

# Norfolk Vanguard Offshore Wind Farm

# Applicant's Comments

# on Deadline 7 Written

# Submissions

Applicant: Norfolk Vanguard Limited  
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Deadline 8  
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*Photo: Kentish Flats Offshore Wind Farm*

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## Glossary

AC	Alternating Current
AEoI	Adverse Effect on Integrity
AEZ	Archaeological Exclusion Zone
ALO	Agricultural Liaison Officer
BDMPS	Biologically Defined Minimum Population Scales
BEIS	Department for Business, Energy and Industrial Strategy
BN	Briefing Note
BTO	British Trust for Ornithology
CCATN	Cable Crossing Access Technical Note
CfD	Contract for Difference
CFP	Common Fisheries Policy
CIA	Cumulative Impact Assessment
CoCP	Code of Construction Practise
CPA	Compulsory Purchase Act
CPGR	Counterfactual of Population Growth Rate
CPS	Counterfactual of Population Size
CRM	Collision Risk Modelling
CRTN	Calculation of Road Traffic Noise
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
dDCO	draft Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DML	Deemed Marine Licence
DMRB	Design Manual for Roads and Bridges
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIFCA	Eastern Inshore Fisheries and Conservation Agency
EMF	Electromagnetic Frequency
ES	Environmental Statement
ESRC	Economic and Social Research Council
ExA	Examining Authority
FFC	Flamborough and Filey Coast
FHL	Furnished Holiday Let
GDPR	General Data Protection Regulation
GLVIA	Guidelines for Landscape and Visual Impact Assessment
HDD	Horizontal Directional Drilling
HE	Historic England
HGV	Heavy Goods Vehicle
HHW	Haisborough, Hammond and Winterton
HOW3	Hornsea Offshore Windfarm Project Three
HRA	Habitat Regulations Assessment
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IAQM	Institute of Air Quality Management

ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEMA	Institute of Environmental Management and Assessment
IFCA	Inshore Fisheries and Conservation Agency
IHO	Exclusive economic zone
IPMP	In Principle Monitoring Plan
IROPI	Imperative reasons of Overriding Public Interest
ISH	Issue Specific Hearing
JNCC	Joint Nature Conservation Committee
LBBG	Lesser Black Backed Gull
LHA	Local Highway Authority
LIG	Land Interest Group
LPA	Local Planning Authority
LVIA	Landscape and Visual Impact Assessment
MA	Mobilisation Area
MCA	Maritime and Coastguard Agency
MCAA	Marine and Coastal Access Act
MMO	Marine Management Organisation
MPA	Marine Protected Area
NAF	Nocturnal Activity Factor
NATS	National Air Traffic Services
NCC	Norfolk County Council
NFU	National Farmers' Union
NNDC	North Norfolk District Council
NPL	Norfolk Partnership Laboratory
NSAG	Necton Substation Action Group
NV	Norfolk Vanguard
OCocP	Outline Code of Construction Practice
OFH	Open Floor Hearing
OFTO	Offshore Transmission Owner
OLEMS	Outline Landscape and Ecology Management Strategy
OCP	Onshore Connection Point
OPC	Oulton Parish Council
ORJIP	Offshore Wind, Offshore Renewable Joint Industry Project
ORM	Offshore Ring Main
ORPAD	Offshore Renewables Protocol for Reporting Archaeological Discoveries
OSPAR	Oslo Paris Convention
OTMP	Outline Traffic Management Plan
OWF	Offshore Windfarm
PC	Parish Council
PEMP	Project Environmental Management Plan
PHE	Public Health England
PM	Particulate Matter
PRoW	Public Rights of Way
PVA	Population Viability Analysis
REC	Regional Environmental Characterisation
REIS	Report on the Implications of European Sites

RSPB	Royal Society for the Protection of Birds
RTD	Red Throated Diver
SAC	Special Area of Conservation
SACTN	Substations Access Clarifications Technical Note
SIP	Site Integrity Plan
SNCB	Statutory Nature Conservation Body
SoCG	Statement of Common Ground
SPA	Special Protection Area
SWDP	Surface Water and Drainage Plan
TEMPro	Transport Trip End Model Presentation Programme
UXO	Unexploded Ordnance
VSC	Voltage Source Converter
WHO	World Health Organisation
WSI	Written Scheme of Investigation
WQ	Written Questions
WR	Written Representations

## 1 INTRODUCTION

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1. This document contains the Applicant's responses to submissions by Interested Parties at Deadline 7 of the Norfolk Vanguard Examination.



## 2 APPLICANT'S COMMENTS ON ADDITIONAL SUBMISSIONS

### 2.1 Alice Spain

Written submission	Applicant's Response
<p>On the Accompanied Site Visit on 24th March, from viewpoints around the location for the proposed Necton infrastructure, the low-lying nature of Top Farm was demonstrated. During the public consultation process, the Top Farm site was identified as a possible option to Vattenfall and the owner offered it for sale. It did not feature in options considered in the application documentation.</p> <p>During the PINS examination process, the Necton Substation Action Group raised the existence of two alternative location sites, this one (closer by about 300m to the National Grid substation) and one near Scarning (which I now acknowledge is outside the search limits). There is already a Vattenfall response to the Top Farm site that in my opinion is not adequate. It can be found in document WRR: 10.D2.2 posted on the PINS website on 1/2/2019 on Page 87. In this response, the reasons for rejecting the site near Scarning are clearly given but nothing is actually stated about the reasons for rejecting the TOP Farm site.</p> <p>As the inspectors saw when they visited Top Farm during the Accompanied Site Visit, it is up to 10 metres lower than the site selected by Vattenfall so mitigation measures would be easier, cheaper and more effective. It is approximately the same distance from the current National Grid infrastructure as the site selected so there should be no detrimental effect on the project costs. I respectfully request that the panel ask Vattenfall to make a reasoned argument for rejecting Top Farm for the installation of this huge infrastructure which I understand will be the largest in Europe and very close to our village.</p>	<p>Section 2.8 of the Applicant's Comments on Deadline 6 Written Submissions (document reference ExA;Comments;10.D7.20) provides the Applicant's position with regard to Top Farm. In summary, the process of identifying the most appropriate location to site the onshore project substation took into account the National Grid guidelines on substation siting and design (Horlock Rules), extensive pre-application engagement over a 20 month period with stakeholders, communities and landowners (as detailed in the Consultation Report, document 5.1) and taking forward, within a 3km search area, those areas with fewer environmental constraints.</p> <p>Previous responses to submissions by interested parties as well as responses to questions raised by the Examining Authority have set out reasons why the Top Farm and Scarning sites were unsuitable locations (see q2.1 of the Applicant's responses to the Examining Authority's Written Questions (WQs) (ExA; WQ; 10.D1.3) and the Applicant's responses to Written Representations (WRs) (ExA; WRR: 10.D2.2)).</p>
<p>The Accompanied Site Visit unfortunately occurred on a dull day so the increased visibility from infrastructure reflections were not seen. Please could the inspectors confirm that they have seen the increased visibility of the current infrastructure on a sunny day at some point during their examination.</p>	<p>This is noted by the Applicant. A number of the baseline photographs for the Landscape and Visual Impact Assessment and associated visualisations were taken on sunny days, as can be seen in Figure 29.16, from Viewpoint 4 towards the Necton National Grid Substation (document reference 6.2.29). Should the project be consented, detailed design will follow, and as has been noted previously there are options to consider which can help reduce any potential visual impacts still further, including colour, and choice of materials for the converter hall buildings.</p>

## 2.2 Broadland District Council

Written submission	Applicant's Response
<p>In respect of the proposed package of measures for The Old Railway Gatehouse (including link 68), the District Council has previously agreed a package of mitigation measures with Hornsea Project Three, including re-grading of the road hump at the Old Railway Gatehouse, a temporary speed limit of 30mph, priority to south bound vehicles and a waiting area south of the Old Railway Gatehouse, temporary passing bays along The Street, and improvements to The Street / B1149 junction.</p> <p>In addition, Hornsea Three identified proposals to upgrade the double glazing at The Old Railway Gatehouse and install a noise barrier (either wall or fence) to the roadside boundary of its garden.</p> <p>The District Council in the Hornsea Three Statement of Common Ground (SOCG) deadline 10 stated that the proposed physical alterations to the property need to be agreed with the resident, the principle of the mitigation measures specified are acceptable and need to be secured by revised wording in the Outline and detailed CTMP.</p> <p>Norfolk Vanguard has indicated that it is still undertaking an assessment of the noise effects of HGV's idling then accelerating away from a standing start at the waiting area in proximity to The Old Railway Gatehouse, the assessment has not been sent to the District Council for comment. Unfortunately therefore it is not possible to provide a joint position statement with the applicant for deadline 7. It is agreed that both parties will seek an agreed position to be set out within the District Council's final SoCG for deadline 8</p>	<p>The Applicant submitted an updated noise assessment for the Old Railway Gatehouse to the examination at Deadline 7 ( ExA; ISH6; 10.D7.7) and provided a copy directly to Broadland District Council for comment.</p> <p>The assessment considered the effect of Heavy Goods Vehicles (HGVs) idling and accelerating in proximity to the Old Railway Gatehouse as a result of the proposed passing bays and priority signage which form part of the package of mitigation measures. The assessment showed that noise would increase but would remain a an impact of minor adverse significance.</p> <p>As part of their final package of mitigation, Hornsea Project Three also include optional measures that may be implemented subject to agreement from the owner of The Old Railway Gatehouse. These measures include installation of double glazing along the façade closest to The Street, or the provision of a wall along the garden of the property. Hornsea Project Three state that these options would be taken forward should residents wish; however they are not essential to mitigate the potential noise effects</p> <p>The Applicant has also committed to these optional measures on the same basis as Hornsea Project Three to ensure that the scheme of mitigation is consistent across both projects. The Applicant is engaging with the owner of The Old Railway Gatehouse with a view to progressing this post-consent. These optional measures are captured within an update to the Outline Traffic Management Plan (OTMP) submitted at Deadline 8.</p>
<p>The point that was made by the District Council's Environmental Health officer to the examining panel on 24 April 2019 that he does not believe it was ever the intention of the authors of the CRTN to use them in the way that they are employed in Vanguard's Appendix G Cumulative Impact Assessment Ex A; ISH1; 10. D5.3. reference is made particularly to page 14 para. 33 where the applicant has proposed mitigation that decreases the modelled noise increase by 0.1dB and thereby turns a "moderate adverse" impact to a "minor adverse" impact. The significance criteria are drawn from the Design Manual for Roads and Bridges document (table 3.1 on page 16 of Chapter 3, Volume 11 Section 3 – copy attached) but given</p>	<p>The Applicant has produced a report discussing how the Calculation of Road Traffic Noise (CRTN) and Design Manual for Roads and Bridges (DMRB) have been used in the assessment of road traffic noise, which provided directly to Broadland District Council and has also been submitted to the examination at Deadline 8 (ExA; AS; 10.D8.7). The methodology used by the Applicant is the industry standard method for calculating road traffic noise and was agreed with stakeholders as part of the evidence plan process in 2017.</p>

Written submission	Applicant's Response
<p>the implicit errors that may arise from modelling it is felt that it is not acceptable to conclude that an imperceptible change of 0.1dB can alter a situation from moderate to minor.</p>	<p>The Applicant would wish to highlight that the aim of the mitigation is not to simply reduce noise from 3.0dBA to 2.9dBA. These are simply the threshold categories that are identified within the DMRB for a significant and non-significant impact and which have been used within the noise impact assessment on that basis. By way of example the calculated residual noise increases were reported as +2.4dBA on Link 68 and +2.7dBA for Link 34 (this has subsequently increased to +2.8dBA for Link 34 to take into account idling vehicles).</p>
<p>The District Council has not been shown the model inputs for these assessments. The only input shown in Table 10 is road speed which was shown as 43.3 mph for link 34 and 60 mph for link 68 (we know vehicle numbers as well). I do not think that these speeds reflect actual speeds at either site and I would be grateful if all modelling inputs including mitigation assumptions could be made available together with details relating to the software used.</p>	<p>The Applicant has produced a report discussing how the CRTN and DMRB have been used in the assessment of road traffic noise, which provided directly to Broadland District Council and has also been submitted to the examination at Deadline 8 (ExA; AS; 10.D8.7).</p> <p>The calculation is spreadsheet based and the inputs are set out within the note provided (ExA; AS; 10.D8.7).</p> <p>The speed data for link 34 (43.3mph) was based on traffic monitoring undertaken during 2017. The speed assigned for link 68 is the identified speed limit for that route, which was used in the absence of actual monitoring data. A subsequent assessment of noise impacts along Link 68 was submitted at Deadline 7 (ExA; ISH6; 10.D7.7) to take into account idling HGVs. This assessment used actual recorded road speed data from monitoring undertaken by Hornsea Project Three (42.8 mph).</p>
<p>In respect of the submission of comments on additional air quality assessment (for The Old Railway Gatehouse), that the applicant has submitted, the District Council comments that:</p> <p>It is presumed that the applicant will have used Defra background level information.</p> <p>Oulton Parish Council are correct to state that local sources of pollution should be taken into account and the turkey sheds and pig rearing units are close by and may be included in the modelling figures that are publicly available. Planning permission has been granted for 6 no. biomass boilers for heating the nearby poultry sheds. This combined emission will increase pm10 and pm 2.5 locally.</p> <p>In respect of ammonia I understand it can combine with substances in the air to produce pm2.5. It is felt that it would be useful if the applicant could comment on any</p>	<p>A further assessment of air quality impacts at The Old Railway Gatehouse was submitted to the examination 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 negligible. The assessment took into account the biomass boilers and considered the potential for ammonia as a source of pollution. Defra background mapping was used to inform the assessment. Also refer to the Applicant's response to further question 4.1 submitted at Deadline 8 (ExA; Rule17; 10.D8.16).</p>

Written submission	Applicant's Response
local effects. It is felt that the applicant should take account of Oulton Parish Council's concerns and include/make sure that background levels reflect local point sources as above.	

## 2.3 Castle Farms and Peggy Carrick

Written submission	Applicant's Response
<p>It has recently come to our client's attention that Vattenfall have selected 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.</p> <p>Our client would like to bring the following concerns to the ExA's attention:</p> <p>1. Vattenfall have failed to meet their obligations in terms of consulting with interested parties who have land that will be affected by the project.</p>	<p>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.</p> <p>The Applicant would like to confirm that the following Interested Parties were consulted at both the Section 42 consultation stage (in October 2017) and served with Section 56 notices (in August 2018):</p> <ul style="list-style-type: none"> <li>• John Carrick</li> <li>• Peggy Carrick</li> <li>• Hunters Hall Limited</li> <li>• Matthew Stevenson</li> </ul> <p>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.</p> <p>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.</p>
<p>2. The track provides access to our client's wedding venue at Hunters Hall and the caravan and camp site at Park Farm. There is no information from Vattenfall:</p> <ul style="list-style-type: none"> <li>· how their proposed use of the track will affect the access required by patrons etc to access our client's businesses</li> <li>· how the use of the access will impact on our client's businesses</li> <li>· what mitigation is proposed to reduce the impact upon these businesses</li> </ul> <p>3. The highway to the track is a small country road less than 4 meters wide and not suitable for large vehicles and heavy loads which are being proposed.</p>	<p>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.</p> <p>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</p>

Written submission	Applicant's Response
	<p>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.</p> <p>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. Heads of Terms (HoTs) are currently being discussed with the landowner. 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.</p> <p>In response to point 3, referring to the Outline Traffic Management Plan (document 8.10), 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 need for temporary road closures or road widening and control low HGV demand on the lightly trafficked narrow access roads.</p>
<p>We are now in discussions with Vattenfall but have not received any adequate assurances on the above matters. Please accept our apologies for the late submission however our client was not aware of the proposal until recently. We trust the ExA finds this all acceptable and will accept the submission.</p>	<p>As above, the Applicant has consulted with the Landowner since July 2017 on the inclusion of the track. The affected parties were also formally consulted under both Section 42 and Section 56. As above, discussions are ongoing regarding the HoTs.</p>

## 2.4 Cawston Community

Topic / Issue	Interested Party	Applicant's Response
Concern on pedestrian amenity due to additional HGV's and narrowness of road and pavement.	Cawston PC, Dota and Alan Williams, Frances Rossington, Kate Pitcher, Kate Wyatt, Matthew Brockis, Nicola Bunham, Phil and Amelia Whiting, Polly Brockis, Vic Purdy	<p>The Applicant undertook a cumulative impact assessment (CIA) along road links shared between Norfolk Vanguard and Hornsea Project Three, which was submitted to the examination at Deadline 5 (ExA;ISH1;10.5.3). A range of traffic measures are proposed to manage potential cumulative impacts with Hornsea Project Three through Cawston, including enhanced pedestrian facilities (such as footway widening), managed parking, improved streetlighting, road safety measures (such as a reduced speed limit to 20mph), avoiding term time school drop-off and pick-up times, as well as managing cumulative peak Heavy Goods Vehicle (HGV) flows.</p> <p>Within the CIA the Applicant committed to a cap on cumulative traffic of 271 daily HGVs, by reducing the Norfolk Vanguard daily HGVs from 168 down to 144. This was proposed to be achieved either through coordination of the two construction programmes or by extending the Norfolk Vanguard construction programme by an additional week during this window. Combined with the Hornsea Project Three peak of 127 daily HGV movements, which alongside the other traffic measures listed above, reduces impacts to no greater than minor adverse. This Norfolk Vanguard peak of 144 daily HGV movements would occur for 4 weeks in total which would reduce down to 93 average daily HGV movements for 24 weeks and 10 average daily HGV movements for 23 weeks.</p> <p>Following discussions with Cawston Parish Council on 11<sup>th</sup> April 2019 in Cawston, the Applicant has sought to further reduce this peak traffic as low as practicable within the existing construction programme. The Applicant is now able to commit to a 1 week peak of 112 daily HGV movements (in both the single project and cumulative scenario), which will reduce down to 95 average daily HGV movements for 22</p>
Concern for HGV construction traffic being able to safely pass through the village.	Cawston PC, Dota and Alan Williams, Frances Rossington, Kate Pitcher, Kate Wyatt, Matthew Brockis, Mr and Mrs Crossley, Nicola Bunham, Phil and Amelia Whiting, Polly Brockis,	
Lack of streetlights	Kate Wyatt, Polly Brockis	

Topic / Issue	Interested Party	Applicant's Response
		<p>weeks 44 average daily HGVs for 13 weeks and 8 average daily movements for 23 weeks. These reductions do not change the findings of the CIA (the residual impacts remains minor adverse), however, they recognise the concerns of Cawston Parish Council and represent a further effort by the Applicant to reduce these short-term peaks to as low as practicable. A further meeting between Cawston Parish Council and the Applicant took place on 28<sup>th</sup> May 2019 to present these reductions in peak daily HGV movements.</p> <p>The Applicant has engaged further with Norfolk County Council (NCC) who have stated that they believe that the proposed scheme mitigates the road network impacts through Cawston for both the Project alone and cumulatively with Hornsea Project Three, however, several minor amendments are required to the scheme related to the road safety audit which can be resolved post-consent.</p> <p>The Applicant will continue to engage with NCC and Hornsea Project Three post consent, with a view to agreeing the precise nature of the final package of mitigation which will be adopted by both projects.</p>
Traffic estimates have fluctuated over the past months	Matthew Brockis	<p>The Applicant's total traffic estimates were calculated in detail and presented in full in the ES submitted in the application made in June 2018. This includes indicative profiling of traffic to illustrate both peak and lull periods of HGV construction traffic associated with different construction activities. These total numbers have remained unchanged throughout the examination although some further refinement of the construction programme has allowed peak traffic through Cawston to be reduced down to 112 daily HGV movements.</p>
Concerns regarding the impact on local business and tourism as a result of HGV construction traffic	Frances Rossington, Kate Wyatt, Nicola Bunham	<p>The B1145 is a main distributor route through this part of Norfolk and is used by more than 2,500 vehicles on a daily basis. A CIA has been undertaken by the Applicant and submitted at Deadline 5 (ExA;ISH1;10.5.3) which considers the</p>



Topic / Issue	Interested Party	Applicant's Response
		<p>addition of construction traffic for both Norfolk Vanguard and Hornsea Project Three. A range of traffic measures are proposed to ensure that traffic flows are not significantly affected through Cawston through managed parking, temporary speed restrictions, and agreeing a maximum cumulative number of HGVs permitted to use the road. In addition, further amenity measures are proposed including improved streetlighting, enhanced pedestrian facilities, road safety measures and avoiding term time school drop-off and pick-up times. With these measures in place, traffic delays and pedestrian amenity impacts would be reduced to a non-significant level. These traffic measures ensure that impacts to local businesses would similarly be minimised.</p> <p>Following on-going engagement with Cawston throughout the examination, the construction programme has been revisited to further reduce peak HGV movements. Approximate revised timings of daily HGV movements are as followed:</p> <ul style="list-style-type: none"> <li>• 1 week @ 112 movements</li> <li>• 22 weeks @ 95 movements</li> <li>• 13 weeks @ 44 movements</li> <li>• 23 weeks @ 8 movements</li> </ul> <p>These revised peak daily HGV movements are captured within an update to the Outline Traffic Management Plan (OTMP) (document 8.8), submitted at Deadline 8 and are secured through Requirement 21.</p>
Concerns regarding vibration associated with HGV construction traffic	Dota and Alan Williams, Frances Rossington, Kate Wyatt, Matthew Brockis, Mr & Mrs Crossley, Nicola Bunham, Phil and Amelia Whiting, Polly Brockis	Vibration associated with traffic movements within Cawston has been considered and an assessment was submitted to the examination at Deadline 5 (ExA; ISH1; 10.D5.30) and a further response provided at Deadline 6 (ExA; ISH4; 10.D6.7). These assessments were based on vibration monitoring undertaken at four properties through Cawston along the B1145. The assessment concluded that there are no significant vibration impacts associated with cumulative HGV
Comments relating to the lack of structural assessments which have been conducted on local residences	Matthew Brockis, Nicola Bunham, Polly Brockis	



Topic / Issue	Interested Party	Applicant's Response
		traffic using the B1145. Measures associated with the traffic mitigation such as upgrading the existing road surface, introduction of a temporary speed restriction and capping the total cumulative construction traffic along the B1145 will further reduce any potential vibration effects.
Concerns regarding noise associated with HGV construction traffic	Cawston PC, Matthew Brockis, Mr & Mrs Crossley, Nicola Bunham, Phil and Amelia Whiting, Polly Brockis	<p>The Applicant submitted a Cumulative Impact Assessment for Traffic Related Noise and Vibration at Deadline 5 (ExA; ISH1; 10.D5.3) which considers the peak cumulative traffic flows for the Project and Hornsea Project Three.</p> <p>The assessment identified that under a cumulative construction traffic scenario (without mitigation), a moderate adverse noise impact was predicted through Cawston. In order to reduce potential noise impacts from cumulative construction traffic, the Applicant has committed to limit Norfolk Vanguard peak HGV demand to 112 daily HGVs, introduction of a temporary speed restriction and committed to resurfacing the B1145 through Cawston. These commitments reduce impacts to minor adverse (i.e. not significant) and are captured within Table 1.5 of the Outline Traffic Management Plan (document 8.8), which is secured under DCO Requirement 21.</p>
Concerns regarding air quality associated with HGV construction traffic	Kate Wyatt, Mr & Mrs Crossley, Nicola Bunham, Phil and Amelia Whiting, Polly Brockis	<p>The Applicant has provided a Cumulative Impact Assessment for Traffic Related Air Quality at Deadline 5 (ExA; ISH1; 10.D5.3) which considers the peak cumulative traffic flows for the Project and Hornsea Project Three.</p> <p>The assessment concluded that the cumulative traffic impacts upon local air quality would not be significant at the residential receptors identified through Cawston (concluding a negligible impact).</p>
Concern regarding the risk of subsidence of the B1145 at the Cawston Roundabout due to an old clay pit	Frances Rossington, Vic Purdy	The Applicant has committed to a highway condition survey being undertaken by the contractor before the commencement of construction and after the substantial completion of construction works. Any damage to the existing road network or public highway as a consequence of the construction

