the approved details before they are brought into use for the purposes of the authorised project. The revised drafting makes it clear that the Access Management Plan, to be produced post-consent and which is to be approved by the relevant planning authority in consultation with the highway authority under Requirement 21, must include details of the reinstatement measures for temporary means of access, where relevant. The details of the reinstatement measures will need to be agreed with the relevant planning authority and local highway authority through the final access management plan prior to commencement of a stage of works.
			The Applicant therefore considers that there is an adequate mechanism in place to secure reinstatement works if necessary, and it is not considered necessary to amend the dDCO further.
5.4	Applicant and Norfolk County Council	The Applicant submitted a cumulative impact paper at deadline 5 detailing the traffic impacts on The High Street, Cawston [REP5-012] and these matters were further explored at ISH6. The Hornsea Three project (H3) prepared a Highway Intervention Scheme for High Street, Cawston dated March 2019	Refer to Appendix 3 (ExA; Rule17; 10.D8.16C)





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
		which was submitted into this examination at deadline 7 by NCC [REP7-079]. That document records daily baseline flows of 3,477 (all vehicles) and 127 HGV movements, as at 2022. The maximum cumulative traffic would increase these flows by 271 HGV movements (based on a flat demand profile of 127 HGVs for H3 and a maximum peak capped at 144 HGVs for Norfolk Vanguard).	
		In the context of a 12-hour working day and, assuming an even distribution of the additional HGV traffic, this appears to equate to some 22.6 additional HGVs travelling through Cawston village each hour. This would be in addition to the existing baseline of 127 HGVs. If the baseline flow is apportioned over the same 12-hour period, this equates to a total cumulative flow of 33.2 HGVs each hour passing through the village or the equivalent of one HGV approximately every 2 minutes.	
		Please provide your comments upon this analysis and any further general observations you wish to make. More particularised questions follow.	
5.5	Applicant/Norfolk County Council	The H3 Highway Intervention Scheme dated March 2019 is still under consideration and it provides an illustration of some of the mitigation measures which could be utilised. This scheme retains some demarcated onstreet parking which would result in HGVs	Refer to Appendix 3 (ExA; Rule17; 10.D8.16C)





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
		having to wait in turn based upon 'single way priority working signage'. Having regard to the traffic movement figures above, namely one HGV every 2 minutes, how is it envisaged that such a scheme would work and be effective? In particular, how long would one HGV take to navigate the route through Cawston village. How long would the wait times be for HGVs travelling in the opposite direction?	
5.6	Highways England		

1.6 28 May 2019 Request for Further Information

PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
N/A	Applicant	Please explain the discrepancy between the figure of 27,418,759m3 of scour protection given in paragraph 20 of the Version2 Outline Scour Protection Plan and Cable Protection Plan (OSPCPP) [REP7-024], and the 27,318,759 m3 figure given in draft DCO Condition 8(1)(g) of Schedules 9 and 10 of the dDCO. Also please clarify the discrepancy between the figures given in column 1 of Table 1 of the OSPCPP and that of 5,463,752m2 as given in Condition 8(1)(g) of Schedules 9 and 10;	The volume provided in paragraph 20 of the Outline Scour Protection and Cable Protection Plan (OSPCPP) (document 8.16) reflects the total volume of scour protection for the project and is in accordance with Schedule 1, Part 3, Requirement 11 of the draft DCO. Schedules 9 and 10 of the draft DCO reflect the parameters associated with the Generation Assets (i.e. the total scour protection for the project is 27,418,759m³ based on 27,318,759m³ for the Generation Assets and 100,000m³ for the Transmission Assets). Column 1 of Table 1 of the OSPCPP provides the scour protection area per foundation. The total area of scour protection for the Generation Assets is 5,463,752m² in accordance with Condition 8(1)(g) of Schedules 9 and 10 based on the following calculations:





PINS Question Number	Question is addressed to:	Question:	Applicant's Response:
		the apparent error in the total figure cited in Table 1 of the OSPCPP; and whether 'platform' in Condition 8(1)(g) should read 'platforms'. Please would you consider and confirm how the dDCO and Outline Scour Protection and Cable Protection Plan should be revised as appropriate by Deadline 8.	 10MW turbines = 30,159.29m² (as shown in Table 1 of the OSPCPP) x 180 turbines = 5,428,672m² Accommodation platforms = 10,000m² (as shown in Table 1 of the OSPCPP) x 2 platforms = 20,000m² Met masts = 7540m² (as shown in Table 1 of the OSPCPP) x 2 met masts= 15080m² The total volume in the OSPCPP submitted at Deadline 7 should have been updated to 27,418,759m³ in accordance with paragraph 20 of the OSPCPP. This will be updated and submitted at Deadline 9. Condition 8(1)(g) has been updated to read "platform(s)" in the dDCO submitted at Deadline 8.