Topic / Issue	Interested Party	Applicant's Response
		activities will be made good to the reasonable satisfaction of NCC. The OTMP (document 8.8) details this and is secured in Requirement 21 of the DCO.
Concerns raised regarding the Marriott's Way road bridge structural condition	Frances Rossington, Kate Wyatt, Mr and Mrs Crossley, Polly Brockis, Vic Purdy	<p>The Applicant has reviewed the location with Cawston PC. The bridge strikes appear to be due to poor HGV alignment over the bridge and inadequate forward visibility (due to vegetation) to enable drivers of large vehicles to slow/pause to prevent meeting another large vehicle at the 'pinch point' over the span.</p> <p>Norfolk County Council (NCC) has a resurfacing and reconstruction scheme scheduled for summer 2019 in the vicinity of the bridge, which gives an opportunity to address the problem. The Applicant has been in discussions with NCC and shared HGV 'tracking' simulations and ideas as to how this situation could be improved. As a result NCC's scheme will include widening on the eastern approach to the bridge span and a re-alignment of the carriageway. These measures (together with some localised tree pruning) will ensure that large vehicles can better 'line up' to traverse the bridge and will also have adequate visibility to slow down/stop to allow large vehicles to pass prior to the 'pinch point'.</p>
Query regarding whether consideration has been taken of a new care home opening in the area and associated traffic	Kate Wyatt	The traffic impact assessment takes account of potential traffic growth related to changes in housing and employment. All vehicle flows have been factored to the future year baseline traffic demand using the Department for Transport Trip End Model Presentation Programme (TEMPPro) for Norfolk. Further details on this are provided in section 24.6.6 of ES Chapter 24 Traffic and Transport.
Queries regarding delivery constraints impacting project schedules and working hours	Matthew Brockis	The Applicant has committed to a range of environmental impact controls, detailed in Section 1.7 of the OTMP (document 8.8) and secured under Requirement 21 of the DCO. This includes a range of delivery management measures to ensure highway network resilience is maintained as detailed in Table 1.7 of

Topic / Issue	Interested Party	Applicant's Response
		<p>the OTMP. As part of the environmental impact controls, delivery of materials and plant would occur between 7am to 7pm Monday to Friday and Saturday 7am to 1pm.</p> <p>Furthermore, delivery periods are further restricted between 7:30am to 9am and 3pm to 4pm on Link 34 (B1145 Cawston) such that no HGVs associated with the project will make movements along Link 34 during these times. These hours are secured within the OTMP under Section 1.7.6.</p> <p>The temporary mobilisation areas will include storage facilities to maintain a buffer of local materials to continue construction in the event of delays to deliveries.</p>
Comments relating to the inappropriate siting of the construction compound at Oulton Street	Guy Pitcher, Vic Purdy	<p>Hornsea Project Three's main construction compound is located at Oulton Street. Norfolk Vanguard does not propose a construction compound at Oulton Street, however, the traffic associated with the use of the Hornsea Project Three main compound has been taken into account within the Applicant's CIA submitted at Deadline 5 (ExA; ISH1; 10.D5.3). Norfolk Vanguard proposes a temporary mobilisation area (MA7) off Heydon Road (east of Oulton) and a temporary mobilisation area (MA6) off the B1145 (west of Cawston), illustrated in Figure 5.4 of Chapter 5 Project Description of the ES. These MAs facilitate access to the cable route at these locations for the purposes of duct installation which will be progressed at a rate of approximately 150m per week, with up to two workfronts per MA operating in parallel. This construction method allows ducts to be installed within each associated cable route section in these areas in less than two years and more typically within 12-18 months.</p>
Comments relating to the B road designation appropriateness	Cawston PC, Kate Pitcher, Mr & Mrs Crossley, Polly Brockis	<p>The Applicant has provided background information on the road hierarchy and its application to network traffic management at Deadline 7 (ExA; Comments; 10.D7.20B).</p> <p>NCC, as Local Highway Authority (LHA), are responsible for managing all local classification decisions and are able to</p>

Topic / Issue	Interested Party	Applicant's Response
		<p>set their own policies if desired. The functional hierarchy informs policies relating to maintenance, spatial planning and traffic management and, by definition, A and B roads are subject to higher levels of service and less traffic restraints.</p> <p>In their role as LHA for the project, NCC have classified the High Street through Cawston as the B1145, a 'Main Distributor'. The Main Distributor sub-category of the B road classification indicates a route from significant settlements to A roads serving the County, which are not subject to any restrictions on HGVs. Based on this classification and sub-classification, the route is considered acceptable for construction traffic, however, specific constraints have been identified and a package of mitigation measures have been proposed as outlined in responses above.</p>
Comments relating to the consideration for alternate HGV construction access routes	Cawston PC, Dota and Alan Williams, Frances Rossington, Guy Pitcher, Kate Pitcher, Kate Wyatt, Mr & Mrs Crossley, Phil and Amelia Whiting, Polly Brockis	<p>The Applicant has considered alternative HGV construction access routes which have been proposed and which are detailed in the Applicant's submission at Deadline 7 "Alternative Construction Traffic Routes at Cawston" (ExA; Comments; 10.D7.20B).</p> <p>The potential alternative routes would generate greater impacts in comparison to the current route. In the case of alternatives using the running track within the cable route, this is out with the Applicant's proposed construction methodology which has been shown to illustrate embedded mitigation in minimising a range of impacts. In the case of alternatives using other sections of the public highway, this would require extensive hard engineering works to surrounding lanes which would be disproportionate and out with the LHA planning principles and functional hierarchy. As discussed above, the current route along the B1145, which is designated by NCC as a Main Distributor Road, is considered viable and appropriate. The environmental impacts of the use of the B1145 have been assessed and suitable mitigation</p>

Topic / Issue	Interested Party	Applicant's Response
		has been proposed and agreed with the Norfolk County Council as LHA.
Comments relating to the consideration of an offshore ring main for connections of offshore wind farm projects	Kate Pitcher, Mr and Mrs Crossley, Nicola Bunham	<p>As the Applicant presented at Open Floor Hearing 3 and documented in the associated written summary (ExA; OFH; 10.D7.3), the Applicant is currently at an advanced stage in the consenting process for Norfolk Vanguard and must work within the constraints of the current regulatory framework in order to deliver the project. The same will apply to Norfolk Boreas, the sister project to Norfolk Vanguard.</p> <p>At present there is no appointed coordinator for offshore wind grid development nor any reference to coordinated offshore development in the National Policy Statement (EN-5) for Electricity Networks.</p>
Concerns regarding impacts to house prices as a result of HGV construction traffic	Nicola Bunham, Phil and Amelia Whiting, Polly Brockis	<p>The presence of Project related HGV traffic will be temporary in nature during the construction of the particular cable sections of the project in the vicinity of Cawston only. The construction methodology minimises the length of time for construction in any one location so far as practicable.</p> <p>Secondary peak construction traffic associated with Norfolk Vanguard will be limited to a 23 week period of 95 average daily HGV movements (excluding 1 week peak period of 112 average daily HGV movements). This temporary construction presence on an existing main distributor route is not anticipated to lead to permanent changes in house prices.</p>
Comments regarding the impact to a designated conservation area	Kate Wyatt, Nicola Bunham, Polly Brockis	<p>The presence of Project related HGV traffic will be temporary in nature and the majority of the associated highway mitigation measures (temporary speed limits, priority signage, parking bays) will also be temporary and removed following construction. If agreed as part of the final traffic management scheme, some localised pavement widening will represent a legacy change to the Conservation Area as a result of the scheme of mitigation. An assessment of these activities upon the Cawston Conservation Area has been undertaken and submitted to the examination at</p>

Topic / Issue	Interested Party	Applicant's Response
		Deadline 8 (ExA; ISH6; 10.D8.3). The assessment concluded that whilst the scheme of mitigation represents a temporary change to the appearance of the Conservation Area any impacts upon the character of the Conservation Area will be minimised by adopting the principles of simple, unobtrusive and good quality (sympathetic) material during detailed design. Broadland District Council has confirmed that they are generally in agreement with the findings of the assessment.
Concerns regarding the suitability of mitigation with respect to safety audits and risk assessments	Cawston PC, Matthew Brockis	<p>Any works that would require a physical change to an existing highway, or a new connection to an existing highway for access, require a road safety audit to support the design before the local highways authority can approve the suitability of that proposal. This is typically conducted post consent as part of the final OTMP once refined construction traffic quantities and programme have been developed through detailed design and contractor engagement.</p> <p>The scheme of mitigation proposed through Cawston includes some temporary and some potentially permanent changes to the existing road geometry and traffic priorities. Acknowledging the constraints through Cawston, a road safety audit was undertaken of the proposed scheme of mitigation along the B1145 through Cawston by Orsted in March 2019. The audit identified a small number safety issues related to formalising proposed parking restrictions and footway widening for pedestrian safety. Norfolk County Council are satisfied that the scheme of mitigation addressing the potential traffic impacts and the identified safety issues can be resolved during detailed design.</p> <p>The Applicant will continue to engage with NCC and Hornsea Project Three post consent, with a view to agreeing the precise nature of the final package of mitigation which will be adopted by both projects.</p>
Abnormal loads associated with other local users unable to drive	Chris and Helen Monk	The Applicant acknowledges that the road geometry is challenging through

Topic / Issue	Interested Party	Applicant's Response
through Cawston without causing grid lock.		Cawston with occasional pinch points and on road parking. The Applicant is not intending to introduce any abnormal loads along this route and the proposed scheme of mitigation is designed to improve the flow of traffic through managed parking and priority signage.

## 2.5 Colin King

Written submission	Applicant's Response
<p>The visual mitigation of the substation still seems vague. Viewpoint 7. Ivy Todd Road East is Interesting. Looking at figure 29.29c. the converter halls of Vanguard and Boreas can be seen, and show their massive scale, considering they are 889m away from the viewpoint. Figure 29.29d. shows the same view with mitigation planting. This view has the converter halls completely concealed by trees, at exactly the right height. How was this achieved?</p> <p>The only methodology reference I have found, attempting this result is back in the consultation summary document autumn 2017, where on page 38 a map shows the proposed layout, including new tree planting. To the south of Vanguard substation they show planting close to the project, which is the mitigation for viewpoint 7. Using Google Earth Pro the area where the east converter hall is intended is at 70m above sea level, and the new tree planting, near Lodge Farm is at 66m, and yet these trees manage to conceal a 19m high construction. This seems unlikely in the extreme.</p> <p>The result in figure 29.29d. must be achieved by a totally revised method, which has not been disclosed. We all want the result shown, but realistically, this can only be achieved by planting the trees closer to the viewpoint, or planting them on a substantial earth bank, both of which would put new demands on the relevant land owners at this stage of the process.</p>	<p>At viewpoint 7, as shown in the data at the base of the visualisations of figure 29.19, the nearest substation is 0.69km away (this being Norfolk Boreas).</p> <p>Appropriate mitigation for this viewpoint through tree and hedgerow planting will be achieved through a combination of:</p> <ul style="list-style-type: none"> <li>- The distance between the viewpoint and the Norfolk Vanguard onshore project substation.</li> <li>- The distance of the proposed mitigation planting from the onshore project substation.</li> <li>- There is an area of higher land between the onshore project substation and Viewpoint 7. This land creates a small ridge which Norfolk Vanguard would sit behind, at a lower height, providing a natural mitigation by partially obscuring the onshore project substation from view, allowing mitigation planting to be even more effective.</li> </ul> <p>The converter hall referred to in the stakeholder submission would seem to be the Norfolk Boreas onshore project substation, which is not considered as part of this application. It has been shown in some photomontages for completeness (in this instance figures 29.19e and 29.19f), however this application focusses on Norfolk Vanguard only (figures 29.19c and 29.19d).</p>
<p>I also notice table 29.12. Potential Impacts During Operation of Onshore Project Substation and National Grid Extension, mentions Vale House access in the baseline description of the viewpoint, but in the sensitivity section Vale House is not included, only road-users. I think the residents would be unhappy to know, they were not worth mentioning as sensitive to the view, as it is totally visible</p>	<p>In the Guidelines for Landscape and Visual Impact Assessment Third Edition (GLVIA 3) viewpoints are described as those locations from which the proposal will actually be seen and include the following:</p> <ul style="list-style-type: none"> <li>• 'Public viewpoints, including areas of land and buildings providing public access – in</li> </ul>

Written submission	Applicant's Response
<p>from their property. Of course it blights our land, and views from Holme Hale.</p>	<p>England and Wales this includes different forms of open access land, and public footpaths and bridleways...</p> <ul style="list-style-type: none"> <li>• Transport routes where there may be views from private vehicles and from different forms of public transport;</li> <li>• Places where people work.'</li> </ul> <p>These Guidelines have been used to inform the Landscape and Visual Impact Assessment as presented in ES Chapter 29.</p> <p>The receptor referred to in this section of Table 29.12 is 'VP7 Ivy Todd Road East'. The sensitivity is that of the receptor, rather than of individual features of the receptor. As in this instance the receptor is a road, the determination of the sensitivity is partly based on receptor users (road users). Vale House is one of the properties on the road, and thus is encompassed by the assessment of that receptor. As the house is set back from the road, to the south, road users would be closer to the development so would be considered more sensitive receptors.</p>
<p>The same map diagram in the Consultation Summary Document shows the National Grid extension with no visual mitigation. How is the applicant going to mitigate the south and east of the N.G. extension?</p>	<p>The visualisations provided in figures 29.16, 29.17 and 29.18 of ES Chapter 29 show the National Grid substation extension both with and without mitigation planting. The location of the infrastructure is shown on the first page of each of these figures, with visualisations of both the onshore project substation and National Grid substation extension first without mitigation, followed by a visualisation with mitigation.</p> <p>The proposed mitigation measures, including the possibility of advance mitigation planting are detailed within the Outline Landscape and Ecological Management Strategy (document reference 8.7). This will be agreed with the relevant planning authority through the Landscape Management Scheme in accordance with Requirement 18 of the draft DCO</p>
<p>If the resultant visual mitigation does not resemble the photomontages, what recourse is possible?</p>	<p>Proposed mitigation measures are captured in the OLEMS (document reference 8.7). The final detailed landscaping scheme will be determined post consent and will be submitted to and approved by the relevant planning authority. This is secured within Requirement 18 of the dDCO, which requires that a Landscape Management Scheme for each stage of the works is produced (in accordance with the OLEMS) and approved in such a way.</p>



Written submission	Applicant's Response
<p>Viewpoint 2 Lodge Lane South scenario2. and viewpoint 3 Lodge Lane North scenario2 photomontages also concern me. Firstly they seem to be incorrectly titled Norfolk Boreas HVDC Substation, when they are I hope Norfolk Vanguard. Then comparing the views provided reveals an inconsistency that has a massive effect on the end result. Starting with the lowest viewpoint, 2 Lodge Lane South, at stream level, at the ford, both converter halls are clearly visible. Then move to viewpoint 3 Lodge Lane North, which is up a considerable gradient, and closer to the Halls, and the east hall is barely visible, hidden behind a virtual 3D mound. On the same page as the 3D image, the baseline photograph does not show this mound, but the land consistently falling away from the lane.</p> <p>The baseline photograph looks correct, and the 3D image looks faulty. If the 3D images only are compared, starting again with viewpoint 2, the lane and gradient which you travel along to view point 3 is clear, and it is clear that viewpoint 3 would be a better vantage point to see the halls more completely and in more detail, but when you arrive at 3D image viewpoint 3. the land behind Lodge Farm has dropped 10m, and a mound has formed to the left of the lane, both features make the view of the halls worse than viewpoint 2. and are nonexistent, and do not manifest as you travel up Lodge Lane. The subsequent mitigation montage looks based on the 3D image, which shows it seriously over effective, also taking into account the land rises 4-5m behind Lodge Farm, the 3D image looks, or is totally wrong, for whatever reason.</p>	<p>Figure 29.14a and 29.15a show both the Norfolk Vanguard and Norfolk Boreas onshore project substations and Necton National Grid substation extensions. Norfolk Boreas infrastructure is noted in the key as different colours to the Norfolk Vanguard infrastructure (red 'Onshore project substation' and orange 'National Grid substation extension', while Norfolk Boreas is shown as pale pink and dark pink, respectively). The photomontages which follow these diagrams also show both project infrastructure from each viewpoint.</p> <p>The 3D model is based on actual land height, and so has the same contours and land heights as the baseline photograph. However, photomontages were also created to show a more accurate representation of the visibility of the onshore infrastructure. This is shown in Figure 29.14c and 29.14d (for Viewpoint 2 with and without mitigation planting) and Figure 29.15c and 29.15d (for Viewpoint 3 with and without mitigation planting).</p> <p>A second suite of visualisations were produced at Deadline 3, at the request of the Examining Authority, to show a 19m Rochdale Envelope (shown as a dashed box) around the depiction of the substation, to indicate the height of the tallest building (document reference: ExA; ISH; 10.D3.1G).</p>
<p>I would like to mention that there has been no communication regarding the easements and rights of way over the substation and national grid extension land, apart from asking if we had any documents regarding the said easements.</p>	<p>The Applicant responded to Mr King in relation to his potential rights of access over the order Land at Deadline 6 (document reference ExA; Comments; 10.D6.14). The Applicant has been in contact with Mr King in relation to the rights which he believes his property enjoys over the land identified within the Order Limits. The Applicant is awaiting proof of these rights and has included Mr King within the Book of Reference as a precautionary measure. As the Applicant has previously confirmed, it is currently in discussions with the freehold owners of the land and wishes to make progress in this regard in the first instance before considering the further third party rights on the land. Further and as above, the Applicant is awaiting evidence that the legal rights exist and exactly what they include.</p>

## 2.6 Eastern Inshore Fisheries and Conservation Authority

Written submission	Applicant's Response
Action Point 22, arising from Issue Specific Hearing 6, 24th April 2019: To submit hard copies of documents from web-link provided at Deadline 6.	The Applicant reviewed the information submitted at Deadline 6, including the web-link, and provided a response in the Applicant's Comments on Deadline 6 Written Submissions (Document Reference ExA;Comments;10.D7.20), submitted at Deadline 7.
Additional document to support Eastern IFCA's Deadline 7 submission, as the proposed fisheries restrictions outlined for Deadline 7 have subsequently been formally approved by the Authority.	<p>The Applicant welcomes the additional information submitted (which was also provided directly to the Applicant). The Applicant's understanding is that, as the proposed byelaw areas have now been accepted by the Eastern IFCA, the next step will be for these be formally consulted upon (to last approximately 28 days). Following formal consultation, the byelaw(s) would be submitted to the MMO and DEFRA for scrutiny and ultimate sign-off (estimated 6-9 months).</p> <p>Section 5.2 of the Haisborough Hammond and Winterton Special Area of Conservation (SAC) Site Integrity Plan (document 8.20) discusses micro-siting in relation to reef, including the Areas to be Managed as Reef that underpin the Eastern IFCA proposed byelaw (Area 26). Diagram 5.1 of the Site Integrity Plan shows that a route must be agreed with the MMO in consultation with Natural England, otherwise construction cannot commence. The Site Integrity Plan provides a framework to ensure mitigation in relation to effects on the Haisborough Hammond and Winterton SAC, including the Areas to be Managed as Reef, is informed by the best available information prior to construction.</p>

## 2.7 Helen and Chris Monk

Written submission	Applicant's Response
Post Hearing Submission	
Helen & Chris Monk's joint submission following the OFH on 24 <sup>th</sup> April relates primarily to the issue of whether or not the Applicant's consultation has been adequate, and that politely referring all those who hold such a view to the Consultation Report was a disrespectful response Mr & Mrs Monk also suggest that understanding more detail about the project has caused them more concern than they originally attached to the project.	As described in the Consultation Report (document reference 5.01), the Applicant has carried out a comprehensive and robust consultation process with local communities and statutory and non-statutory consultees, in compliance with the NSIP process as set out by the Planning Act 2008. The effectiveness of the consultation process is demonstrated by the Applicant having made a number of significant changes to the project post-consultation (see Written

Written submission	Applicant's Response
	<p>Summary of the Applicant's oral case at the OFH3 (ExA; OFH; 10.D7.3).</p> <p>The Applicant understands that it is in relation to the potential impacts of construction traffic on their home and their community which is causing Mr &amp; Mrs Monk particular concern.</p> <p>The Applicant has written regularly to Cawston PC, on which Mr Monk sits, to keep the PC updated and to offer update presentations. Cawston PC responded positively to an offer of a meeting for the first time in October 2018, and the Applicant has been in relatively regular contact with representatives of Cawston PC since then.</p> <p>Mr Monk was not in attendance at the Applicant's first presentation to Cawston PC, and so perhaps was not aware of direct two-way conversations ongoing between the applicant and members of his community from this juncture.</p> <p>The Applicant is also conscious that matters relating to construction traffic of a project are only determined when certain fundamental aspects of the project are determined, and hence understand why Mr &amp; Mrs Monk may have become concerned only as this level of detail about the Project began to emerge. Furthermore, the matter of construction traffic is one that is affected by cumulative impacts arising from other major infrastructure projects that can have impacts on road use, and so, the type of detail that would influence traffic planning is not immediately available to all relevant stakeholders from the onset.</p> <p>Mr &amp; Mrs Monk express their concern that minutes of some meetings, relating in this instance to traffic management matters, may be available only on request. This is because those minutes may contain personal data, protected under GDPR, and therefore sensitive aspects of the data would need to be redacted in advance of the minutes being released. While any frustration resulting from delays caused by adherence to GDPR is regrettable, the protection of personal data is a legal requirement. The Applicant would advise the proper process for requesting</p>

Written submission	Applicant's Response
	pertinent information be followed, which is to make a request to the Planning Inspectorate.
Abnormal loads associated with other local users unable to drive through Cawston without causing grid lock.	A response to this submission is provided in Section 2.4

## 2.8 Highways Agency

Written submission	Applicant's Response
A47 Cable Crossing Access (North-West of Scarning) Technical Note (CCATN). Review completed. We intend to issue another Briefing Note (BN08) formally responding to the CCATN shortly after this Deadline 7.	The Applicant and Highways England held a meeting on 22 May 2019 to discuss any outstanding issues. The Applicant and Highways England are now in agreement on all issues. This is set out in the final Statement of Common Ground submitted to the examination at Deadline 8 (REP3-SOCG-7.1).
Substation Access Clarification Technical Note (SACTN)- dated 12 March 2019. In principle we are generally content with the access arrangements described within the SACTN. We issued Briefing Note (BN07) formally responding to the SACTN shortly after Deadline 6.	
A47 Substation Access A and D1. We issued BN07, the access issues are agreed in principle.	
Sensitive Junction/s (Jct): <ul style="list-style-type: none"> <li>Jct 1 – A47 Gapton Hall</li> <li>Jct 2 – A47 Vauxhall</li> <li>Jct 3 – A149/B1141</li> <li>Fullers Hill</li> <li>Jct 4 – A47 Acle</li> </ul> Highways England agrees in principle that impacts at these locations can be addressed through the detailed Traffic Management Plan.	
A47 Substation Access Briefing Note (SABN) dated 07 December 2018. We issued BN07, the access issues are agreed in principle.	
Substation Access Technical Note (SATN)- dated 23 March 2018. We issued BN04 & BN06.	

## 2.9 Jan Burley

Written submission	Applicant's Response
Concerns raised regarding HGV traffic through Happisburgh Common for the purposes of landfall construction with respect to pedestrian amenity, particularly associated with pedestrians accessing the school. Further concerns regarding conflict between construction traffic and coaches at East Ruston Vicarage Gardens.	The landfall HGV access route is illustrated in document ExA; ISH4;10.D6.2 and has been assessed as Link 71 within the Environmental Statement (ES). With reference to Appendix 24.2 of Chapter 24 Traffic and Transport of the ES, Link 71 is recognised as having high sensitivity on the basis that it is 'A local access road which passes through Happisburgh Common. Evidence of direct frontage development with sporadic footways and a number of bus stops'.

Written submission	Applicant's Response
	<p>Appendix 24.38 of Chapter 24 Traffic and Transport of the ES summarises the assessed impacts as a result of the additional HGV construction traffic associated with the landfall, illustrating a moderate adverse impact on pedestrian amenity, which is reduced to a minor adverse impact with mitigation measures applied.</p> <p>Section 1.9 of the Outline Traffic Management Plan (OTMP) (document 8.8) details the mitigation measures to be applied on Link 71 to manage the concerns raised, including conflict between construction traffic and tourism coaches and pedestrian amenity. This will include mobile traffic management, such as pilot vehicles, to allow safe HGV movements. This mitigation measure is secured within Requirement 21 of the DCO (document 3.1 (Version 5)).</p>

## 2.10 Jenny Smedley

Written submission	Applicant's Response
<p>Ms Smedley submitted copies of e-mail exchanges between herself and a member of staff of National Grid. The e-mail response from the correspondent, unintentionally included a chain of e-mails exchanged between the Applicant and NG on the matter of the selection of the existing 400 KV National Grid substation near Necton as the connection point to the National Grid.</p>	<p>The Applicant notes the materials submitted.</p> <p>It is always regrettable that emails intended for others are sent erroneously to the incorrect recipients.</p> <p>The Applicant does not consider the exchanges between themselves and NG on the matter of the selection of the most appropriate location for the onshore project substation, and how to describe the process to third parties, to be inappropriate. The process was undertaken by NG and the Applicant, and is described in a document submitted to the Examining Authority entitled "Strategic Approach to Selecting a Grid Connection Point" (document reference: Pre-ExA; OCP Report; 9.2).</p> <p>With respect to Ms Smedley having her e-mail address circulated to people to whom she was not writing, this was indeed a regrettable error. Ms Smedley received an apology from NG, accordingly, and as further assurance for Ms Smedley, no personal information was divulged to the Applicant as a result of the error, the Applicant notes that those to whom the e-mail from Ms Smedley</p>

Written submission	Applicant's Response
	was sent, were already in direct contact with Ms Smedley at that point.

## 2.11 Judy Holland

Written submission	Applicant's Response
<p>Ms Holland's submission covers three main points:</p> <p>Health concerns associated with living "close" to the proposed crossing point of the Project's buried onshore cables and those of the Orsted Hornsea Project three.</p> <p>The time associated with reinstatement of land and impacts on food production</p> <p>Preference for an Offshore Ring Main (ORM) which, if such an option were available, could potentially eliminate the need for underground buried cables along the route proposed by the Applicant.</p>	<p>In response to the Examining Authority's further written question 12.11 (document reference ExA; FurtherWQ; 10.D4.6), the Applicant sets out its response to concerns relating to electromagnetic frequency radiation resulting from Project onshore cables, and demonstrates full compliance with EMF public exposure guidelines in Appendix 2.1 (document reference ExA; FurtherWQApp02.1; 10.D4.6) of the response document.</p> <p>In conclusion, in relation to both the Project and potential cumulative effects associated with the crossing point, the potential effects are well within guideline levels to protect human health, at the crossing point, and at her home, effects will be at normal background levels.</p> <p>The depth at which ducting will be laid does not prohibit the cultivation of the land following reinstatement. The construction methodology proposed by the Applicant embeds mitigation within the proposals, ensuring that the trenching to lay ducts and reinstatement of land is conducted in short sections (of up to 150m per week) in order to minimise impacts on agricultural land. The ducting process and associated soil management methodology are described within the landowner Information Pack (Appendix 25.13 of the Consultation Report, document reference 5.1).</p> <p>In conclusion, while there will be a short-term impact on the productivity of the land through which onshore project cables will be laid, and this will vary along the cable corridor, for which landowners will be appropriately compensated based on particular circumstances, the impact of the project on UK food production overall is not significant.</p>

Written submission	Applicant's Response
	<p>Government and the offshore wind industry have acknowledged through the recent Offshore Wind Sector Deal that there is a case for co-ordinated offshore wind grid development as our sector continues to grow and mature in the UK.</p> <p>As the Applicant presented at Open Floor Hearing 3 and documented in the associated written summary (ExA; OFH; 10.D7.3), the Applicant is currently at an advanced stage in the consenting process for Norfolk Vanguard and must work within the constraints of the current regulatory framework in order to deliver the project. The same will apply to Norfolk Boreas, the sister project to Norfolk Vanguard.</p> <p>At present there is no appointed coordinator for offshore wind grid development nor any reference to coordinated offshore development in the National Policy Statement (EN-5) for Electricity Networks.</p> <p>That said, the Applicant considers that the Project, and the Norfolk Boreas project – including the associated transmission infrastructure – are an excellent example of ‘co-ordinated development’ which will minimise as far as possible the impacts on local residents.</p>

## 2.12 Julian Pearson

Written submission	Applicant's Response
<p>As opportunity was not permitted at that time, I would like to ask the Examining authority to cast their minds back to the site visits around Holme Hale and Necton about a month ago and recall that all too regularly, the Dudgeon substation was used as a point of reference towards the western end of the vista affected by the development of Vanguard and its related National Grid Infrastructure, for which the applicant is also responsible for representing in its request for consent to develop... I bring this up because it relates to our historic experience, which drives our concerns today.</p> <p>Despite being some distance away, those two buildings, which stand 10m high and both 22m wide and 11m wide respectively, (because of their different orientations) on their southern elevation contributes significantly to the visual impact that we, locally, are now left to endure. By my own calculations derived from images supplied by the</p>	<p>The maximum dimensions of the onshore project substation is provided in section 5.5.5 of Chapter 5 Project Description of the ES (document reference 6.1.5). This section details the key parameters and a list of infrastructure, accesses and equipment. The maximum height of the converter hall is 19m, with lightning conductors up to 25m high. The typical appearance of the onshore project substation, with and without mitigation planting, from various viewpoints is shown on Figures 29.13 to 29.24 of ES Chapter 29 Landscape and Visual Impact.</p>



Written submission	Applicant's Response
<p>applicant to Eastern Daily Press a couple of years ago, EACH of the Vanguard main buildings is almost twice the height and five times the width on their southern elevation, of the larger of the two dudgeon buildings.</p>	
<p>The Dudgeon development lack of adequate mitigation, stems from a mitigation plan that centred entirely around the planted landscape (which even now, 4 years on, is less than a metre high).. just as the applicant here only details the planted landscape mitigation plans it has.</p> <p>In addition, the approval decision by Breckland District Council, list of conditions, associated with the substation aspect.. specifically condition 9, also relies solely on the planted landscape, with one minor reference to also having a lighting plan.. though the latter seems to have made little difference to the late night illuminations the locals had to fight for many months to get switched off.</p> <p>I trust the examining authority will therefore understand the worries that we have, that this considerably larger development, with its similarity of narrow content written mitigation plans could exacerbate the visual scar left by Dudgeon, many times over.</p>	<p>Proposed landscape mitigation measures are captured in the OLEMS (document reference 8.7). The final detailed landscaping scheme will be determined post consent and will be submitted to and approved by the relevant planning authority. This is secured within Requirement 18 of the dDCO, which requires that a Landscape Management Scheme for each stage of the works is produced (in accordance with the OLEMS).</p> <p>As detailed in section 3.7 of the Outline Code of Construction Plan (OCOCP) (document reference 8.1), an Artificial Light Emissions Management Plan will be prepared. This is secured in Requirement 20 of the DCO. This plan will detail the mitigation measures to be taken to manage emissions from artificial light, such as the use of directional beams, non-reflective surfaces and barriers and screens, to avoid light nuisance whilst maintaining safety and security obligations. Lighting spillage will also avoid or minimise impacts on ecological resources, including nocturnal species.</p> <p>During construction, perimeter and site lighting would be required only during working hours and a lower level of lighting would remain overnight for security purposes.</p>
<p>I appreciate that the Examining Authority is required to consider two different policies when reviewing the landscape mitigation NPS EN-5 and NPS EN-1, where, within the latter, sections 5.9.5 thru 5.9.8 refer to the applicants responsibilities with regard to their assessments of the visual impact and the mitigation they intend to apply and 5.9.22 which makes suggestions relevant to the substation. I appreciate they take precedence over other documents, but actually they also compliment the various self-governed industry standards such as the Holford and Horlock rules, the latter of which I raised at a previous hearing on 10th December, in Norwich asking the applicant to detail how they had addressed Section 3, subsection 7, notes 1 through 9, (a more detailed guidance than 5.9.22 of EN-1) the applicants representative claimed in a subsequent hearing to have addressed "every one" of the Horlock rules, in their response to my request.</p> <p>I would draw the Examining authority's attention to document "Chapter 4" of the applicants submission documents which I believe is the response to which they</p>	<p>The Applicant has provided a detailed response to this topic in the Schedule of Responses to the Relevant Representations (document reference ExA; RR; 10.D1.1) submitted at Deadline 1, and as a response to REP 27 in section 2.3 of Applicant's Comments on Written Representations (document reference ExA; WRR; 10.D2.2), submitted at Deadline 2.</p> <p>The Applicant will work to ensure that mitigation proposed is proportional to the scale of the substation infrastructure, and that it mitigates the impact on the local area. The key mitigation in relation to landscape and visual impacts of the onshore project substation is its location; the proposed onshore project substation footprint makes effective use of topographic undulations and natural screening. Details of what this</p>



Written submission	Applicant's Response
<p>referred. They claim to address the Horlock rules in table 4.3 on pages 21 through 24 inclusive.. however they only address the heading guidelines in section 3. When it comes to the 9 short design notes attached to Section 3, subsection 7 which is the key relevant guidance on visual mitigation of substation design, because they address everything from buildings, materials, colours and site layout for example, using one part to help shield sight of another.... the applicants only response to it is.. and I quote "Landscape and visual impact will be minimised by avoiding the use of tall structures and buildings wherever possible. The onshore project substation will be subject to detailed design post consent."</p> <p>The term "wherever possible" must be code for "but we can't actually achieve this", given the two 19m tall buildings and the 25m lightning towers in their proposal.. but lets set that aside..</p> <p>I am sure that I am not the only person here tonight that find that "non committal, committal" both astonishing and more than slightly offensive in that the publics concerns regarding a matter of such significant importance, mentioned throughout all interactions with the public in the consultation and their subsequent considerations can be dismissed by such a deferral that smacks of an intent to do the absolute minimum that the consent conditions require.. repeating the shortcomings of the conditions attached to the consent given to the Dudgeon substation.</p>	<p>includes are given in the response to REP 27 as mentioned above.</p> <p>Furthermore, in the Applicant's Responses to the Examining Authority (ExA)'s First Written Questions (doc. Ref. ExA; WQ;10.D1.3), in response to Q14.1 the Applicant states that appropriate design is an ongoing process and a further level of design will be undertaken through preparation of the detailed plans for the construction of the project and implementation of associated landscape works. These will cover issues such as the colour selection for structural components and plant species and mixes for the structural landscaping. These decisions will be captured in a Landscaping Management Scheme secured through DCO Requirements 18 and 19.</p>
<p>The applicant has furnished thousands of pages of investigation into habitats, erosion rates, cable corridor design and indeed technical variations for the substation, yet, despite the National Grid company building connection infrastructure day in, day out and Vattenfall making a budget plan, in part to cover the cost of their DC conversion infrastructure for which significant design would need to be known, they have only deemed to present a "representation" of what will be the development. For a company wishing to satisfy the concerns of a worried public, it beggars belief that not even the principles of visual mitigation design, outside of the planted landscape, have been proposed, ... details are withheld, based on the final infrastructure not being known...</p> <p>HOWEVER, under the "CUSC" code which is the contractual framework for connection to, and use of, the National Electricity Transmission System (NETS), the component parts and layout would have been almost immediately known to them... as CUSC is prescriptive.. for both National Grid Company infrastructure and Vattenfall's two transmission options of DC and AC... based on the capacity they intend to put through the substation.. though admittedly there is some minor flexibility to do with space clearances between pre-existing infrastructure at the National Grid Company site.</p> <p>I am also advised that Mr. Kevin Wells of the National Grid Company Network Optimisation Dept. worked with the</p>	<p>The response to question 14.1 within Applicant Responses to the ExA's First Written Questions (document reference ExA; WQ; 10.D1.3) explains how the concept of good design (as set out in National Policy Statement (NPS) EN-1 has been taken into account. Additionally, the Applicant has responded to the Examining Authority's further written question 2.6, which asks "<i>Paragraph 4.5.3 of EN-1 seeks to ensure that energy infrastructure developments are sustainable and as attractive, durable and adaptable as they can be, taking into account both functionality (including fitness for purpose and sustainability) and aesthetics. Please explain, in relation to fitness for purpose, sustainability, durability and adaptability, how Norfolk Vanguard has demonstrated good design.</i>" The response to this is found within document ExA; FurtherWQ; 10.D4.6.</p> <p>In summary, good design is an ongoing process and a further level of design will be undertaken through preparation of the detailed plans for the construction of the</p>

Written submission	Applicant's Response
<p>applicant through part of 2017 and throughout 2018 on the designs</p> <p>I mention this, because formal requests for details about the development have been long standing.. more recently, requests were submitted by a member of the Little Dunham Parish Council (Mr Ian Harding) regarding the length and width of the proposed buildings, to be met with the all too common 'we do not know yet'.</p> <p>As a consequence, we find ourselves here today, debating the potential impact of a 'rough representation', not a factual design, to which end, any responses the applicant makes, are of equally limited value.. and zero commitment, with a "We didn't do it that way, so it's not relevant" type scenario, waiting in the wings.</p> <p>When I wanted to build a livestock barn, I was required to supply detailed drawings of all elevations and an accurate plan view of the same, showing precise location and orientation, and listing all the materials to be used, against which the powers that be, deliberated and decided.. yet here the examining authority is challenged with trying to consider the visual impact of a development based on plans which, quite frankly, are an approximation at best and at worst, could be distinctly different from the reality, even though the information would appear to be readily available to the applicant.</p> <p>The explicit deferral of their detailed mitigation plan (outside of the planted landscape element) until AFTER consent has been granted, does nothing to placate the local resident fears, that the only mitigation that they will be required to do, will be that defined by the conditions set within the consent... and though I have every respect for the knowledge and experience of the panel, and appreciate that it can, and should, ensure visual mitigation forms part of a legally enforceable condition, under the EN-1 and EN-5 policies, is it the role of the examining Authority to lay down the principles by which the applicants mitigation design should adhere?.. or is it, as I believe, to critique one commissioned and submitted by the applicant and seek amendments for the applicant to redesign and propose alternatives where the examining authority deems it an inadequate element of the submission?..</p> <p>Given the evidence of their own response, I put it to you Ma'am that, in my opinion, the aforementioned sections of EN-1 are yet to be satisfied.</p>	<p>project and implementation of associated landscape works.</p> <p>The final design of the onshore project substation and National Grid substation extension are subject to detailed design post-consent. In order to minimise visual impacts as far as possible, the appropriate building design and materials will be considered, including colour selection for structural components and plant species for the structural landscaping, to ensure blending with the local environment and minimisation of impacts as far as possible. The Design and Access Statement (document reference 8.03) includes a set of Design Principles for the onshore project substation and National Grid substation extension (Table 5.3) which will set out the process to develop the final design.</p> <p>Design measures relating to landscape and visual mitigation will be captured in a Landscaping Management Scheme secured through DCO Requirements 18 and 19.</p>
<p>The applicants response on the evening, was to direct the public to chapter 29 of their Environmental assessment.. however looking at that document, it still only refers to the planted landscape, and no other form of mitigation... which only goes to strengthen my point. The applicant is only proposing a single form of mitigation in their documentation and we, the local public, are being asked to trust them to develop a wider variety of mitigation, AFTER they have consent.. just as Dudgeon did.</p>	<p>Proposed mitigation measures are captured in the OLEMS (document reference 8.7). The final detailed landscaping scheme will be determined post consent, and will be submitted to and approved by the relevant planning authority. This is secured within Requirement 18 of the DCO, which requires that a Landscape Management Scheme for each stage of the works is produced (in</p>

Written submission	Applicant's Response
	<p>accordance with the OLEMS) and approved in such a way.</p> <p>As noted in a response above, and detailed in section 3.7 of the Outline Code of Construction Plan (OCoCP) (document reference 8.1), an Artificial Light Emissions Management Plan will be prepared. This is secured in Requirement 20 of the DCO. Additionally, a number of embedded mitigation measures have been implemented, as detailed in Chapter 29 of the ES and a number of DCO plans.</p>

## 2.13 Laura and Richard Philpott

Written submission	Applicant's Response
Concern regarding EMF's at the crossing point for Norfolk Vanguard and Hornsea Project Three.	<p>In reference to the Applicant's responses to the Examining Authority's further written questions Q12.10 (ExA; FurtherWQ; 10.D4.6), the Applicant has submitted (ExA; WQApp12.1; 10.D1.3) an independent report, authored by National Grid, and commissioned by the Applicant and Hornsea Project Three which evaluated the electromagnetic field (EMF) at the proposed point of their crossing under a number of conservative design scenarios.</p> <p>This report indicates a peak magnetic field of less than 1% of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) exposure guidelines for Norfolk Vanguard and Norfolk Boreas at the crossing point, and that under all scenarios (i.e. if Hornsea Project Three use HVAC or HVDC), the cumulative calculated EMFs are compliant with relevant UK policy which is set in the Written Ministerial Statement of 2009 and namely refers to compliance with the 1998 ICNIRP exposure guidelines.</p>
Concerns regarding the suitability of traffic management through Cawston and Reepham and associated vibration impacts.	<p>The Applicant does not propose any HGV construction traffic to pass through Reepham. The Applicant has assessed sections of the B1145 to the East and West of Reepham (namely Link 34 and Link 42 respectively) to access trenchless crossing sites (Link 42 and Link 34) and mobilisation area 6 (Link 34 only). A graphical depiction of the assessed links is presented in Figure 24.08 of Chapter 24 Traffic and Transport of the ES.</p> <p>A range of traffic measures are proposed to manage potential cumulative impacts with</p>

Written submission	Applicant's Response
	<p>Hornsea Project Three through Cawston, including enhanced pedestrian facilities, managed parking and road safety measures, avoiding term time school drop-off and pick-up times, as well as managing cumulative peak Heavy Goods Vehicle (HGV) flows. Norfolk County Council believes a suitable access strategy can be delivered that mitigates the traffic impacts through Cawston. The current proposal needs several amendments to address issues raised during the road safety audit, but these can be addressed post-consent. This is captured within the OTMP submitted at Deadline 8 (document 8.8).</p> <p>The Applicant is continuing to engage with Hornsea Project Three and Norfolk County Council with a view to agreeing the detailed design of the final package of mitigation which will be adopted by both projects.</p> <p>Vibration associated with cumulative traffic movements specifically within Cawston has been fully assessed within the cumulative impact assessment for traffic related noise and vibration (ExA; ISH1; 10.D5.3) which has concluded that no significant impacts are identified as a result of the traffic movements for both the Project alone and cumulatively with Hornsea Project Three and therefore no mitigation measures are deemed to be required. This conclusion is further supported following the vibration monitoring of four residences on Link 34 which recorded existing vibration levels lower than the proxy data used in the cumulative impact assessment. (ExA; ISH4; 10.D6.7).</p>

## 2.14 Lucy Sheringham

Written submission	Applicant's Response
<p><b>Accompanied Site Inspection Request</b></p> <p>I would like to invite you to view the site from the West of the A47 to gauge an understanding of how visible the existing site is and how far it can be seen from. The National Grid extensions would massively increase this site reducing the distance to its closest property (Redgates) to less than 200m. The extension would also make the site more visible from other properties to the west of the A47. I have attached a map with a few annotations highlighting the closest property to the NG substation extension along with other properties in close proximity, I have also</p>	<p>The proposed sites were visited during the accompanied site inspection with the Examining Authority panel members.</p>

Written submission	Applicant's Response
highlighted 2 new proposed viewpoints for your site inspection.	
<p><b>Post-Hearing Submission</b></p> <p>The main reason I wanted to speak this evening is to highlight the poor site selection at Necton for the two new substations and extensions to the existing site. I would like to highlight two major impacts to this proposal. Firstly, the extensive cabling needed across the county and secondly the visual pollution from the site itself.</p> <p>We experienced in 2016 along with 45 other farmers the impacts to this extensive cabling. Cables were laid across 6 of our fields, 3 years on and this land still has not been fully reinstated or anywhere near recovery. We witnessed first hand the damaging effects wind farms cause the countryside and its environment. Vast amounts of waste was created from such a long cable route with miles of newt fencing, cable boards, fence posts and numerous other items were wasted once construction had finished. The unnecessary loss of mature hedges and trees was devastating along the 47km, all these environmental issues are going to be repeated on a much larger scale therefore this proposed project is far from green.</p>	<p>Appendix 4.9 of the ES (document reference 6.2.4.9) sets out the step by step site selection process in relation to the onshore project substation and National grid substation extension.</p> <p>Additionally, section 2.28 of this document contains a detailed response to a submission regarding site selection. The Applicant's response summarises the process of site selection and why Necton was chosen as the grid connection point. The Applicant has also responded in detail on the topic of site selection in the response to question 2.1 of the Examining Authority's Written Questions. Please refer to document ExA; WQ; 10.D1.3, submitted at Deadline 1, for the full question and response. Embedded mitigation measures committed to by the Applicant include a reduced working width at hedgerows crossings (45m down to 20m). Trees have been avoided with the exception of trees in hedgerows. A micro-siting exercise at all hedgerow crossing will be undertaken to minimise tree losses. For comparison Dudgeon was a 47km long cable route with a 40m wide working width (reduced to 20m at "ecologically significant hedgerows). Norfolk Vanguard will be a 60km cable route, with a 45m working width, reduced to 20m at all hedgerows crossings.</p> <p>The OCoCP submitted at Deadline 7 (document 8.1) was updated to reflect further detail on the approach to reinstatement of affected land. Appendix A of the OCoCP sets out the information to be captured within the Soil Management Plan that will be produced in advance of construction. This sets out requirements for pre-construction soil surveys and reinstatement of land post-consent. The Project will appoint an Agricultural Liaison Officer, soil scientist and drainage consultant who will input to the preparation, construction and reinstatement of the working area.</p>
Secondly expanding upon an already large structure and building a further two substations both situated on high ground visually further pollutes the countryside for miles, affecting many locals and tourists on their way through the county.	As described above, detailed responses have previously been given regarding site selection, and the process is also described in Appendix 4.9 of the ES (document reference 6.2.4.9).

Written submission	Applicant's Response
	The reasoning behind the choice of Necton as the grid connection point is detailed in the document titled 'A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas' (Document reference: Pre-ExA; OCP Report; 9.2) shows the potential onshore Grid connection points. This is also summarised within this document, in section 2.28, in response to a submission at Deadline 7.
Lastly, these environmental impacts I've mentioned have not been considered in the site selection. One bad planning decision should not lead to two more.	As noted above, Appendix 4.9 of the ES (document reference 6.2.4.9) sets out the step by step site selection process in relation to the onshore project substation and National grid substation extension. Additionally, section 2.1 and section 2.28 of this document contains responses to submissions regarding site selection. The following environmental principles were adhered to during the site selection process and the identification of the location of the onshore Project Substation and onshore cable route: <ul style="list-style-type: none"> <li>• Avoiding sites designated for nature conservation;</li> <li>• Avoiding sites of significant landscape values (Areas of Outstanding Natural Beauty, etc.)</li> <li>• Avoiding proximity to residential dwellings;</li> <li>• Avoiding areas of important habitat, trees, ponds and agricultural ditches;</li> <li>• Minimising the number of hedgerow crossings;</li> </ul>

## 2.15 Marine Management Organisation

Written submission	Applicant's Response
<b>Summary of Oral Cases made during the Environmental Issues Specific Hearing (ISH) 6:</b>	
The MMO is content with the revised number of turbines in Norfolk Vanguard (NV) East and NV West to reduce offshore ornithology collision risk as long as this is clear in the DCO/DML.	The Applicant included a draft Requirement (Requirement 3, Part 3 of the DCO) and Condition (Condition 1(3) in Schedules 9 and 10 of the DCO) in the updated draft DCO submitted at Deadline 7. The Examining Authority (ExA) has provided revised wording in the ExA's draft DCO Schedule of Changes. The Applicant has adopted these revisions in the draft DCO submitted at Deadline 8.
The Haisborough, Hammond and Winterton (HHW) Special Area of Conservation (SAC) Site Integrity Plan (SIP).	The Applicant provided a response to the MMO's concerns regarding the need for a HHW SAC SIP and the content of the Outline

Written submission	Applicant's Response
	<p>SIP during ISH6 and in the Applicant's Written Summary of Oral Submissions (document reference ExA; ISH6; 10.D7.1) submitted at Deadline 7. The Applicant also provided Consideration of the Purpose of the HHW SAC SIP (document reference ExA; AS; 10.D7.19) at Deadline 7. In summary, the Applicant maintains that there is sufficient uncertainty associated with the HHW SAC that would be appropriate to address pre-construction with the best available information at that time. The Applicant submitted an Outline HHW SAC SIP at Deadline 7 which had been updated with the aim of addressing comments from the MMO received following an initial review of the draft Outline SIP prior to its submission to the Examination. Discussions with the MMO and Natural England regarding the SIP are ongoing.</p>
<p>HRA Habitats Regulations Assessment considerations, including any potential Adverse Effect on Integrity (AEOI) finding.</p>	<p>The wording of Condition 9(1)(m) of the Transmission DMLs (Schedule 9 and 10) allows a conclusion of no AEOI to be made at the consenting stage on the basis that construction cannot commence until the MMO is satisfied that there would be no AEOI. If agreement cannot be reached construction the Applicant must consider alternative solutions or seek a Marine Licence or DCO variation. The Applicant maintains that there is no requirement to consider imperative reasons of overriding public interest (IROPI) for Norfolk Vanguard.</p>
<p>The MMO advised that the DEFRA byelaw area would not likely be completed within the consenting process for Norfolk Vanguard.</p>	<p>Noted.</p>
<p>The MMO requested that the DML includes the maximum areas of scour footprint for the individual structures, so that it is clear to the applicant and any subsequent undertaker exactly what is permitted.</p>	<p>Condition 14(1)(e) of the Generation DMLs and Condition 9(1)(e) of the Transmission DMLs requires a "scour protection and cable protection plan (in accordance with the outline scour protection and cable protection plan) providing details of the need, type, sources, quantity, distribution and installation methods for scour protection" to be agreed with the MMO. It is therefore not possible for construction to commence until the MMO agrees with the scour protection and cable protection plan. The outline scour protection and cable protection plan (document 8.16), referred to in the Condition includes the scour footprint for the individual structures and therefore the Applicant</p>



Written submission	Applicant's Response
	maintains that this detail is not required in the DCO/DMLs. The Applicant notes that there are different values for 10MW and 20MW turbines which are explained in the outline scour protection and cable protection plan and which would complicate the DCO/DMLs. The ExA's draft DCO Schedule of Changes includes a description regarding the term 'distribution' which the Applicant agrees adds further clarity in respect of scour protection, and has been added to the dDCO submitted at Deadline 8 accordingly.
The MMO agreed with the Applicant that as soon as a site is classed as a potential site it is treated as designated in terms of Habitats Regulations Assessment and therefore the MMO do not see any possible changes to the assessment associated with the designation of the Southern North Sea SAC notwithstanding new conservation objectives.	<p>While there are minor changes to the wording of the JNCC and Natural England (2019) Harbour Porpoise SAC: Southern North Sea Conservation objectives and Advice compared with the former draft document, the overarching conservation objectives have not changed. The document also now includes the following thresholds which the Applicant has used in the Information to Support HRA report (document 5.3):</p> <p>"Noise disturbance within an SAC from a plan/project individually or in combination is significant if it excludes harbour porpoises from more than:</p> <ol style="list-style-type: none"> <li>1. 20% of the relevant area of the site in any given day, and</li> <li>2. an average of 10% of the relevant area of the site over a season"</li> </ol> <p>Therefore no changes are required to the Information to Support HRA as a result of the designation of the Southern North Sea SAC.</p>
The MMO advised that there was no further update to the deadline 6 response in relation to the Southern North Sea SAC underwater noise regulator group.	Noted.
Summary of Oral Cases made during the DCO/DML Issues Specific Hearing 7:  Arbitration	The Applicant notes the summary of oral submissions submitted by the MMO. It is hoped that a joint position statement will be agreed with the MMO in relation to arbitration and appeal mechanisms for Deadline 9. If it is not possible to agree a joint position statement, it is anticipated that each party would submit their own respective position statements at Deadline 9.
Proposed Condition 15 amendments and Timescales	The Applicant notes the summary of oral submissions submitted by the MMO. It is hoped that a joint position statement will be



Written submission	Applicant's Response
	<p>agreed with the MMO in relation to arbitration and appeal mechanisms for Deadline 9. If it is not possible to agree a joint position statement, it is anticipated that each party would submit their own respective position statements at Deadline 9.</p>
<p>Scour protection per individual structure</p>	<p>As discussed above, Condition 14(1)(e) of the Generation DMLs and Condition 9(1)(e) of the Transmission DMLs requires a "scour protection and cable protection plan (in accordance with the outline scour protection and cable protection plan) providing details of the need, type, sources, quantity, distribution and installation methods for scour protection" to be agreed with the MMO. It is therefore not possible for construction to commence until the MMO agrees with the scour protection and cable protection plan. The outline scour protection and cable protection plan (document 8.16), referred to in the condition includes the scour footprint for the individual structures and therefore the Applicant maintains that this detail is not required in the DCO/DMLs. The Applicant notes that there are different values for 10MW and 20MW turbines which are explained in the outline scour protection and cable protection plan and which would complicate the DCO/DMLs. The ExA's draft DCO Schedule of Changes includes a description regarding the term 'distribution' which the Applicant agrees adds further clarity.</p>
<p>Cable protection through the life time of the project</p>	<p>The Applicant has confirmed in the Outline HHW SAC SIP (document 8.20) and in the updated Outline Offshore Operation and Maintenance Plan (document 8.11), submitted at Deadline 7, that if new cable protection were to be required during maintenance, this would be subject to an additional Marine Licence. The MMO had stated to the Applicant previously, that the wording of the draft DCO did not allow for new cable protection to be installed during the operation and maintenance phase of the project, therefore no changes to the draft DCO are proposed as a result of the Applicant's revised position.</p>
<p>Cable protection volumes and areas within the Haisborough Hammond and Winterton SAC should be shown in the DCO</p>	<p>The Applicant has included cable protection volumes and areas in Condition 3(f) of the Transmission DMLs.</p>

Written submission	Applicant's Response
Cable Protection Reporting	The condition requested by the MMO has been added as Condition 22(1) of the Generation DMLs (schedule 9 and 10) Condition 17(1) of the Transmission DMLs (schedule 11 and 12) to the draft DCO submitted at Deadline 7.
<p>Action points from ISHs:</p> <ul style="list-style-type: none"> <li>• SOCG</li> <li>• Position statement in relation to timescales, deemed discharge and potential appeal process.</li> <li>• Requirement, in relation to the layout/configuration of turbines.</li> </ul>	<p>A final SOCG with the MMO (document reference Rep4-SOCG-11.1) has been submitted at Deadline 8.</p> <p>The points raised by the MMO in relation to the Action Point 7 from ISH7 are outlined in the responses above and have been subject to ongoing discussion.</p> <p>The Applicant included a draft Requirement (Requirement 3, Part 3 of the DCO) and Condition (Condition 1(3) in Schedules 9 and 10 of the DCO) in the updated draft DCO submitted at Deadline 7. The Examining Authority (ExA) has provided revised wording for the Requirement/Condition in the ExA's draft DCO Schedule of Changes. The Applicant has adopted these revisions in the draft DCO submitted at Deadline 8.</p>
<b>Summary of Clarifications on DCO/DML Issues as discussed at the Issues Specific Hearing 7 (ISH):</b>	
Joint wording from the MMO, Trinity House and the MCA provided	Proposed revisions to the DMLs have been accepted to the extent considered appropriate.
<b>DCO/DML comments not discussed at the ISH – scour protection</b>	
The applicant advised that the figures are within the Outline Scour Protection and Cable Protection plan and that it is not necessary for the figures to be within the text of the licence as this is a certified document and will be agreed by the SoS. The applicant has advised that the condition advises that the Final Scour Protection and Cable Protection Plan required for condition 14(1)(e) states that this will be 'in accordance with the outline scour protection and cable protection plan'. The MMO would highlight that the purpose of "certifying" a document is simply a tool of identification, it essentially marks out the document which was the correct version of the plan on which the licencing decision was made. 'Certification' serves only to establish that any plan before you is the exact version referred to in the DCO, the certification's purpose is to prevent misunderstandings, and to make enforcement easier years down the line, when you are trying to show something is outside of the plan as the document was at the time the DCO was granted. The MMO feel that this plan can still be amended.	As discussed above, Condition 14(1)(e) of the Generation DMLs and Condition 9(1)(e) of the Transmission DMLs requires a "scour protection and cable protection plan (in accordance with the outline scour protection and cable protection plan) providing details of the need, type, sources, quantity, distribution and installation methods for scour protection" to be agreed with the MMO. It is therefore not possible for construction to commence until the MMO agrees with the scour protection and cable protection plan. The Applicant maintains that this process allows the MMO to confirm whether the plan remains within the conclusions of the ES. If the plan does not remain within the conclusions of the ES, the Applicant would be required to consider alternatives, seek a Marine Licence, or request a DCO variation.

Written submission	Applicant's Response
The MMO would stress that if the applicant wanted to undertake an activity beyond what was considered in their Outline Scour Protection and Cable protection plan or Environmental statement then the process requires a variation to the 'regulatory decision' which triggers the MMO to reconsider whether the ES remains valid, and the variation must be considered and decided in light of the information in and the conclusions from the ES. If any amendments are requested that are out with the maximum parameters assessed, then these should correctly be requested through a variation to the DML. Through the DML variation process, the proposed amendment will be afforded the appropriate level of scrutiny and MMO has the opportunity to undertake further public or direct consultation as it deems appropriate.	The outline scour protection and cable protection plan (document 8.16), referred to in the Condition includes the scour footprint for the individual structures and therefore the Applicant maintains that this detail is not required in the DCO/DMLs. The Applicant notes that there are different values for 10MW and 20MW turbines which are explained in the outline scour protection and cable protection plan and which would complicate the DCO/DMLs. The ExA's draft DCO Schedule of Changes includes a description regarding the term 'distribution' which the Applicant agrees adds further clarity.
Appendix 1 the MMO's position statement in relation to timescales, deemed discharge and potential appeal process including suggested wording	The points raised by the MMO in Appendix 1 are outlined in the responses above and have been subject to ongoing discussion.

## 2.16 Maritime Coastguard Agency

Written submission	Applicant's Response
MCA Letter to the ExA 2 <sup>nd</sup> May	
<b>Arbitration:</b> The MCA suggests amendments to the Arbitration Article 38 to make clear that any matter delegated to or taken by the MMO is not subject to arbitration.	Article 38(2) currently reads as follows: <i>"(2) Any matter for which the consent or approval of the Secretary of State or the Marine Management Organisation is required under any provision of this Order must not be subject to arbitration."</i> The Applicant considers that it is clear that the MMO and, by implication, its advisors are not subject to arbitration. This Article reflects the suggestions put forward by the Examining Authority for the Hornsea Project Three dDCO. The Applicant does not therefore consider that Article 38 requires further amendment.
<b>Pre-construction plans and documentation – Article 15(5):</b> The MCA have concerns with deemed approval.	The Applicant understands that the reference to the dDCO in this instance is to Condition 15(5) of the Generation DMLs (Schedule 9-10). The Applicant notes the MCA's concerns. Since version 4 of the dDCO submitted on the 16 <sup>th</sup> April 2019, the Applicant has revised the drafting further to try to provide an appropriate and pragmatic solution which

Written submission	Applicant's Response
	<p>addresses the MMO's and the MCA's concerns. This initially included a deemed approval process, but was subsequently amended to include a bespoke appeal mechanism for non-determination or refusal of applications to discharge DML conditions (dDCO, version 5, document reference: 3.1 submitted at Deadline 7).</p> <p>Following discussions with the MMO, and the Schedule of Changes published by the ExA on 9 May 2019, the Applicant has revised the drafting further to include an appeal mechanism which modifies the appeal process in the 2011 Regulations (dDCO, version 6, document reference: 3.1 submitted at Deadline 8).</p> <p>The Applicant is in on-going discussions with the MMO and the Applicant proposes to submit a position statement with the MMO which sets out the Applicant's position in relation to arbitration/ appeal mechanisms at Deadline 9, as well as preferred drafting options for the dDCO. In summary, the Applicant recognises that the drafting proposed by the ExA would be consistent with the drafting proposed within the Hornsea Project Three dDCO (if the same approach is accepted by the Secretary of State) and that it would follow the existing appeal mechanism provided by the 2011 Regulations (with modified timeframes). In this respect, the Applicant welcomes the proposed modifications to the 2011 Regulations, which would ensure that, similar to the bespoke arrangements proposed by the Applicant, there is certainty as to timeframes for decision making.</p>
<p><b>Amendments to [Condition 16 of the Generation DMLs]:</b> Current wording to be replaced with:</p> <p><i>No part of the authorised project may commence until the MMO, in consultation with the MCA, has confirmed in writing that the undertaker has taken into account and, so far as is applicable to that stage of the project, adequately addressed all MCA recommendations as appropriate to the authorised project contained within MGN543 "Offshore Renewable Energy Installations (OREIs) – Guidance on UK</i></p>	<p>Whilst it is recognised that the Emergency Response Co-operation Plan (ERCoP) is a working document, and the Applicant therefore agrees that it is appropriate to amend the condition to ensure that the ERCoP can be updated throughout the lifetime of the Project, the Applicant does not consider that the MCA's suggested condition is an appropriate replacement.</p>

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<p><i>Navigational Practice, Safety and Emergency Response Issues" and its annexes.</i></p> <p>Although the ERCoP is an important document which MCA must approve, it is a working document throughout the lifetime of the development. The purpose of this revision is to ensure the applicant discusses the requirements of MGN 543, which includes a SAR checklist to demonstrate all aspects have been addressed including the ERCoP.</p>	<p>The MCA's amendments will require a Search and Rescue (SAR) checklist to be in place (in order to enable the MCA to confirm that appropriate recommendations have been met) in advance of commencement. However, the template for the required SAR checklist is currently a draft document created by the MCA which has yet to be agreed between the MCA, the MMO and Nautical Offshore Renewable Energy Liaison Committee (NOREL). It should also be noted that any amendment to this condition will mean that it is no longer consistent with the same condition in the draft DCO for Hornsea Project Three. Notwithstanding this, the Applicant has proposed the following amendments to this condition in the dDCO submitted at Deadline 8 in order to address the MCA's concerns:</p> <p><i>"No part of the authorised scheme may commence until the MMO, in consultation with the MCA, has given written approval of an Emergency Response Co-operation Plan (ERCoP) which includes full details of the plan for emergency, response and co-operation for the <del>construction, operation and decommissioning phases of that part of the</del> authorised scheme in accordance with the MCA recommendations contained within MGN543 "Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues" and has confirmed in writing that the undertaker has taken into account and, so far as is applicable, <del>to that part of the authorised scheme,</del> adequately addressed MCA recommendations contained within MGN543 "Offshore Renewable Energy Installations (OREIs) – Guidance on UK Navigational Practice, Safety and Emergency Response Issues" and its annexes. The ERCoP and associated guidance and requirements must be implemented as approved, unless otherwise agreed in writing by the MMO in consultation with the MCA. <del>The document</del></i></p>

Written submission	Applicant's Response
	<p><del>must be reviewed at least annually or whenever changes are identified, whichever is sooner, and any proposed changes must be submitted to the MMO in writing for approval, in consultation with MCA "</del></p> <p>The revised wording also keeps the condition in line with the principles (including use of an ERCoP) from previously as made Orders such as the East Anglia Three DCO.</p>
<p>The MCA would expect to see the following pre-construction plans submitted as part of the DML, which at present we believe are missing from the current draft:</p> <p>Lighting and Marking plan</p> <p>Operation and Maintenance Programme.</p>	<p>The Applicant does not consider that this suggested change is necessary.</p> <p>A lighting and marking plan is not considered necessary because there are adequate provisions included through Conditions 10 and 11 of the Generation DMLs (Schedule 9-10) and Condition 5 and 6 of the Transmission DMLs (Schedule 11-12) for the Applicant to agree lighting and marking arrangements with the MCA and Trinity House. The historic process for agreeing lighting and marking specifications for an offshore wind farm in English waters, including discharge of the Generation DML Conditions 10 and 11 and Transmission DML Conditions 5 and 6, includes the development of a lighting and marking plan. The Conditions themselves do not explicitly require a lighting and marking plan document to be produced, however this has historically been the route through which developers have discharged the associated Conditions. Given the number of stakeholders involved, and the guidance documents (including MGN 543 that the Applicant is already required to comply with) and requirements that exist for the development of lighting and marking for an offshore wind farm, it is the Applicant's position that the development of a lighting and marking plan should continue to be dealt with in the existing way. The lighting and marking plan required under Condition 10 and 11 of the Generation DML (and/or Condition 5 and 6 of the Transmission DML) will need to be maintained as a live</p>

Written submission	Applicant's Response
	<p>document which allows for consultation with a number of stakeholders. Formalising this process would limit the ability to respond to consultation in a fluid manner, which is necessary in order to effectively meet guidance requirements whilst balancing the concerns of various stakeholders.</p> <p>An operation and maintenance programme is already included and covered by Condition 9(1)(j) of the Generation DMLs and Condition 9(1)(j) of the Transmission DMLs which is to be in accordance with the outline offshore operations and maintenance plan (document reference: 8.11).</p> <p>These amendments are therefore not considered necessary. The Applicant has also discussed this matter with the MCA and the Applicant understands that, following consideration of the Applicant's position, the MCA are content with the current drafting on the basis that the required details are already secured in the DML conditions.</p>
<p><b>Notifications and inspections [Condition 9 (of the Generation DMLs (Schedule 9-10))]:</b></p> <p><i>([12]) In case of exposure of cables on or above the seabed, the undertaker must within five days following the receipt by the undertaker of the final survey report from the periodic burial survey, notify mariners by issuing a notice to mariners and by informing Kingfisher Information Service of the location and extent of exposure.</i></p> <p>The MCA would like to ensure that it receives notification of any cable exposure. In addition, the MCA would like to add that the undertaker must, within three days following identification of a cable exposure, notify mariners by issuing a notice to mariners and by informing Kingfisher Information Service of the location and extent of exposure.</p>	<p>The Applicant does not agree with the change to a three day timeframe. There is no precedent for this approach, nor any justification provided by the MCA or, indeed the MMO, as to why this period should be reduced from five days, which the Applicant already considers will be challenging to meet in view of the need to collate and review this data. The other equivalent timeframes in Condition 9 of the DMLs (i.e. Condition 9(6),(8), and (9)) include a five day period and so, in the interests of consistency and reasonableness, the Applicant does not agree with this change to the timeframes.</p> <p>However, the Applicant has no objection to sending copies of the notice to mariners to the MMO (and the MCA) and this Condition will be amended in the dDCO submitted at Deadline 8 to clarify that copies of all notices must be provided to the MMO and the MCA within five days.</p>



## 2.17 National Farmers Union (NFU) and Land Interest Group (LIG)

Written submission	Applicant's Response
Email correspondence between NFU and PINS regarding the Deadline 6 requested submission of interested parties who are members and represented by the NFU and LIG.	The Applicant notes the content and confidentiality of this submission.

## 2.18 Natural England

Written submission	Applicant's Response
<p><b>Comments on changes to draft DCO made at deadline 6.5</b></p> <p><i>The numbering below corresponds to the numbered sections within Natural England's response on the draft DCO.</i></p> <p>9. Revisions to cable protection figures to reflect commitment to remove the 9MW turbine option and reduction of cable protection in HHW SAC: Natural England welcomes the reduced volume and area figures for cable protection. However, Natural England still strongly advises against the use of cable protection within designated sites, regardless of the amount, as the addition of hard substrata is often incompatible with the conservation objectives for Annex I sandbanks and reef features.</p> <p>11. Update to the scour protection parameters following the removal of floating foundations and removal of 9MW turbine option: Natural England welcomes the reduction in total volume and area of scour protection. However, Natural England's position has not changed in this regard; the DCO and DML should further split maximum scour protection areas out for individual structures. A mass total is not appropriate to ensure scour protection is installed within the predicted maximums for each element of the project. This is also in agreement with the position laid out by MMO in their Deadline 6 response [REP6-030].</p> <p>16. Landfall Method Statement wording agreed with NNDC to secure ongoing monitoring of cables and ducts at landfall: Natural England welcomes the proposal by the Applicant to monitor the rate of coastal erosion at the landfall. We note the text proposed by NNDC to be added to Requirement 17 (landfall method statement) to cover a monitoring requirement. Due to the location of the landfall within the Greater Wash SPA and its proximity to Happisburgh cliffs SSSI Natural England would</p>	<p>The Applicant welcomes the areas of agreement signalled by the green rows within Natural England's Deadline 7 response. The Applicant notes that the points listed below are therefore in relation to any queries or comments that Natural England have made. The Applicant also notes that the comments made by Natural England relate to version 4 of the dDCO submitted on 16 April 2019. The Applicant therefore notes that some of the points raised may have moved on, as reflected in version 6 of the dDCO submitted at Deadline 8.</p> <p>9. Natural England's comments on the use of cable protection within the HHW SAC are noted. 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 (document 8.20) and the maximum area and volume of cable protection in the HHW SAC has been included in the draft DCO submitted at Deadline 8 (Schedules 11 and 12, Condition 3(f)). Section 5.5 of the Outline HHW SAC SIP (document 8.20) 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. As discussed in the response to Question 1.7 of the Request for Further Information (document reference ExA;Rule17;10.D8.16), the Applicant considers that the Outline HHW SAC SIP 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</p>



Written submission	Applicant's Response
<p>expect to see a commitment that 'the undertaker must, as soon as practicable, submit proposals in writing for remedial measures together with a timetable for their implementation, to SNCB including Natural England.</p> <p>18. Parameters updated to reflect removal of floating foundation and 9MW turbine, and also to capture the disposal site references: As stated previously in both our Deadline 3 [REP3-051] and Deadline 5 [REP5-017] responses Natural England advise that greater clarity is still required as to where this sediment is to be disposed of. This is particularly important when looking at locations within the boundary of the SAC. Natural England suggest that this detail could be provided in the SIP, however, are unable to comment on the suitability of this until it has been produced.</p> <p>32. Reasonable endeavours inserted into approval process as a result of oral submissions from the MMO who indicated a willingness to accept. The period for requesting further information has been extended to two months at the request of the MMO: Whilst Natural England welcomes the Applicant's attempt to address this concern, Natural England would advise that the additional wording does not provide enough clarity as this isn't enforceable as reasonable endeavours is not defined. Natural England would therefore recommend that the wording is amended, although would defer to MMO in this regard.</p> <p>41. Wording removed from Condition 9(1)(9)(ii) of Schedule 11 and 12 as this is now covered in the new SIP for the HHW SAC: Please see our Deadline 6 response for full comment in this regard [REP6-032].</p>	<p>protection provided at Deadline 4. This states:</p> <p><i>"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:</i></p> <p><i>1) That the loss is not on the priority habitat/feature/ sub feature/ supporting habitat and/or</i></p> <p><i>2) That the loss is temporarily and reversible (within guidelines above) and/or</i></p> <p><i>3) That the scale of loss is so small as to be de minimus alone and/or</i></p> <p><i>4) That the scale of loss is inconsequential including other impacts on the site/ feature/ sub feature"</i></p> <p>The Applicant is not able to commit to having no cable protection within the HHW SAC as there are operational cables and pipelines in the HHW SAC which would require cable protection at the locations where the Norfolk Vanguard cables cross these assets. In addition, 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.</p> <p>11. Table 1 of the Outline Scour Protection and Cable Protection Plan (document 8.16) includes the scour protection parameters for individual foundations. This is secured through Condition 14(1)(e) of Schedule 9-10 and Condition 9(1)(e) of Schedule 11-12 of the dDCO. The Applicant has also revised the dDCO further, submitted at Deadline 8, to include reference to "distribution" of scour protection and a definition of distribution (referring to scour quantities) in this context.</p> <p>16. Natural England's comments are noted and the dDCO has been updated at Deadline 8 to ensure that Natural England is consulted on the landfall method statement and any subsequent remedial measures in relation to</p>

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	<p>project infrastructure proposed to be implemented at the landfall.</p> <p>18. The location for sediment disposal will be determined post-consent through the HHW SAC SIP, in accordance with the Outline HHW SAC SIP (document 8.20) as required by Condition 9(1)(m) of the Transmission DMLs. Section 5.4 of the Outline HHW SAC SIP shows that the location(s) and methodology for disposal must be agreed with the MMO in consultation with Natural England before works can commence.</p> <p>In accordance with advice from Natural England a minimum buffer of 50m will be maintained between sediment disposal and <i>S. spinulosa</i> reef recorded during the pre-construction surveys. It is therefore necessary to determine the locations for sediment disposal post-consent, following the pre-construction surveys.</p> <p>Disposal in the SAC is included in the draft DCO under Part 3, 1(d)(iv) of the Transmission DMLs (Schedules 11 to 12).</p> <p>32. The Applicant notes Natural England's response and that Natural England defer to the MMO. This position has moved on following the ExA publishing their schedule of changes to the dDCO on 9 May 2019 and following discussions between the Applicant and the MMO. The Applicant has amended the drafting within the DCO, submitted at Deadline 8, accordingly. The Applicant also intends to produce a position statement which sets out the Applicant's position in more detail at Deadline 9.</p> <p>41. The Applicant responded to Deadline 6 submissions at Deadline 7 (document reference ExA; Comments; 10.D7.20) and submitted the HHW SAC SIP (Document 8.20) at Deadline 7 following updates in response to comments from Natural England and the MMO. In addition, the Applicant has held further productive discussions with Natural England and the Applicant will subsequently be submitting a revised draft SIP for the HHW SAC at Deadline 9.</p>
Natural England comments on Vanguard deterministic CRM Final	The Applicant welcomes the comments from Natural England on the updated collision modelling submitted at Deadline 6 (ExA; As;

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	<p>10.D6.15, which resulted from the removal of the smallest 9MW turbine from the project design envelope), and notes that Natural England is in agreement with the Applicant that collision risk from Norfolk Vanguard alone would have no significant impact at the EIA scale for all species (although Natural England note there is uncertainty in this conclusion for great black-backed gull when the upper 95% density estimate is used).</p> <p>The Applicant would also like to note that these collision predictions have been further reduced since the Deadline 6 submission. First, a revision to the turbine layout (ExA; AS; 10.D6.5.1) resulted in a reduction in average collisions (across species) of 34%. This was followed by an increase in draught height of 5m (from 22m to 27m), for which revised collision predictions were submitted following Deadline 7 (ExA; AS; 10.D7.5.2, late submission accepted at the discretion of the Examining Authority). The draught height revision further reduced the average collision risk by 41%. The combined average collision risk reduction for all these revisions is 65% compared with the original project design.</p>
<p>Natural England Interim Position Statement at Deadline 7 for Offshore Ornithology Final</p>	<p>The Applicant welcomes the response from Natural England and the acknowledgement that <i>"there has been considerable progress"</i> in the assessment, particularly with respect to methodological disagreements between the Applicant and Natural England.</p> <p>The Applicant notes that the overall conclusion of Natural England's interim position statement is that further collision reductions will be needed to reduce impacts to acceptable levels. This position from Natural England pre-dated the revised collision risk assessment submitted after Deadline 7 (ExA; AS; 10.D7.5.2, late submission accepted at the discretion of the Examining Authority) following a 5m increase in draught height. Therefore, the Applicant would like to note that this request from Natural England has now been adopted by the Applicant and that the project collision risks have been considerably reduced and are now on average 65% smaller from than those predicted for the original project design.</p> <p><u>EIA project alone</u></p> <p>The Applicant welcomes Natural England's agreement that there will be no significant impacts for any species from the project</p>

Written submission	Applicant's Response
	<p>alone at EIA level (except for a potential moderate significant effect of displacement on red-throated diver if Natural England's precautionary rates of displacement and mortality are used).</p> <p><u>EIA cumulative</u></p> <p>The Applicant welcomes Natural England's conclusion that there will not be a significant cumulative impact on herring gull. With respect to the cumulative impacts on other species due to collisions (gannet, kittiwake, lesser black-backed gull and great black-backed gull), these assessments have been updated following the advice received from Natural England at Deadline 7 (REP7-075) and to reflect the project revisions (i.e. 5m increase in draught height) and these were submitted after Deadline 7 (ExA; As; 10.D7.5.2, late submission accepted at the discretion of the Examining Authority).</p> <p>The revised assessment concludes no significant impacts for cumulative collisions and considers that these updates address the remaining concerns raised by Natural England.</p> <p>Updated auk cumulative displacement tables and in-combination assessment were submitted at Deadline 8 (ExA;AS;10.D8.10) which followed the advice provided by Natural England at Deadline 7 (REP7-075). The conclusions of the cumulative assessment submitted at Deadline 6 (ExA;AS;10.D6.17), of no significant cumulative impacts due to displacement, remain unchanged following this update.</p> <p><u>HRA Outer Thames Estuary SPA</u></p> <p>The Applicant and Natural England have reached agreement on measures to avoid an adverse effect on the integrity of this SPA from operations and maintenance vessels. The DCO (3.1 version 5) and Outline PEMP (8.14 version 2) submitted at Deadline 7 include the agreed mitigation measures.</p> <p><u>HRA – Greater Wash SPA</u></p> <p>The Applicant and Natural England have reached agreement on measures to avoid an adverse effect on the integrity of this SPA due to operations and maintenance vessels. The DCO (3.1 version 5) and Outline PEMP (8.14 version 2) submitted at Deadline 7 include the agreed mitigation measures.</p>

Written submission	Applicant's Response
	<p>The Applicant welcomes the conclusion from Natural England that there will not be an adverse effect on little gull from the project alone and notes that a revised in-combination assessment (which concludes no adverse effect) which was submitted after Deadline 7 (ExA; As; 10.D7.5.2, late submission accepted at the discretion of the Examining Authority).</p> <p>With respect to potential disturbance to red-throated diver due to installation of the export cable, 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. This commitment has been included in Condition 18, Part 4 of Schedules 11 and 12 (Transmission DMLs) of the updated dDCO submitted at Deadline 8.</p> <p><u>HRA - Alde-Ore Estuary SPA</u></p> <p>The Applicant notes Natural England's position with respect to the potential for adverse effects due to collision risk for lesser black-backed gull and the request for further assessment and mitigation. Both these requests have been addressed in the updated collision risk modelling submitted after Deadline 7 (ExA; As; 10.D7.5.2, late submission accepted at the discretion of the Examining Authority). This included method revisions requested by Natural England and reflected the project design update for the revised layout and the 5m increase in draught height. The assessment concludes that there would be no adverse effect on integrity of this SPA due to the project alone or in-combination with other plans and projects.</p> <p><u>HRA – Flamborough and Filey Coast SPA</u></p> <p>The Applicant welcomes Natural England's position that the in-combination gannet assessment now addresses their previous concerns. The additional requested updates to the assessment have been included in the update submitted after Deadline 7 (ExA; As; 10.D7.5.2, late submission accepted at the discretion of the Examining Authority). This reflected the project design update for the revised layout and the 5m increase in</p>

Written submission	Applicant's Response
	<p>draught height. The assessment concludes that there would be no adverse effect on integrity of this SPA due to the project alone or in-combination with other plans and projects.</p> <p>The Applicant welcomes Natural England's position that the project alone will not have an adverse effect on kittiwake and notes that this conclusion was reached prior to the additional reduction in collisions resulting from the 5m draught height increase. The Applicant also notes that Natural England's methodological concerns for the in-combination assessment have now been addressed. In view of Natural England's advice that they cannot rule out an in-combination effect on kittiwake and the request to further reduce the Project's contribution (made prior to the 5m draught height increase), the Applicant would like to draw attention to the fact that since Natural England reached this conclusion the Project collision risks for this species have been further reduced by 38%, as detailed in the update submitted after Deadline 7 (ExA; AS; 10.D7.5.2, late submission accepted at the discretion of the Examining Authority) with the consequence that the contribution from Norfolk Vanguard to the total is very small. The assessment concludes that there would be no adverse effect on the integrity of this SPA due to the project alone or in-combination with other plans and projects.</p> <p>The Applicant welcomes the comments from Natural England that there will not be any adverse effects on guillemot and puffin from this SPA due to displacement from the project alone (and following correction of minor errors identified by Natural England the Applicant is confident that the same conclusion will be agreed for razorbill; ExA; AS; 10.D8.10). The methodological concerns raised by Natural England with respect to the in-combination assessment have been addressed in a revised assessment submitted at Deadline 8 (ExA; AS; 10.D8.10). Following this update the Applicant has concluded there will be no adverse effect on the integrity of this SPA on these auk species due to the project in-combination with other plans and projects.</p>

Written submission	Applicant's Response
<p>Natural England's Comments by species on Vanguard Deadline 6 (REP6-021) and Deadline 6.5 (AS-043) information</p>	<p>The Applicant welcomes Natural England's detailed review and response on the updated assessments. The key points from this review were summarised in Natural England's Interim Position Statement and these have been considered and responded to by the Applicant above. The Applicant would also like to draw attention to the fact that since Natural England's review there have been updates to the project design (most notably the 5m increase in draught height; ExA;AS;10.D7.5.2) which have reduced predicted impacts (e.g. average collisions are 41% lower than those on which Natural England based their advice in this review). There has also been additional assessment of displacement impacts to address Natural England's concerns (ExA;AS;10.D8.10).</p> <p>The Applicant considers that these updates, many of which add extra layers of precaution at Natural England's request, have further demonstrated that the project will not have any significant impacts alone or cumulatively and will not cause any adverse effects on SPA integrity either alone or in-combination with other plans or projects.</p>
<p>Natural England's comments on LBBG Alde-Ore Final</p>	<p>Natural England kindly provided this note to the Applicant in advance of Deadline 7 and therefore it was possible for the Applicant to address the comments received and provide updates, and these were submitted at Deadline 7 (ExA; AS; 10.D7.21A).</p>
<p>Natural England's comments on migrant non-seabird CRM Final</p>	<p>The Applicant welcomes Natural England's comments on the revised migrant non-seabird collision risk assessment. Natural England and the Applicant are now in agreement that there will be no significant effects on migrant non-seabirds due to collisions at the project alone, cumulatively or in-combination with other wind farms.</p>
<p>Copy of Natural England's Discretionary Advice Service (DAS) Response Letter to the Applicant on Outstanding Issues Raised by Natural England Following 18 March DAS Responses Clarification Note provided by the Applicant to Natural England on 15 April 2019</p>	<p>A summary of the ongoing discussions between the Applicant and Natural England regarding Outstanding Issues raised by Natural England in relation to onshore ecology and ornithology is discussed in the Natural England position statement submitted at Deadline 8 (document reference ExA; AS; 10.D8.17).</p>



## 2.19 NATS Safeguarding

Written submission	Applicant's Response
<p>NATS anticipates an impact upon its infrastructure and on its operation due to the proposed development. As such it has objected to the development. NATS can confirm that it is investigating a technical mitigation for this site and that it is currently engaged with the applicant in respect of securing the necessary contractual agreement to ensure the implementation of this mitigation. The mitigation investigation requires further technical work and obtaining the approval of affected stakeholders. NATS hope to be in a position to confirm the mitigation by the end of May. However, NATS is positively engaged with the applicant and has no reason to believe that an agreement is not forthcoming. As soon as NATS have confirmed the mitigation, it will be in a position to make a formal offer to the applicant; as soon as the agreement is entered into by the applicant, NATS will be in a position to withdraw its objection, subject to the inclusion of the agreed planning conditions/requirements in any planning permission granted. In the meantime, however, NATS must maintain its objection.</p>	<p>As noted in the Applicant's cover letter at Deadline 7 and in relation to Action Point 26 from ISH7, the Applicant confirms that engagement is continuing with NATS in order to secure mitigation to avoid adverse effects on the Cromer Primary Surveillance Radar. The parties are working to achieve this as soon as possible and further details on this matter has been provided in an updated position statement submitted by the Applicant at Deadline 8 (document reference: ExA; AS; 10.D8.18).</p> <p>It should be noted that a new Requirement 34 has been included in the dDCO in this respect and this has now been agreed with NATS.</p>

## 2.20 Necton Parish Council

Written submission	Applicant's Response
<p>Below is a photograph of the existing Grid infrastructure at Dudgeon Sub-Station Necton viewed from the A47. As can be seen quite clearly in the sunshine, the majority of the metalwork is highly reflective and very obtrusive to the passing motorist and holidaymaker possibly blighting their opinion of Necton as a pretty rural location? It appears only the majority of the vertical elements of this equipment were considered obtrusive enough to be colour coated, however as you can see the horizontal elements reflect as much, or more of the available light. There appears to be no reason why these elements were left bare?</p> <p>The National Grid infrastructure has been almost ignored by Vattenfall submission so far but it's location and proposed greater extent, and being closer to the A47 and impossible to screen by planting under the powerlines makes it all the more crucial for it all to be substantially lowered and ALL the elements colour coated and shielded from the highway and more importantly from the village by a substantial bank surrounding the whole infrastructure with planting on sides &amp; top where possible.</p>	<p>As noted in section 2.1, a number of the baseline photographs for the Landscape and Visual Impact Assessment and associated visualisations were taken on sunny days, as can be seen in Figure 29.16, from Viewpoint 4 towards the Necton National Grid Substation (document reference 6.2.29). The extension to the existing National Grid substation has been considered throughout the EIA and decision making process, and has been included in all assessments of the onshore infrastructure. These are detailed in the onshore chapters of the ES (Chapters 19 to 31). It has also been considered in detail as part of the site selection process, within Chapter 4 Site Selection (document reference 6.1.4), and its associated appendices (in particular Appendix 4.8 and 4.9). As described in section 2.12, a further level of design will be undertaken through preparation of the detailed plans for the construction of the project and implementation of associated landscape</p>



Written submission	Applicant's Response
	works. These will cover issues such as the colour and material selection for structural components. Proposed landscape planting mitigation measures are detailed within the OLEMS (document reference 8.7).
<p>Vattenfall's submission so far discounted the idea that lowering the site and surrounding it with a substantial bank was possible, and at the aural hearing their representative said, as I recall "it would be too steep to be stable" despite her driving past many similar and steeper banks fully planted with substantial trees on the A47 Southern Bypass at Colney and Trowse.</p> <p>There can be no excuse other than cost why such measures as those outlined above can't be taken to mitigate the view of this potential industrial landscape?</p>	<p>As described in section 2.8 of Applicant's Comments on Deadline 6 Written Submissions (document reference ExA; Comments; 10.D7.20), earthworks to sink or bury infrastructure would require a much lengthier pre-construction and construction period. This would involve increased traffic movements to remove excavated materials, and transport additional construction materials, with greater associated impacts such as noise and air quality as well as creating a more notable impacts on landscape character and visual amenity due to additional earthworks.</p> <p>Regarding earth banks, this has been responded to on page 22 of Applicant's Comments on Deadline 6 Written Submissions (document reference ExA; Comments; 10.D7.20). In summary, the inclusion of bunds up to 2m high has been considered, however to introduce 10m high bunds would require significant additional land take and imported fill to create. Earth banks at the side of the road differ in that the land at the other side of these banks is either the same height as the top of the bank, or only slightly lower, with a large slope at one side only. To insure safe 1 in 3 slopes at the onshore project substation, a 250m long by 5m wide 10m high bund would require a 65 x 250m footprint. Any less than this would result in an unstable slope. The volume of imported material required to create this would result in an additional 54,000 HGV movements.</p>
<p>As Vattenfall &amp; Boreas have set their minds against other locations despite the Parish Council and Action Group offering alternatives and well thought out objections to the current location plus the horrible possibility that there may be other similar and perhaps larger projects planned without our knowledge, it is crucial to set a precedent for good practice in Necton.</p>	<p>Site selection is addressed in section 2.1 of this document and further in section 2.28. Detailed explanations of the site selection of the onshore project substation as well as a detailed explanation of the decision process regarding the onshore connection point have been given throughout the examination. These processes are also described in Appendix 4.9 (document reference 6.2.4.9) and 'A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas' (Document reference: Pre-ExA; OCP Report; 9.2) for the onshore project</p>

Written submission	Applicant's Response
	substation and grid connection point, respectively.

## 2.21 Necton Substation Action Group

Written submission	Applicant's Response
<p>Mr Houghton's tone and comments make us feel that he expects us to:</p> <p>a. Read and understand and digest all the copy that has been published by the developer on the PINS website. We would remind him that:</p> <p>We are all lay people with no legal or technical training. We do not have expensive advisers or assistants who are able to read and understand these documents in their entirety.</p> <p>We have no paid consultants who are able to write responses for us.</p> <p>Our lives do not allow time to read all the documents, let alone understand them, and unlike his good self, we are of course not paid to do so.</p> <p>b. Accept his word that the consultation carried out by the developer goes beyond legal requirements and basically stop repeatedly complaining.</p> <p>Our our answers would be that:</p> <p>The basic legal requirements must be sadly lacking if the results of the developer's 'extended' consultation are anything to go by.</p> <p>If they are so extensive then why did the consultation not cover the National Grid Extensions, which will over double the size of the existing NG substation together with the Dudgeon substation? It is Vattenfall's duty to consult on this.</p> <p>Why did the consultation not include consulting with Necton on the decision to adopt HVDC?</p> <p>How would anyone expect residents to just accept a blatant box-ticking exercise (which despite his protestations is confirmed to be so by over 20 PCs and residents from the entire length of the project. We can't all be wrong), when the sanctity of their homes and their rights to enjoy said are going to be so severely impinged upon. When their small businesses stand to be completely ruined with no compensation. When the very structure of their homes is at risk in some cases, such as in Cawston and Oulton and Happisburgh.</p> <p>c. Stop asking questions that he says have been adequately answered.</p> <p>Our answer is:</p> <p>Had our questions been adequately answered for OUR peace of mind, we would not have to keep asking them. Many questions asked by residents at deadline 6 were not touched upon.</p>	<p>a) The Applicant understands that there is a huge suite of documents relevant to the application. In order to signpost relevant information of specific interest to different stakeholders, consultation has taken place during the examination period, both through meetings and emails/phone calls with a number of stakeholders, including several parish councils. This enabled the Applicant and stakeholders to focus on particular areas of concern and go through the relevant documents in as much detail as necessary, to offer a better understanding of technical documents as well as pinpoint where information can be found. The Applicant has offered similar meetings with Necton Parish Council however these were declined and the Applicant has instead responded to every submission by stakeholders, signposting relevant documents and information in response to their queries and concerns. Throughout the examination, a number of notes have also been prepared by the Applicant to focus on certain areas of concern which have been picked up through stakeholder submissions, and representations during the hearings. These have aimed to simplify key technical documents in more layman terms, and reduce the amount of technical jargon used.</p> <p>b. The role of consultation in the EIA process covers is to provide opportunities for information and feedback to be gathered from all interested parties, including local authorities, members of the public, statutory and non-statutory agencies, experts and those with land interests. All parties are able to comment on adequacy of consultation, though the Local Planning Authorities (LPA) have a particular role in this regard. The Applicant consults with the LPA ahead of publishing its Statement of Community Consultation. The Applicant seeks feedback and the approval of the LPA on the matter of whether it is describing appropriately the matters about which it wishes to consult,</p>

Written submission	Applicant's Response
<p>Previously we have been told that at hearing we should not repeat what we have said in writing, so we did not repeat them at the OFH. So when will these questions be answered?</p> <p>The Planning Process seems sadly, to be fated to pit multi-million pound organisations with seemingly unlimited resources, time, finances, advice and assistance, against ordinary folk with no technical knowledge, who have jobs/lives/families/businesses and personal health issues to deal with, and no funds to pay for the advantages the developer's have. It is certainly not a level playing field. So, we are reliant on the Planning Inspectorate whom we thankfully note are extremely vigilant, but alongside the optimism this gives us, we cannot believe and trust Mr Houghton or the developers and we will and must continue to protect our own homes and lives as best we can. No-one one else would act any differently. For Mr Houghton to tell us that we should just accept the situation is extremely insulting. This is our very lives he is denigrating and belittling.</p> <p>We cannot give up because our lives and our families' lives depend on the outcome. Many residents are being asked to completely surrender and lose the way of life they have chosen with nothing given in exchange.</p> <p>We ask that the Planning Inspectorate put this project on hold. Allow time for government wheels (which turn frustratingly slowly) to instigate an Offshore Ring Main, paid for either by the government or the NG. (Whoever owns this could surely stand to make huge profits in the long term).</p> <p>The movement towards such is growing exponentially both in government circles and local authorities, but it needs to include both Orsted and Vattenfall's projects.</p> <p>Each developer could then pay the government or the NG a licence fee to connect, which would be paid for out of their savings from not cabling inshore.</p> <p>The timescale would barely change because once the development was picked up again, the time saving of not cabling ashore would mean that the development would still most likely be up and running before the projected 10 years of construction (from the projected start date of 2022/2023) are up.</p>	<p>with whom, and how it will consult, according to Section 47 of the Planning Act, 2008. Ahead of acceptance of a DCO application the Planning Inspectorate request the views of the LPAs as to whether the Applicant has been compliant, and has adequately consulted in the manner set out in the SoCC. In the case of the Norfolk Vanguard Project, all relevant LPA concluded that the Applicant had undertaken adequate consultation.</p> <p>The National Grid extensions were included in the PEIR (Preliminary Environmental Impact Report) which was provided for the section 42 consultation to which Necton Parish Council provided feedback.</p> <p>The decision to undertake the Project using an HVDC solution was made in February 2018, following Section 42 Consultation. This consultation involved Necton Parish Council among other Parish Councils and stakeholders, inviting all consultees to comment on the information provided. A record of responses from consultees at Section 42 consultation is provided in Appendix 22.1 of the Consultation Report (document reference 5.1). In particular regard to consultation with Necton Parish Council, page 294 contains a submission from the Parish Council regarding the inclusion of two electrical solutions. This also contains the Applicant's response, stating that the decision to deploy HVDC cable technology has been made in response to the Section 42 consultation feedback.</p> <p>c. As mentioned in the response to point a, above, the Applicant has been open and willing to engage with stakeholders to discuss concerns and signpost documents and information relevant to their queries and, if necessary, provide non-technical summary documents on different issues.</p> <p>Regarding an offshore ring main, as the Applicant presented at Open Floor Hearing 3 and documented in the associated written summary (ExA; OFH; 10.D7.3), the Applicant is currently at an advanced stage in the consenting process for Norfolk Vanguard and must work within the constraints of the current regulatory framework in order to deliver the project. The same will apply to Norfolk Boreas, the sister project to Norfolk Vanguard.</p>

Written submission	Applicant's Response
	At present there is no appointed coordinator for offshore wind grid development nor any reference to coordinated offshore development in the National Policy Statement (EN-5) for Electricity Networks. The Applicant considers that the Project, and the Norfolk Boreas project – including the associated transmission infrastructure – are an excellent example of ‘co-ordinated development’ which will minimise as far as possible the impacts on local residents.

## 2.22 Network Rail

Written submission	Applicant's Response
Deadline 7 Submission: Network Rail outlines its comments on the protective provisions.	<p>The Applicant welcomes Network Rail's submission. The Applicant can confirm that the protective provisions with Network Rail are now agreed and these are reflected in the dDCO submitted at Deadline 8.</p> <p>The Applicant and Network Rail are finalising the commercial arrangements, which the parties hope to be concluded by the end of Examination.</p> <p>The parties have prepared a joint position statement, submitted at Deadline 8 to explain this further (document reference: ExA; AS; 10.D8.13).</p>

## 2.23 Norfolk County Council

Written submission	Applicant's Response
Cable Crossing Access Technical Note:- Norfolk County Council (NCC) believe this relates to the trunk road network and accordingly the response must come from Highways England rather than NCC.	Highways England has responded directly to the Applicant on the suitability of the CCATN (Highway England Briefing Note 05) and agrees in principle to the approaches set out in the CCATN.
<p>Link 36 (Horsford)</p> <p>To prevent a severe impact, NCC requests the route be amended to avoid HGV traffic passing through Horsford village along the B1149. The B1149 contains several sensitive receptors including (but not limited to) Horsford infant school; a pre-school nursery; and comprises part of the walking route to Horsford Junior School.</p> <p>Two acceptable alternative routes have been identified and we consider our request to divert HGV traffic onto either of these routes to be reasonable.</p> <p>(i) C245 Shortthorn Road. Whilst there is some frontage development, nevertheless it is significantly less than experienced along the B1149 through the centre of</p>	Norfolk County Council has requested the use of an alternative route (Shortthorn Road) to avoid the village of Horsford along Link 36 (B1149). As this proposed diversion would take traffic off the B1149 and onto a lower classification road the Applicant had 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

Written submission	Applicant's Response
<p>Horsford village. Hornsea 3 would involve a similar volume of HGV construction traffic travelling along the B1149 through Horsford village and we have also asked Hornsea 3 to divert its HGV's onto the C245 Shortthorn Road which, in principle they have agreed to do.</p> <p>(ii) Norfolk Vanguard have suggested an alternative diversion involving travelling north along the A140 for some 3.5 miles past the C245 Shortthorn Road junction and then traveling west along the B1145 Aylsham Road (Norfolk Vanguard's link 37). The LHA have no objection to diverting HGV traffic away from the B1149 and onto the B1145 (link 37), and indeed we would see this as a more attractive proposition to the use of the C245 Shortthorn Road.</p> <p>Norfolk Vanguard have suggested that HGV traffic should still be allowed to pass through Horsford village along the B1149 with traffic cap imposed restricting the volume of HGV traffic allowed to use that route. The LHA is totally opposed to this approach. The B1149 is already carrying a significant load. It is our firm belief there are two alternative routes which would have a negligible impact and our request to divert onto either of those two routes is reasonable and it would not place Norfolk Vanguard at a position of disadvantage.</p> <p>In conclusion, all HGV traffic associated with Norfolk Vanguard needs to be diverted away from Horsford village.</p>	<p>road hierarchy, compared to the B1149. The increased traffic on Link 39 and 37 would represent an impact of minor adverse significance (Link 37 was previously reported with cumulative impacts of minor adverse significance within the cumulative impact assessment submitted at Deadline 5 (ExA;ISH1;10.5.3) prior to the diversion of cumulative traffic from Link 36).</p> <p>The Applicant remains of the opinion that Link 36 is suitable for the proposed Norfolk Vanguard daily peak HGV traffic, with the inclusion of a traffic cap (peak daily HGV movements no greater than 132) and enhanced mitigation, and represents the most efficient route for construction traffic, in comparison to the diversion along Shortthorn Road, which would be 2km longer and require traffic to divert onto a lower classification road. However, the Applicant recognises NCC's concerns and as there is a suitable alternative that ensures traffic remains on roads of similar or greater standard, in terms of the road hierarchy, which would not result in any impacts greater than those previously assessed, the Applicant will commit to avoiding the use of Link 36 for all HGV traffic (both for Norfolk Vanguard alone and cumulatively with Hornsea Project Three). HGV traffic will instead be diverted along Link 39 (A140) and Link 37 (B1145). This commitment will be captured in the OTMP submitted at Deadline 8.</p> <p>This is now an area of agreement between the Applicant and Norfolk County Council and is captured within a joint position statement submitted at Deadline 8 (ExA; ISH6; 10.D8.2).</p>
<p>Details of mitigation for link 41 – NCC are waiting to receive details from Norfolk Vanguard setting out their proposed mitigation measures. Until we receive this we are unable to comment upon acceptability. In the meantime our position remains as set out within our joint position statement at deadline 6 namely: - NCC is concerned the volume of cumulative traffic (487 daily HGV movements at peak) will have a severe impact on seasonal traffic. NCC wish to see a cap placed on daily HGV peak traffic flows during the</p>	<p>The Applicant committed to cap construction traffic to 128 daily HGV movements for Norfolk Vanguard alone during the six week school summer holiday period.</p> <p>This cap represents the typical average HGV demand and will be achieved by re-scheduling non-critical construction activities.</p>

Written submission	Applicant's Response
<p>holiday season (defined as the six-week school summer holidays). The nature of the cap is still under discussion.</p>	<p>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.</p> <p>This has subsequently been agreed with NCC and is reflected in the position statement submitted at Deadline 8 (ExA; ISH6; 10.D8.2).</p> <p>This commitment has been captured within the updated Outline Traffic Management Plan that was submitted to the examination at Deadline 7.</p>
<p>Trenchless crossings – NCC are waiting for additional details from Norfolk Vanguard. We will provide an updated position statement at deadline 8 as requested.</p>	<p>An investigation has been undertaken in response to the concerns raised by NCC on the potential impacts of open cut trenching across the A1067 and B1149 and was submitted to the examination at Deadline 7.5 (ExA;AS;10.D7.51). The findings are summarised below:</p> <ul style="list-style-type: none"> <li>• A1067 – Forecasted traffic flows have increased as a result of the operation of the Norwich Northern Distributor Road and would now exceed the total vehicles per hour level at which single lane traffic management may be undertaken without network disruption. It is therefore now recommended that a trenchless crossing is implemented to mitigate the potential road network disruption. This trenchless crossing will be captured an update to DCO Requirement 16 submitted at Deadline 8.</li> <li>• B1149 – Forecast cumulative traffic flows were examined and would fall well below the total vehicles per hour level at which single lane traffic management would lead to network disruption.</li> <li>• B1149 – Norfolk Partnership Laboratory (NPL), investigated ground conditions at the B1149 and ascertain if an appropriate road reinstatement specification (to address additional concerns raised by NCC) is feasible. The testing indicates that the road subsurface has good load bearing properties and a specification was identified for</li> </ul>



Written submission	Applicant's Response
	<p>the reinstatement that will minimise the potential for future maintenance liability.</p> <ul style="list-style-type: none"> <li>• B1149 – An open cut trench crossing is therefore still deemed appropriate as there is no evidence from the investigations to suggest that this form of open cut crossing and associated reinstatement will cause significant adverse impacts or present a maintenance liability for NCC.</li> </ul> <p>NCC has now reviewed the contents of this report and welcome the commitment to trenchless cross at the A1067 crossing. With regards to the B1149 NCC now request swept path analysis of the proposed traffic management and that there is sufficient space to deliver it. The Applicant will provide the requested swept path drawings to NCC for Deadline 9.</p> <p>This is reflected in the joint position statement submitted by the Applicant and NCC at Deadline 8 (ExA; ISH6; 10.D8.2).</p>
<p>The ExA asked if NCC could supply a copy of the Road Safety Audit (RSA) for the Hornsea 3 mitigation measures at Cawston. The RSA was not submitted into the Hornsea 3 hearing, however NCC does have a copy. I have spoken to Orstead who have no objection to my sending it to you for inclusion within the Vattenfall hearing.</p>	<p>The Applicant welcomes the submission of the RSA, the actions identified align with the information that NCC has previously provided to the Applicant verbally. NCC believes a suitable access strategy can be delivered that mitigates the traffic impacts through Cawston. The current proposal needs several amendments to address issues raised during the RSA, but that these can be addressed post-consent. A commitment to ensure the issues raised within the RSA are addressed post-consent is captured within the OTMP submitted at Deadline 8 (document 8.8).</p>
<p>Wording in requirement 22 in terms of removal of temporary accesses.</p> <p>It is our understanding that timescales for reinstatement were to be identified in the detailed CTMPs to be developed post-consent. However, given the ExA's concern, we recommend that either the Outline CTMP or requirement 22 be amended now by adding the following paragraphs: -</p> <p>"Within 28 days of a construction site access being no longer required for the purpose of Vattenfall construction, or written notice being served unto the Applicant by the LHA, the access will be removed, and the highway returned</p>	<p>The Applicant has updated the wording of Requirement 22 to reflect that details of reinstatement would be agreed the as part of the Access Management Plan to be produced post-consent. This would require approval from the relevant planning authority in consultation with the local highways authority. This change was reflected in the updated draft DCO submitted at Deadline 7.</p>

Written submission	Applicant's Response
to its original condition (including verges), unless otherwise agreed with the LHA. The details of and timescales for the reinstatement will also be agreed with the LHAs. It is anticipated that the LHA will inspect the reinstatement works to ensure that there meet appropriate standards.” “Any works within the highway will be reinstated to a standard commensurate to prior to the commencement of the works, unless otherwise agreed with the LHA. The details of and timescales for reinstatement will also be agreed with the LHA. It is anticipated that the LHAs will inspect the reinstatement works to ensure that they meet appropriate standards”	

## 2.24 North Norfolk District Council

Written submission	Applicant's Response
Tourism impacts and proposed new requirement. there remains a substantive disagreement between the parties – the Applicant disagrees that there will be significant local tourism impacts within NNDC's boundaries and emphasises that the construction time within the area will be short. What is missing in the Applicant's analysis is the perception impact for a scheme of this magnitude, which is different from the Applicant's fine and precise understanding of the construction process. Short-term impacts do not necessarily translate into short-term perception of tourists about where they will visit and stay. NNDC's view remains that the Applicant has, in the ES and its later analysis, underestimated the significance of the impact on tourism. Accordingly, in order to make the development acceptable in planning terms, a requirement mitigating tourism impact is necessary.	<p>The Applicant has responded in detail to this issue within a separate document submitted at Deadline 8. (document reference ExA; AS; 10.D8.12) and also in the Applicant's comments on the ExA's draft DCO schedule of changes submitted at Deadline 8 (ExA; SoC; 10.D8.6).</p> <p>In summary, there are examples of offshore wind farm projects of a similar scale in terms of landfall and onshore cable route that have been constructed within North Norfolk, e.g. Dudgeon Offshore Wind Farm. Furthermore, Norfolk Vanguard proposes more comprehensive measures to minimise potential impacts to tourism including a long horizontal directional drill at the landfall, no restrictions to access along the beach or along the coastal path, the avoidance of designated landscapes and sectionalised approach to the onshore works to minimise disturbance in any one area. There is no evidence that during the construction of Dudgeon or Sheringham Offshore Wind Farms that there was an impact on tourism in North Norfolk.</p> <p>Further to this, Hornsea Project Three also propose a project of a similar scale to Norfolk Vanguard. Hornsea Project Three will make landfall within the footprint of the Norfolk Coast Area of Outstanding Beauty, there is no commitment to a long HDD at the landfall, the works are not proposed to be undertaken in a sectionalised manner, and this project will potentially also include a significant above ground permanent structure in North Norfolk (HVAC booster</p>



Written submission	Applicant's Response
	<p>station). However, the Examining Authority found no reason to recommend such a Requirement in its schedule of changes to the draft DCO for Hornsea Project Three. . The Applicant is firmly of the view that it would be wholly unreasonable to require mitigation for perceived tourism impacts which have no evidence base, and by way of an unquantified financial payment with no agreed or adopted mechanism for its calculation post consent</p>
<p>The Applicant has identified key locations along the onshore cable corridor where a significant effect would occur in relation to loss of trees, referring to ES Chapter 29, Table 29.10 (APP-353). Within North Norfolk District, one of these key locations is alongside Colby Road, north of Banningham where roadside trees are identified as being most susceptible to the project.</p> <p>In this location the road is characterised by a row of trees of varying age along both sides of the road forming a continuous canopy (See photos at Appendix D). Loss of any trees here would have a significant effect, as agreed within the Applicant's LVIA and it is considered that there is little scope for replacement tree planting within the immediate vicinity.</p> <p>NNDC therefore conclude that, in this location, cabling should be installed via trenchless installation techniques so as to avoid the loss of the 3-4 trees identified. NNDC strongly recommend that this location, known as Colby Road (Church Road), north of Banningham should be added to the list of trenchless crossings set out within the draft DCO Requirement 16 (17).</p>	<p>Works either side of Colby Road can only be access directly off Colby Road. In order to take access an opening in the hedgerow either side of Colby Road will be required. Allowing for a bellmouth with adequate visibility for safe access and egress these openings will result in an approximately 12-15m gap in the hedgerows either side of Colby Road. As such, a trenchless crossing here would not remove the necessity to open a gap in the hedgerow to accommodate the construction works.</p> <p>It should also be noted that there are currently no temporary works areas in proximity to Colby Road. As such it would not be possible to undertake a trenchless crossing in this location without additional land outside of the current Order limits.</p> <p>The Applicant has committed to seeking to avoid mature trees during construction where possible through micro-siting the cable route in order to retain as many trees as possible. To assist with this the Applicant has committed to a reduced working width at hedgerows (reduced from 45m down to 20m). However, it is not possible to replace trees within this 20m gap as this would be above the operational cables.</p> <p>The Applicant has now committed to replacing any trees removed in North Norfolk as close as practicable to the location where they were removed, this will be outside of the permanent operational easement and subject to landowner agreements.</p> <p>This is a new commitment and will ensure no net loss of trees within North Norfolk. This has been captured within an update to the Outline Landscape and Ecological Management Strategy (OLEMS) (DCO document 8.7) and secured through Requirement 18. This is also reflected in the</p>

Written submission	Applicant's Response
	SOCG between the Applicant and North Norfolk District Council submitted at Deadline 8 (Rep3-SOCG-17.1).
NNDC are concerned about the lack of clarity within the Environmental Statement about the other 36 trees that the Applicant has indicated could be removed within North Norfolk. In its current drafting, DCO Requirement 18 does not make provision for the written landscape plans to include details of those trees to be removed. This information is important in order to be able to agree appropriate mitigation and to identify where it can be accommodated.	NNDC has included a suggested change to Requirement 18, which now requires the written landscape management scheme to include details of those trees to be removed. The Applicant has accepted this proposed change, which is reflected in the final DCO submitted at Deadline 8.
The DCO should not result in a net loss of trees within hedgerows which are an important landscape characteristic in this area. The concern about loss of trees in North Norfolk is not addressed by the Applicant securing no overall net loss of trees over the whole project, through tree planting in other areas, such as around the substation in Necton. While tree planting is of course welcome, and it is right to ensure no overall net tree loss over the whole project, the issue within the North Norfolk district is that trees within hedgerows are an important landscape characteristic. NNDC have discussed, and continue to seek to explore, with the Applicant whether replacement planting can be secured within 'temporary' rather than 'permanent' land take areas or with agreement of landowners outside of the DCO area (as has been secured within the Hornsea Project Three scheme).	The only trees affected are those within hedgerows that will be crossed during the cable duct installation works. It is not possible to replace trees above the operational cables, however, there are opportunities to replace trees in adjacent areas within the Order limits but outside of the permanent operational easement. The Applicant has now committed to replacing any trees removed in North Norfolk as close as practicable to the location where they were removed. This would be outside of the permanent operational easement and subject to landowner agreements. This is a new commitment and will ensure no net loss of trees within North Norfolk district. This has been captured within an update to the Outline Landscape and Ecological Management Strategy (OLEMS) (DCO document 8.7) and secured through Requirement 18.
NNDC continue to have significant concerns about night time working at the landfall. In particular, adverse impacts from night working at location: LFR2H mean that without agreed further mitigation there is the potential for sleep disturbance and adverse impacts on residents, businesses and tourism. The Applicant has highlighted three instances within the ES Appendix 25.2 - Construction Phase Assessment (APP-295) where an adverse impact will arise from night time working.  The Applicant has set out their perceived advantages for night working enabling shorter total construction duration in the area reducing this timeframe from 20 weeks down to 14 weeks and have suggested there are technical construction process advantages such as reduced risk of drill failure from continuous working. However, there are serious concerns regarding sleep disturbance and an adverse impact on local amenity from construction activities taking place 24 hours a day such that it is the opinion of NNDC that the 20-week construction period	Appendix 25.2 of ES Chapter 25 Noise and Vibration provides results for modelled construction noise levels at the nearest landfall receptors, in the absence of mitigation. The impact assessment itself is presented within ES Chapter 25 which goes on to discuss the approaches to mitigation. The assessment sets out that enhanced mitigation measures in the form of noise barriers would be required at receptor LFR2H to achieve an approximate noise reduction of 5.5dBA to bring noise levels down to not significant. A 5.5dBA reduction represents the worst case noise exceedance and would be readily achievable with standard noise absorption barriers. The exact specification of any noise barriers that may be required to mitigate significant residual construction noise will be determined during detailed design based on the confirmed list of plant

Written submission	Applicant's Response
<p>using standard construction working hours would be preferable from an amenity perspective.</p> <p>Should there be technical reasons for undertaking 24 hour working at landfall, NNDC would need to be satisfied that the Applicant has demonstrated effective enhanced mitigation to reduce noise to minimum levels. NNDC would welcome further discussions with the Applicant to ensure that landfall construction activities do not adversely impact on amenity</p>	<p>and equipment. Noise barriers will be introduced with the appropriate specification for the location and noise reduction required.</p> <p>A Construction Noise Management Plan (CNMP) will be included in the final CoCP, as required under Requirement 20 (2)(e) of the DCO. The Outline CoCP commits the Applicant to delivering a CNMP, which will apply throughout that stage of construction and will detail standard mitigation (best practical means) and where applicable, enhanced mitigation measures (noise barriers etc). The final CoCP (including the relevant CNMP) for works within North Norfolk would require approval by North Norfolk District Council.</p> <p>Any works proposed to be undertaken outside of the consented hours of work (07.00 to 19.00 Monday to Friday and 07.00 to 13.00 on Saturdays) would need to be agreed with the relevant planning authority in writing in advance and must be carried out within the agreed time – as set out in Requirement 26 of the DCO.</p>
<p>Note concerning noise mitigation from the fencing of compounds.</p> <p>The clarifications provided by the Applicant do not directly address the issue of site compound fencing in terms of what is required as boundary treatments to mitigate noise from site compounds in balance with what is acceptable in terms of visual amenity and landscape character.</p>	<p>Activities at mobilisation areas are included in the noise model and form part of the noise impact assessment presented in ES Chapter 25. Locations where the agreed noise thresholds are exceeded and enhanced mitigation in the form of noise absorption barriers would be required have been identified. Noise barriers were then incorporated into the noise model and residual impacts are shown to reduce to negligible. The note provided to NNDC explained that the exact specification of any noise barriers that may be required to mitigate significant construction noise will be determined during detailed design based on the confirmed list of plant and equipment. Noise barriers will be introduced with the appropriate specification for the location and noise reduction required.</p> <p>A Construction Noise Management Plan (CNMP) will be included in the final CoCP, as required under Requirement 20 (2)(e) of the DCO. The Outline CoCP commits the Applicant to delivering a CNMP, which will apply throughout that stage of construction and will detail standard</p>

Written submission	Applicant's Response
	mitigation (best practical means) and where applicable, enhanced mitigation measures (noise barriers etc). The final CoCP (including the relevant CNMP) for works within North Norfolk would require approval by North Norfolk District Council.
NNDC continues to await clarification from the Applicant in respect of proposed fencing to compounds at Happisburgh and MA8 near Holly Farm Barningham.	<p>The approach to fencing is set out in section 3.3 of the OCoCP (DCO document 8.1).</p> <p>The landfall temporary construction compound will be securely fenced and access from the local road network, suitable for haulage equipment, will be installed along the onshore cable route to the drilling site.</p> <p>During construction of the onshore cable route, fencing will be installed to demarcate the working area. Stock fencing will be used where necessary; post and wire or similar will be used otherwise.</p> <p>Site fencing requirements are controlled under Requirement 20 (2)(k) of the DCO, which requires details of permanent and temporary fencing, walls and other means of enclosure to be submitted to the relevant planning authority for approval before the relevant stage of connection works can commence. A Construction Fencing Plan will be included within the CoCP for that stage of the works.</p>
The Construction Noise Impact Assessment provided by the Applicant refers to 'avoiding reversing wherever possible'. In connection with this, NNDC would welcome further reassurances from the Applicant on the use of low noise reversing warnings.	The Applicant has updated the OCoCP submitted at Deadline 8 to include a preference for the use of "low noise reversing warnings" within the suite of best practical means identified for minimising noise impacts.
Details are also awaited from the Applicant in respect of Little London and daily HGV movements including providing more of a bespoke detail of additional standard and enhanced mitigation and best practical means in relation to works in this area. NNDC will respond further once this additional information is provided.	These details have been provided to NNDC and were submitted to the examination at Deadline 7 (ExA; ISH6; 10.D7.8).

## 2.25 Orsted Hornsea Project Three (UK)

Written submission	Applicant's Response
Orsted on behalf of Hornsea Project Three respond to comments by Natural England ("NE") at Issue Specific Hearing 4 (Environmental Matters) (ISH 4) as summarised in	The Applicant notes the Deadline 7 submission from Orsted on behalf of the Hornsea Project Three Offshore Wind Farm.

Written submission	Applicant's Response
NE's post-hearing written summary [REP6-032; NV Examination Library] which raise ornithological matters pertaining to Hornsea Project Three offshore wind farm ("Hornsea Three"). Specifically, the submission addresses comments made by NE under the topic heading "Cumulative and in-combination effects" in paragraphs 2.38 – 2.45 of the NE ISH4 submission.	The Applicant confirms that the figures used for wind farms and the approach to estimating cumulative impacts presented in the Norfolk Vanguard assessment submitted following Deadline 7 (ExA; AS; 10.D7.5.2) were those advised by Natural England. From the information presented by Natural England during the Norfolk Vanguard Examination, the Applicant understands that Natural England's advice was due to unresolved differences in relation to impact estimates for Hornsea Project Three.

## 2.26 Oulton Parish Council

Written submission	Applicant's Response
<b>Vattenfall Deadline 7 Submission</b>	
<p>The Oulton PC submission lists a numbers of questions on which it seeks clarification from the Applicant, these are listed below (paraphrased in some instances) under headings used in the submission:</p> <p>Cable logistics area</p> <ol style="list-style-type: none"> <li>1. Does Vattenfall anticipate <i>its</i> 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?</li> <li>2. Will the Cable Logistic Area remain in situ for 'Boreas', which we believe 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?</li> <li>3. 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?</li> </ol> <p>Consented hours</p> <ol style="list-style-type: none"> <li>4. OPC seeks clarification regarding Requirement 26, as to exactly what working hours will apply for MA7. We are surprised and alarmed to see "cable pulling" included in the list of activities requiring continuous working – we seek clarification therefore as to whether night-time (continuous) working is</li> </ol>	<p>Answers to queries are provided below:</p> <ol style="list-style-type: none"> <li>1. 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 area will act as a buffer with some cable drums delivered directly there. The intention is for the majority of cable drums to be delivered directly to the joint locations.</li> <li>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.</li> <li>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</li> </ol>

Written submission	Applicant's Response
<p>actually going to be a <b>major feature</b> of Vattenfall's construction methodology?</p> <p>5. NCC Highways is still strongly requesting trenchless crossing for the B1149: would this involve working outside of consented hours, and additional HGV traffic?</p> <p>Link 68 traffic assessment</p> <p>6. OPC have commented at previous deadlines on our objections to the inadequacies of these baseline traffic figures, and Vattenfall's dangerous reliance on already flawed data 'borrowed' from the Orsted project. Numbers of existing agricultural HGVs have been severely under-estimated by Orsted's ATC, and Vattenfall are compounding the felony by failing to carry out their own independent assessments of baseline traffic, and are instead basing their projections on Orsted's discredited data-set and their own <i>estimated</i> traffic data for Link 68.</p> <p>Trenchless crossing of B1149</p> <p>7. OPC express concern about the Applicant's proposal to widen the B1149, saying: this would seem to be counterproductive since to widen the road would require additional land and road closures during its construction. Concerns by NCC about the potential for the road surface to fail because of trenching would be aggravated by the road widening process. We understand from ISH 6 that NCC is still wishing to pursue trenchless crossing. The B1149 will be a main route <b>for both projects</b> and, with current proposals for some alternative routes to avoid Cawston and utilise Heydon Road, then the B1149 will need to be operational at all times.</p> <p>Link 75: Blickling Road</p> <p>8. OPC challenges the possibility of the applicant being able to implement any meaningful "localised carriage widening" on the scale needed to actually improve matters. The whole length of the road would be</p>	<p>as part of that application and mitigation secured within the Norfolk Boreas DCO application.</p> <p>4. MA7 is not required during the cable pulling phase of the works. The working hours for MA7 and the cable logistics area are limited to those outlined in Requirement 26(1) i.e. limited to 0700 to 1900 Monday to Friday and 0700 to 1300 hours on Saturdays and Requirement 26(3)(b), with some non-intrusive activities outside these hours for daily start up and shut down.</p> <p>5. Requirement 26(2)(a) allows for continuous periods of operation, such as concrete pouring, drilling, and pulling cables. Cable pulling activities at joint bays will be programmed to occur during the normal working hours outlined above. Requirement 26(2)(a) is an appreciation that once a cable pull through a duct has begun, it must be completed and cannot be abandoned mid pull. Therefore, although the cable pull will have been started and programmed to be completed within working hours, an unforeseen circumstance (such as pulling tensions exceeding acceptable limits) could result in this pull being delayed and work would continue until it could be completed. This would be a rare occurrence and it is not the Applicant's intention to conduct cable pulling outside of working hours outlined under Requirement 26(1). Any out of hours working must be agreed with the relevant planning authority in writing in advance, as secured under Requirement 26(4).</p> <p>6. The Applicant's assessment is based on estimated traffic numbers for Link 68 using actual traffic count data collected by the Applicant on links that connect to Link 68. Hornsea Project Three undertook their own traffic counts along Link 68; this data was reviewed by the Applicant to verify the estimated numbers previously used. The two sets of numbers did not differ significantly and the Applicant has continued to base assessments on the originally estimated dataset, i.e. the Applicant has not relied on data collected by Hornsea Project Three, but simply used this as a comparison.</p> <p>7. The Applicant has conducted additional investigations in response to the concerns raised by NCC on the potential impacts of open cut trenching of the B1149. These investigations and findings are presented in a Technical Note submitted to the examination on 14.05.2019 (ExA; AS; 10.D7.5.1). The Applicant concludes that there is no evidence from the investigations to suggest that open cut crossing and associated reinstatement will cause unacceptable traffic</p>



Written submission	Applicant's Response
<p>involved, which would be unrealistic. This sort of situation only serves to underline the point made by NCC Highways during ISH 6, namely that when traffic issues are left unresolved until after Examination or post-consent, then Highways are at a disadvantage in future negotiations with the developer. OPC therefore urges the ExA to resolve these traffic issues in as much detail as possible <i>within the DCO</i>.</p> <p>Noise &amp; Vibration &amp; Air Quality Assessments</p> <p>9. We query whether the baseline data are relevant to locations like The Railway Gatehouse. As an example, agriculture was responsible nationally for over 80% of ammonia emissions in 2017: has the applicant allowed for the existence <i>in the immediate vicinity of The Gatehouse</i> of a large intensive poultry farm and an outdoor and indoor pig rearing enterprise on the airfield?. Furthermore, <i>all</i> agricultural vehicles run on diesel, with its dangerous emissions of PM 2.5. Has that fact been taken into account in the baseline data and added, along with the projects' cumulative impact of HGVs, in terms of air quality emissions?.</p> <p>10. Professor Barnett has become increasingly concerned about the lack of appropriate consideration being given to the public health effects of both these projects.</p>	<p>delays or present a maintenance liability for NCC and as such it is proposed that the crossing of the B1149 remains as an open cut trenched method.</p> <p>8. Section 1.9 and Appendix 3 of the OTMP (document 8.8) outline the general principles of managing HGV deliveries, particularly pilot vehicle schemes. Temporary passing places are required at approximate 1 km intervals to limit driver delay. The location of these passing places will be determined during detailed design. Where occasional passing places are required these would be introduced without closing the road, by implementing single lane traffic management. A concept of single lane traffic management is presented in Appendix F of Technical Note ExA; AS; 10.D7.5.1 submitted on 14/05/2019.</p> <p>Table 1.7 of the OTMP (document 8.8) outlines further delivery management measures to manage traffic demand during major events, including special provisions for events relating to the Blickling Estate.</p> <p>9. Air quality assessments are desk-based as atmospheric dispersion modelling is used to predict pollutant concentrations from developments which are not yet operational. The air quality assessment undertaken for Norfolk Vanguard has made use of Defra mapped background pollutant concentrations, which is standard industry practice, is referenced in statutory technical guidance, is recommended by the relevant statutory bodies for use in such assessments and was the approach agreed for Norfolk Vanguard through the evidence plan process. The background maps include contributions of existing road, industry, commercial and domestic emission sources.</p> <p>The primary source of ammonia in the UK is agriculture and there is currently no UK air quality Objective. Whilst there is a contribution from diesel fuel, it is nominal in comparison to emissions of NO<sub>2</sub> and PM<sub>10</sub> from HGVs which do have health-based air quality Objectives, and which form the basis of the assessments submitted. Further details on the approach is provided in the assessment of air quality impacts at The Old Railway Gatehouse submitted at Deadline 7 (ExA;ISH6;10.D7.9). A response to the comments from Ref Prof Barnett are provided separately in this submission.</p> <p>10. A response to Professor Barnett's submission is provided in Section 2.30.</p>
<b>Post-Hearing Submission</b>	



Written submission	Applicant's Response
<p>In the post-hearing submission, Oulton Parish Council reiterated its support for the offshore wind farm but suggested that, in view of “the severe adverse impacts of the onshore cabling” a design alternative for that part of the project should be considered – that of connecting this and all other offshore wind farms to the national grid via an offshore ring main – an ORM.</p> <p>The representation asserts there is a “remarkable degree of support that this [ORM] design alternative has gathered over the past six months”, noting that a letter to MPs outlining the concept of an ORM, with a sketch map, not to scale and not showing any EIA constraints, attached, has been signed by 23 Parish Councils, and other individuals.</p>	<p>The Norfolk Vanguard ES does not conclude any “severe adverse impacts associated with onshore cabling” associated with the Project, and the Applicant refutes the assertion of Oulton PC in this respect.</p> <p>Government and the offshore wind industry have acknowledged through the recent Offshore Wind Sector Deal that there is a case for co-ordinated offshore wind grid development as this sector continues to grow and mature in the UK.</p> <p>As the Applicant presented at Open Floor Hearing 3 and documented in the associated written summary (ExA; OFH; 10.D7.3), the Applicant is currently at an advanced stage in the consenting process for Norfolk Vanguard and must work within the constraints of the current regulatory framework in order to deliver the project. The same will apply to Norfolk Boreas, the sister project to Norfolk Vanguard. At present there is no appointed coordinator for offshore wind grid development nor any reference to coordinated offshore development in the National Policy Statement (EN-5) for Electricity Networks. The Applicant considers that the Project, and the Norfolk Boreas project – including the associated transmission infrastructure – are an excellent example of ‘co-ordinated development’ which will minimise as far as possible the impacts on local residents.</p> <p>The Applicant notes that, while the sketch map provided as part of the Oulton PC submission illustrates a theoretical model, there is no regard to the deliverability nor consenting aspects of the proposed approach to ORM development. The degree of support elicited by this idea, cannot in anyway be compared with the robust EIA and associated consultation undertaken by the Applicant in relation to its proposals for the Project, since 2016.</p> <p>In 2012, National Grid coordinated a study to look at an Offshore Ring Main, and representatives from developers of the three largest offshore wind zones off the coast of England at the time – Forewind (Dogger Bank), Smart Wind / DONG Energy (now called Ørsted) (Hornsea) and Scottish Power Renewables / Vattenfall (East Anglia) took part in the study. The project was primarily concerned with examining if providing interconnections between the offshore wind farm development zones, predominantly using high-voltage direct current (HVDC) technology, could alleviate the need for reinforcements to the onshore system and deliver greater overall value for consumers. The report <u>is</u> provided in Appendix 1 (document reference ExA; Comments; 10.D8.4A).</p> <p>The study looked at several possible options in some detail.</p>

Written submission	Applicant's Response
	<p>The findings outlined a number of issues associated with an integrated design philosophy.</p> <p>Among the issues systemic solution(s) would need to consider, include</p> <ul style="list-style-type: none"> <li>• Regulatory framework</li> <li>• Technical and deliverability (financial) considerations</li> <li>• Consenting</li> </ul> <p><b>Onshore infrastructure</b> associated with reinforcement of the onshore distribution system in order to allow electricity from the coast to reach the end user.</p> <p><b>Offshore infrastructure</b>, which either anticipates future developments or sequential rounds of new consents and construction to build-up transmission capacity over time. Offshore infrastructure would need to include at least one connect into the ORM, from every windfarm. Currently available technical solutions, are offshore substation platforms. Such platforms would be relatively nearshore, and therefore potentially visible from large lengths of the Norfolk and Suffolk coast.</p> <p>In conclusion, a new approach to connecting offshore power generating projects to onshore end-users must be allowed time and resource, for a systemic UK solution to be achieved, involving all appropriate stakeholders.</p>

## 2.27 Patricia Lockwood

Written submission	Applicant's Response
<p>Ms Lockwood's submission describes her views on the relationship between mental wellbeing and the environment. Ms Lockwood describes "much stress effecting people's health in Necton, which has been directly caused by Vattenfall's proposal and consultations over the last two years". The submission makes reference to an individual's sense of "control" of a situation, as linked to their well-being.</p>	<p>The Applicant wishes to reiterate, as we have done previously through direct communication with Ms Lockwood, the empathy of the Project team.</p> <p>As the Applicant's own ethos is very much one of openness and inclusivity, the Applicant sincerely regrets that any individual's response to engaging with the Project should be expressed as frustration, or worse.</p> <p>The Applicant has summarised previously its response regarding mental health issues within Section 2.2 of Applicant's Comments on Deadline 6 Written Submissions (document reference ExA; Comments;10.D7.20).</p> <p>As described in the Consultation Report (document reference 5.01), the Applicant has</p>

Written submission	Applicant's Response
	<p>carried out a comprehensive and robust consultation process with local communities and statutory and non-statutory consultees, in compliance with the NSIP process as set out by the Planning Act 2008. The effectiveness of the consultation process is demonstrated by the Applicant having made a number of significant changes to the project post-consultation (see Written Summary of the Applicant's oral case at the OFH3 (ExA; OFH; 10.D7.3), including the decision to use HVDC, a number of changes to the onshore cable route, and the use of long HDD at landfall to avoid impacts at the beach.</p> <p>The Applicant has also consulted in person through meetings and calls with parish councils including Happisburgh, Oulton and Cawston to discuss both areas of concern as well as helping to process and understand documents. The meetings were especially useful in being able to focus on local concerns, and go through in more detail, the construction, impacts and other technical information specific to the area, to offer an all-round better understanding of technical descriptions and wording as we understand these are all detailed, technical documents. Throughout the examination, a number of notes have also been prepared by the applicant to focus on certain areas of concern which have been picked up through stakeholder submissions, and representations during the hearings. These have aimed to simplify key technical documents in more layman terms, and reduce the amount of technical jargon used. Engagement with stakeholders throughout has also allowed us to be able to identify documents of interest to stakeholders which are due to be sent into the examination, and we have been able to send these and discuss them alongside the examination. This includes the production of notes and appendices as part of statements of common ground again to focus on key issues with parties.</p>
	<p>The Applicant is not familiar with the models of "debate" referred to in Ms Lockwood's submission, though the Applicant is familiar with models of public engagement.</p> <p>Consultation is a process that is not designed to enable all individual participants to exert</p>

Written submission	Applicant's Response
	<p>absolute control over the process nor the outcome of the process, if they find themselves at odds with key factors determining how the engagement can influence decision-making – in this case the regulatory framework and national policy statements covering the Planning Act 2008 and Nationally Significant Infrastructure Project development and energy policy.</p> <p>Individuals participating in public engagement should not always expect to achieve the outcome they most favour, particularly if their views diverge from decisions based on evidence, reviewed and explored by participants (statutory and non-statutory consultees, expert topic groups, and environmental and technical specialists). Nor is the purpose of consultation to ensure everyone agrees with an outcome. Rather the purpose of consultation, is to ensure everyone who wishes to participate contributes to the “debate” and has their views heard and taken into account.</p> <p>Ms Lockwood has succeeded in putting her views across effectively such that they have been considered by the Project team, as the Applicant has shaped its proposals. In turn the Applicant has responded to the points raised, and explained how its proposals address Ms Lockwood’s concerns. In this sense Ms Lockwood has exerted “control” over the dialogue.</p> <p>The Applicant has always been careful to define the terms of the consultation being undertaken in relation to Project proposals, and be clear about what can be influenced, and what cannot be changed, including because the of the current regulatory framework and public policy within which the Project operates – part of the “context” determining the type and scope of engagement that can take place.</p> <p>The key factors in effective participatory working may be described as:</p> <p>Purpose + Context + Process = Outcome<sup>1</sup></p>

<sup>1</sup> “People & Participation – How to put citizens at the heart of decision-making” can be downloaded for free here: <https://www.involve.org.uk/sites/default/files/uploads/People-and-Participation.pdf>

Written submission	Applicant's Response
	<p><b>Purpose &amp; Context</b></p> <p>Consultation is a key and required element of the EIA process in relation to the development and consenting of Nationally Significant Infrastructure Projects. The Applicant has consistently expressed the purpose of consultation as helping to shape the proposals of the developer, enhancing the developer's local understanding, to ensure the best possible, locally sensitive proposals are developed and submitted for examination. The Applicant has taken care to encourage participation, as evidenced in the Consultation Report, document 5.1 and to explain the role of participation in shaping the Project. Importantly, the Applicant has also sought to be clear where there is no room for decisions to be changed in relation to the project proposals.</p> <p>An example of where strategic decisions are made, outside the scope of the NSIP process, has been, the identification of this (and any) power generating project's connection into the national grid, described in the Summary Consultation document, Appendix 20.9 of the Consultation Report). As a result of continuing interest and concern relating to this topic, the Applicant has sought to provide further clarification, to attempt to ensure local people understand the decision-making process. This has been done by the Applicant publishing the document 'A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas' (Document reference: Pre-ExA; OCP Report; 9.2). The Applicant hopes that where there may be a feeling of lack of control, an understanding of why certain decisions have been made, might help ease frustration.</p> <p>Similarly, while early consultation in relation to siting the onshore project substation did not lead to a definitive answer about a preferred location that would galvanise local approval, the Applicant took heed of local and stakeholder references to constraints and opportunities. When local suggestions for alternative sites were also brought forward, the Applicant provided explanations as to why these alternatives did not represent more appropriate siting options, than those identified by the EIA process.</p>

Written submission	Applicant's Response
	<p>Indeed, after every round of engagement, the Applicant has provided timely feedback, describing the range and scope of the feedback received and indicating how it has influenced decision-making in relation to the evolving project proposals. Where suggestions of consultees have not led to changes in Project design the Applicant has explained why this has been the case.</p> <p><b>Process</b></p> <p>The Applicant has also sought to improve and enhance the process of consultation too, offering different ways to engage with the topics people care about, via digital models, visual aids, workshops, personal communication, meetings with the Local Liaison Officer, and many other mechanisms. Options have sought to improve accessibility and to appeal to people of different temperament, interests and needs.</p> <p><b>Outcomes</b></p> <p>The Applicant can say with certainty that local and stakeholder engagement has improved the Project Proposals, and we have evidenced this in the Consultation Report (Document 5.1) – listing in the executive summary the many key project decisions that have been influenced as a result of participation.</p> <p>The Applicant would certainly refute that it has afforded any contributions by any participant in the consultation process less importance than any other person's.</p> <p>Again, the Applicant would thank those, including Ms Lockwood, who have dedicated time to understanding the Project proposals, as they have evolved, and feeding into decision-making process to shape Project proposals.</p>
<p>Also, who polices the Applicants integrity, checks their statistics and data as this is a one-sided contest? I realise PINS are impartial and can only conclude from the information presented. Being made powerless and ineffectual because we cannot affect the outcome is detrimental to our mental health, especially as waiting for an Offshore Ring main would seem justified.</p>	<p>Regarding an offshore ring main, as noted in sections 2.26 and 2.21 of this document, the Applicant is currently at an advanced stage in the consenting process for Norfolk Vanguard and must work within the constraints of the current regulatory framework in order to deliver the project. The same will apply to Norfolk Boreas, the sister project to Norfolk Vanguard.</p> <p>At present there is no appointed coordinator for offshore wind grid development nor any</p>

Written submission	Applicant's Response
	reference to coordinated offshore development in the National Policy Statement (EN-5) for Electricity Networks. The Applicant considers that the Project, and the Norfolk Boreas project – including the associated transmission infrastructure – are an excellent example of ‘co-ordinated development’ which will minimise as far as possible the impacts on local residents.
Could I please ask the applicant to let us know what mitigation procedure they will adopt to help residents cope with the ongoing stress they are causing individuals and the community of Necton?	At some point in their life, most people will experience stress although everyone has different stress triggers. How stressed an individual feels will differ based on personality and personal responses to situations, as well potentially as the behaviours of those around them. The Applicant empathises with those who find the prospect of local change daunting, and undertakes to remove, minimise and mitigate for environmental and perceptible changes. With regards perceived or psychological changes, the Applicant will always be clear, calm, respectful and honest in its dealings with people.

## 2.28 Paul Haddow

Written submission	Applicant's Response
Having looked at Vattenfall's document detailing the onshore site selection process (Reference: Pre-ExA; OCP Report; 9.2 dated October 18) I still have some open questions on the site that has been selected.	The questions are answered in the following rows.
There is no evidence of all the connection points provided by National Grid - can we please see a full list of connection options?	Figure 2 in the document titled ‘A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas’ (Document reference: Pre-ExA; OCP Report; 9.2) shows the potential onshore Grid connection points. These are further detailed in section 1.6 of the same document:  <i>“24. The long list of potential onshore connection points included inland connection points at Walpole, King's Lynn, Necton, Shipdham, Dereham, Brandon Parva, Norwich Main, Diss, Eye and Bramford where cables would be laid underground from a landfall to the inland substation. It also included coastal connection points at Bacton, Gorleston-on-Sea, Lowestoft and Sizewell, which would require National Grid to provide a connection from the landfall to the inland</i>



Written submission	Applicant's Response
	<p><i>grid network (most likely to be an overhead line).</i></p> <p><i>25. Connection points reviewed for the Projects included:</i></p> <ul style="list-style-type: none"> <li>• <i>Existing substations (Walpole, King's Lynn, Necton, Norwich Main, Bramford and Sizewell);</i></li> <li>• <i>Sites where National Grid was contracted to provide 400kV connections for future generation projects (Eye Airfield);</i></li> <li>• <i>Other sites close to the existing network that National Grid had previously identified and assessed as possible locations for 400kV substations (Shipdam, Dereha,, Brandon Parva and Diss); and</i></li> <li>• <i>Coastal locations (Bacton, Gorleston and Lowestoft)"</i></li> </ul>
<p>How did Vattenfall quantify environmental impacts and compare them with commercial impacts resulting from increased infrastructure?</p>	<p>The Grid connection location identification process is described in full within 'A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas' (Document reference: Pre-ExA; OCP Report; 9.2). This notes that the process looks at technical, commercial, regulatory, environmental, planning and deliverability aspects to identify the most preferred connection to the consumer. The Environmental Statement provides a full assessment of potential environmental impacts.</p>
<p>It could have been more environmentally friendly to create the substation infrastructure closer to the landfall and in a more appropriate site on low lying land away from populated areas. So from an environmental point of view, why were connection points disregarded if they didn't already have infrastructure in place?...Because it is cheaper to use the pre-existing substation but at the expense of the environment and local residents.</p>	<p>As noted above, the Grid connection location identification process is described in full within 'A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas' (Document reference: Pre-ExA; OCP Report; 9.2). Locations requiring longer transmission distances (and thus greater environmental impacts) were eliminated from the list. Inland locations which did not make use of existing (or proposed) 400kV substation infrastructure were also eliminated from the list. This is partly as there were options available which could make use of existing infrastructure and thus eliminate the need for a greater land take and potentially longer construction periods and thus longer lasting associated impacts.</p> <p>Building a new substation, away from an existing one would result in a larger overall footprint and more extensive construction works in order to connect this new</p>

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	<p>substation to the transmission network. In addition to this, there would be more substantive overhead line connection works needed as well as a direct connection to be maintained between the two substation sites in order to maintain the integrity of the transmission system.</p>
<p>The connection site selected in Necton already has a substation, how were the environmental impacts from the extension considered in the decision making process?</p>	<p>The extension to the existing National Grid substation has been considered throughout the EIA and decision making process, and has been included in all relevant assessments of the onshore infrastructure as detailed in the relevant onshore chapters of the ES (Chapters 19 to 31).</p>
<p>Why were different sites inside and outside their 3km radius not considered, why not choose a site in lower ground where there will be less visual pollution. Where is the evidence Vattenfall even looked?</p>	<p>The response below is summarised from the Applicant's Response to Question 2.1 of the Examining Authority's Written Questions. Please refer to document ExA; WQ; 10.D1.3, submitted at Deadline 1, for the full question and response.</p> <p>A 3km search area was identified in order to minimise the distance between the existing Necton National Grid substation and the onshore project substation. Distances beyond 3km from the onshore connection point (OCP) were considered unacceptable due to transmission losses. The Horlock Rules, which guide the site selection process for onshore substations, also prioritise the grouping of existing electrical infrastructure. This 3km study area was consulted on as part of the Scoping Report, through formal and informal community consultation, and during community drops in, meetings with landowners, stakeholders and regulators. The Applicant undertook extensive pre-application engagement over a 20-month period with stakeholders, communities and landowners to seek input for refining the project design. This is detailed in the Consultation Report (document 5.1). Areas taken forward for consideration within the 3km search area were those with an absence of Public Rights of Way and environmental designations, as well as those being sufficient distance from residential areas to minimise noise impacts. Additional benefits associated with those areas progressed included existing natural screening, aggregation of electrical infrastructure, and the most direct cable corridors (to reduce transmission losses). The preferred substation option offers:</p>

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	<ul style="list-style-type: none"> <li>• It provides a site within the original substation search area (in proximity to the Necton National Grid substation) and allows a comparatively simple alignment of cables coming from the onshore cable corridor, through the onshore project substation site and joining to existing infrastructure at the Necton National Grid substation;</li> <li>• The site has good ground conditions, with comparatively low risk from flooding;</li> <li>• The site is deemed to have comparatively less potential impact associated with known buried archaeology;</li> <li>• It poses the lowest potential noise impacts;</li> <li>• It has good potential for the development of screening planting and other mitigation measures that will be provided to help to mitigate the impacts of the development; and</li> <li>• Existing mature hedge lines will be retained and used as natural screening.</li> </ul>
<p>The document reads as though it was written after the decision had already been made, and one by one the different connection points were eliminated (mostly due to cost not environmental factors) to get to the connection point that they had already agreed upon with National Grid. This process was not carried out adequately and was a post decision tick box exercise.</p>	<p>The document referred to is 'A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas' (Document reference: Pre-ExA; OCP Report; 9.2). This document was written in order to provide a transparency on the process and a summary of the context and work carried out by National Grid and Norfolk Vanguard Limited to select an appropriate location to connect to the National Electricity Transmission System for both the Norfolk Vanguard Project and its sister project, Norfolk Boreas as a result of continuing interest and concern relating to this topic to attempt to ensure local people understand the decision-making process.</p>
<p>My wife and I attended many of the drop-in sessions at Necton Community Centre, and we were left extremely fearful of what the future might hold for the Norfolk countryside. The extensions and new substations would be very visible from our and many other's properties and it sickens me, and upsets me to think a monstrosity such as this may be allowed to be developed when more suitable options exist.</p>	<p>Chapter 29 Landscape and Visual Impact Assessment of the ES describes the assessment of the impacts with regard to visibility from certain sensitive viewpoints. As part of this, a suite of visualisations were produced which show photomontages of the visibility of the development from these sensitive viewpoints. These were then reproduced, at the request of the Examining Authority, to show a 19m 'box' around the depiction of the substation, to indicate the height of the tallest building. These 19m Onshore Converter Station Photomontages were submitted at Deadline 3 (document reference: ExA; ISH; 10.D3.1G).</p>

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Just because Vattenfall have evidenced a site selection process that they have followed, it does not mean it is acceptable or justifiable in anyway. They have taken the easy route in setting up shop where a substation already exists. Please do not let the terrible Dudgeon substation planning decision lead to two more terrible decisions.	The site selection process is detailed in 'A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas' (Document reference: Pre-ExA; OCP Report; 9.2) and ES Appendices 4.8 and 4.9 (document references 6.2.4.8 and 6.2.4.9 respectively).

## 2.29 Penelope Malby

Written submission	Applicant's Response
<ol style="list-style-type: none"> <li>Ms Malby's submission covers concerns relating to potential tourism impacts. A supporting point made in this regard relates to the purchase of consumables, such as jam and dog biscuits, furnishing the holiday lets under her management, which may reduce if tourism is impacted by the project, and the knock on effect of this aspect on other local business.</li> <li>Ms Malby raises concerns to potential effects of HGV passing the 200 year old cottage located immediately adjacent to Whimpwell Street.</li> <li>Ms Malby also raises concerns with respect to coastal erosion.</li> </ol>	<ol style="list-style-type: none"> <li>The Applicant would refer Ms Malby to ES Chapter 30 Tourism and Recreation, which assesses no significant effect on tourism deriving from the Project construction or operation. The Applicant would also refer Ms Malby to "Position Statement North Norfolk District Council Requested Requirement to Address Perceived Tourism Impacts." (document reference ExA; AS; 10.D8.12), submitted at Deadline 8.  The evidence presented in this document considers the effects on tourism resulting from perceptions of tourists, and whether they are actually deterred from holidaying where comparable construction activities pertaining to comparable projects are taking / have taken place at the same time.  All other matters being equal, with similar levels of occupancy in local holiday lets, the Applicant cannot foresee why there would be a knock-on effect on small businesses currently benefitting from the sale of consumables. Indeed during the periods when construction is underway, the Applicant would expect some businesses to experience enhanced sales levels, as workers involved in construction activities, might buy and consume some of the local products on offer.</li> <li>The landfall HGV access route is illustrated in document ExA; ISH4;10.D6.2 and has been assessed as Link 71 within Appendix 24.38 of ES Chapter 24 Traffic and Transport. The additional HGV construction traffic associated with the landfall, was assessed as a moderate adverse impact on pedestrian amenity (without mitigation), which is reduced to a minor adverse impact with mitigation measures applied.  Section 1.9 of the Outline Traffic Management Plan (OTMP) (document 8.8) details the mitigation measures to be applied on Link 71 to manage the impacts. This will include mobile traffic management, such as pilot vehicles, to allow safe HGV movements. This mitigation measure is secured</li> </ol>

Written submission	Applicant's Response
	<p>within Requirement 21 of the DCO (document 3.1 (Version 5)).</p> <p>3. Reference to the Applicant's response to written questions Q9.1, Q16.27 and Q16.28 (ExA; WQ; 10.D1.3) outlines how the landfall design mitigates impacts associated with coastal erosion. Furthermore, the Applicant has committed to ongoing inspection of the landfall during the operation of the authorised project. In the event that inspections indicate that the landfall could become exposed during the operation of the project, remedial measures will be identified and submitted for implementation to North Norfolk District Council for their approval. This is secured in Requirement 17 of the draft DCO.</p>

### 2.30 Prof Tony Barnett

Written submission	Applicant's Response
How far has costing of this National Infrastructure project taken account of direct and In-direct Health, Welfare and road safety costs to the local community over the medium and long term?	<p>An Environmental Impact Assessment has been undertaken to support the application for development consent. This includes assessment for health, noise, air quality, and road safety. Where impacts have been identified, appropriate mitigation has been proposed to reduce impacts down to non-significant and these are detailed in full within the relevant chapters of the ES. Construction traffic impacts are associated with the 12 month cable duct installation. Using Cawston as an example, the daily HGV movements associated with Norfolk Vanguard along the B1145 would be:</p> <ul style="list-style-type: none"> <li>• 112 daily HGV movements (1 week)</li> <li>• 95 daily HGV movements (22 weeks)</li> <li>• 44 daily HGV movements (13 weeks)</li> <li>• 8 daily HGV movement (23 weeks)</li> </ul> <p>Mitigation has been proposed to reduce impacts associated with pedestrian safety, pedestrian amenity and noise down to non-significant levels, including the introduction of a temporary speed restriction, localised sections of pavement widening and resurfacing of the road surface (these measures are set out in the OTMP submitted at Deadline 8 (document 8.8)). The 12 month cable duct installation programme would not be classified as a medium or long-term impact.</p>
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	The Norfolk Vanguard onshore construction will generate the majority of associated traffic during the 12 month cable duct

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<p>and B1145 during the project's life and over the following 30 years. Taking into account the susceptibility of the ageing population characteristics of the area the child population in the area.</p>	<p>installation works (2022/2023) and small volumes of traffic during the 12 month cable pull (2024/2025). 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.</p> <p>An assessment of air quality (PM<sub>10</sub> and PM<sub>2.5</sub>) 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 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 temporary increases in traffic for both the Project alone and cumulatively would be negligible.</p>
<p>Considering the Model outputs provided in the 2018 Ricardo Energy &amp; 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.</p>	<p>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 the 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</p>

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	driver delay impacts are anticipated for the emergency services.
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?	The traffic impact assessment takes account of potential traffic growth related to changes in housing and employment. All vehicle flows have been factored to the future year baseline traffic (2022) 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.
Will the examiners obtain and consider complete lists of all models used in planning this project, lists of all variables considered in these models, lists of all proxy indicators, and the detailed formulae deployed.	The methodology for each impact assessment is provided in detail within the relevant ES chapter. Each methodology was discussed and agreed with a relevant Expert Topic Group as part of the Evidence Plan Process. Where a model has been used this is stated within the agreed methodology.

### 2.31 Rosie Begg

Written submission	Applicant's Response
<p>Ms Begg expresses concerns over the time she expects environmental recovery to take, following construction of the onshore cable corridor. Ms Begg writes: "Along with others along the Norfolk Vanguard route, we grow permanent crops that are in the ground for 10+ years and we also have a SSSI wetland. We work hard to create habitats for our wildlife and destroying trees, hedges, margins and soil contradicts our goal to preserve the environment for future generations. These habitats are sensitive and complex."</p> <p>Ms Begg also states "we must look at alternatives to stop the cable (and future cables) coming through the Norfolk countryside, specifically considering the marine cable connection around the Coast into Walpole."</p>	<p>The Applicant would refer Ms Begg to ES Chapter 4 Site Selection, and also to a report submitted to the Planning Inspectorate, entitled "A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas". The latter summarises the context and work carried out by National Grid and Vattenfall Wind Power Ltd to select an appropriate location for the onshore connection point.</p> <p>From the outset the Applicant has set out how the Project aims to avoid environmental impacts, for example avoiding designated areas such as Sites of Special Scientific Interest (SSSI), and other habitats of particular ecological value such as wetlands. To this end, the Applicant has sought to locate the cable corridor through open farmland where possible, in order to minimise impacts on natural habitats and on communities.</p> <p>The construction methodology, as described in the Landowner Information Pack published by Vattenfall (Appendix 25.13 of the Consultation Report) encompasses effective embedded mitigation and enables the return to agricultural practices in the shortest possible timeframe. While there may be some loss of revenue for "permanent crops",</p>



Written submission	Applicant's Response
	<p>such individual conditions are dealt with through voluntary agreements being discussed directly with landowners and their agents, as well as through the Landowner groups, which have been set up to allow for transparency and fairness in the types of agreements reached with landowners.</p> <p>Ms Begg implies that she would find any cables running through the Norfolk countryside unacceptable. The alternative, whether from some form or strategic connection at the coast or individual projects' connection into the national distribution network would be circuits of overhead lines being built across Norfolk. While this may avoid temporary localised disruption to landowners, and communities, caused by burying cables, the legacy of overhead lines would be visual impacts lasting decades.</p> <p>As has been noted by the Applicant in consultation events, and in documents, such as the Summary Consultation Document for example (Appendix 20.9 of the Consultation Report), Walpole and the Wash presents an option that Statutory and non-statutory stakeholders, as well as the Applicant, would find unacceptable as an entry point for transmission cables. The Wash is a Ramsar site, a Special Protection Area, and a SSSI; furthermore it encompasses and borders a designated Area of Outstanding Natural Beauty.</p>

## 2.32 RSPB

Written submission	Applicant's Response
RSPB Response Submitted for Deadline 7: 2nd May 2019	The Applicant welcomes the comments provided by the RSPB. Detailed responses to key points are provided below.
Counterfactual of growth rate outputs	The RSPB considers that comparison of the counterfactual of population growth rate (CPGR) with the recent observed trends in the growth rate is inappropriate as the future growth trend is unknown. For these reasons the RSPB consider that the counterfactual of population size (CPS) is a more appropriate measure of impact.

Written submission	Applicant's Response
	<p>However, both counterfactual measures are based on an underlying assumption that current conditions will prevail for the duration of the simulated time span. Thus, comparison of predictions with the recent trends in population growth rate is appropriate, since these trends very likely correspond to the period over which the demographic data were collected.</p> <p>Furthermore, the RSPB's preferred metric, the CPS, when derived from their preferred density independent model generates highly precautionary results which can considerably over-estimate the magnitude of impacts. This is because the population size obtained from a density independent model is unlimited, and the baseline runs can achieve highly unrealistic total sizes. For example, the density independent kittiwake population simulation submitted for the Hornsea Project Three wind farm (EN0180080-001142-DI_HOW03_Appx9) to which reference has been made in the Norfolk Vanguard assessment predicts the baseline (unimpacted) kittiwake population will increase from the starting size of 44,520 pairs to over 150,000 pairs after 35 years while the maximum impact scenario (additional mortality of 1,600) predicts the increase will be to 83,000 pairs. Thus, while the CPS for this example is 0.54, this masks the fact that both outputs have grown considerably and that this level of growth is highly improbable (in terms of available space and resources). For these reasons the Applicant considers that comparisons of the CPGR with recent trends is more appropriate in conjunction with density independent simulations as it provides a much more realistic comparison.</p>
Consented capacity of wind farms	<p>The Applicant acknowledges the theoretical arguments for not considering impacts for built wind farms in place of their consented predictions but would counter that it is important to take note of this source of precaution as it can add a considerable margin to cumulative impacts that in reality will simply not occur.</p>
Precaution with the assessments	<p>The Applicant agrees with the RSPB that precaution in impact assessments is appropriate, however the Applicant does not agree with the magnitudes of precaution applied nor the combination of precautionary assumptions which are often</p>

Written submission	Applicant's Response
	<p>applied in offshore ornithology assessments. Further consideration of this topic is provided in ExA; AS; 10.D8.8A.</p>
<p>Gannet assessment</p>	<p><u>Avoidance rates</u></p> <p>It should be noted that the Applicant has not made use of the avoidance rate estimated in Bowgen and Cook (2018) in the assessment but simply made note of this work as it adds to the body of evidence regarding collision impact assessments. Furthermore, the RSPB consider that a lower avoidance rate is appropriate for gannet in the breeding season. Neither Natural England or the Applicant agrees with the RSPB on this matter, and furthermore even in relation to the full breeding season (seven months), only a quarter of annual collisions are predicted during this period, so this difference makes very little practical difference to the predicted impacts at Norfolk Vanguard.</p> <p><u>Nocturnal activity rates</u></p> <p>The RSPB states that the survey times 'likely miss peak foraging times' however no evidence has been presented by the RSPB to back up the claim that foraging does in fact peak at first and last light. Furthermore, the aim of the baseline surveys is to collect data which are representative of the entire spread of activity at a range of temporal scales from day to month to year. Thus, these should not be targeted at peak times of activity any more than lower periods of activity. The activity plots in Furness et al. (2018) for gannet in fact indicate that the survey timing achieved a good balance of activity levels and that the survey data are therefore robust for impact assessment purposes.</p> <p><u>Breeding season definitions</u></p> <p>Norfolk Vanguard is located towards the upper end of the gannet foraging range from Flamborough and Filey Coast SPA and is also on a migration route for gannets heading to and from breeding colonies located in the North Sea (of which there are many). For these reasons it is considered very likely that during the months which are classified as both breeding and migration (March and September) a large proportion of the birds recorded on Norfolk Vanguard will be birds not associated with the SPA and therefore use of the full breeding season is considered precautionary.</p>

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	<p><u>Inconsistency in reporting of annual mortality estimates</u></p> <p>The Applicant has been in contact with the RSPB via email in order to identify this inconsistency. Following this it has been established that the difference in the collision estimates noted by the RSPB was due to the wrong value being entered in Table 3 of ExA;AS 10.D.6.5.1. The value in question should have been a reproduction of the same number in Table 3 of ExA;As;10.D6.17. It is important to note that this number was not used for any assessment purposes (it was only included with the intention of simplifying comparisons with the previous estimates). Furthermore, these values have since been superseded by the collision estimates in ExA; AS;10.D.7.21.</p>
Kittiwake assessment	<p><u>Avoidance rates</u></p> <p>It should be noted that the Applicant has not made use of the avoidance rate estimated in Bowgen and Cook (2018) in the assessment but simply made note of this work as it adds to the body of evidence regarding collision impact assessments.</p> <p><u>Nocturnal activity rates</u></p> <p>The Applicant acknowledges that there are no peer reviewed studies for kittiwake nocturnal activity, however there is acknowledgement from Natural England that the figure of 50% applied in collision modelling to date is an over-estimate (hence requests to also include collision estimates calculated using a lower rate of 25%). Therefore, the Applicant considers there is a good deal of suitable data available with a wide spread of coverage.</p> <p>Furthermore, the Applicant is aware that the RSPB is involved in work to rectify this situation for kittiwake (analysis of tracking data with a view to publishing a study).</p> <p><u>Apportioning values for kittiwake</u></p> <p>The Applicant undertook a review of evidence in deriving the estimated breeding season apportioning rate (26.1%) used in the assessment. This included consideration of other datasets which clearly indicated that this is a precautionary value for Norfolk Vanguard and that much lower rates (e.g. 4.1%) could equally be obtained. While the RSPB disagrees with the figure of 26.1%, they provide no supporting evidence except that</p>

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	<p><i>'it is extremely likely that subsequent tracking will demonstrate an even greater usage of the development sites.'</i> The Applicant would counter that the converse is equally plausible.</p> <p>The RSPB proposes that the 26.1% figure should be doubled to address their concerns, no new evidence has been presented and the Applicant considers the current approach remains robust.</p> <p><u>Apparent error in calculation of apportioned values</u></p> <p>The apparent error reported by the RSPB appears to be a misunderstanding of how the apportioning has been calculated. To obtain the overall estimate of how collisions at Norfolk Vanguard should be apportioned to the SPA. During the breeding season the RSPB tracking data indicate connectivity with Norfolk Vanguard East is very unlikely. Therefore, the predicted estimates for just Norfolk Vanguard West alone have been used in the breeding season. These have been added to nonbreeding estimates calculated across both the East and West sites (for the combined worst case outputs with half the turbines in each site) in order to obtain the total annual estimate. This point was clarified directly to the RSPB via email and the RSPB responded to note they now understand how these figures were derived.</p> <p><u>Conservation status of kittiwake at Flamborough and Filey Coast SPA</u></p> <p>The Applicant acknowledges that updated conservation objectives have recently been published for this SPA. However, the basis for the target of increasing the population to 83,700 pairs is considered to be highly questionable. This reflects population counts made during the 1980s which have been the subject of considerable discussion during past wind farm examinations and scrutiny. These counts are also mentioned in the monograph for this species (The Kittiwake, Coulson 2011, Poyser) in which the author, arguably the leading authority on this species, considers the counts in question to refer to individuals but to have been recorded as pairs. Certainly, the fact that the population apparently doubled in size within the space of 10 years (to the higher estimate)</p>

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	<p>and then halved again 10 years later is a rather surprising observation.</p> <p><u>Kittiwake demographic rates</u></p> <p>The population model referred to by the Applicant in the kittiwake assessment was produced following Natural England advice, and this did not include updating demographic rates from the previous versions. Furthermore, one of the stated benefits of using the CPS and CPGR, for estimating impacts, is that these outputs are relatively insensitive to variations in parameters and therefore it is considered that the model outputs would be unlikely to be affected by this change.</p>
<p>Lesser black-backed gull assessment</p>	<p><u>Apportioning values for lesser black-backed gull</u></p> <p>The Applicant welcomes the RSPB's consideration of the evidence provided in deriving apportioning rates for lesser black-backed gulls to the Alde-Ore Estuary SPA. In arriving at an apportioning rate of 17%, the Applicant considered a wide range of uncertainties and considers that these are already reflected in the estimate. Therefore, the RSPB's request to simply double this figure represents another instance of precaution being added to the assessment, which the Applicant considers to be highly unnecessary and not supported by any evidence.</p> <p><u>Use of marine habitats by urban gull colonies</u></p> <p>The Applicant acknowledges that not all the data relied on in the assessment of urban gull populations and habitats is published and some has been provided as personal communications (pers. comms.) from expert ornithologists in the region. Following a request to the Applicant from the RSPB for further details on these communications an offer to share the sources of these data was provided to the RSPB (via email) but to the Applicant's knowledge this was not followed up by the RSPB.</p> <p><u>BTO tracking data</u></p> <p>The RSPB is correct to highlight that the tracking study referred to in the assessment covered a longer period than simply the breeding season, however this does not alter the conclusions of the assessment.</p> <p><u>Offsetting of impacts</u></p>

Written submission	Applicant's Response
	<p>The Applicant acknowledges that use of the word 'offset' should be avoided in the context of impact assessment. This has now been removed from the revised versions of this assessment (ExA; AS; 10.D7.21).</p>
<p>Conclusions on adverse effects on integrity</p>	<p>The RSPB has presented their version of the impact assessments for gannet and kittiwake from Flamborough and Filey Coast SPA and lesser black-backed gull from Alde-Ore Estuary SPA and concluded, on the results of CPS, that there will be adverse effects on the integrity of these SPAs as a result of their in-combination impact estimates. The RSPB goes on to state that the Secretary of State should only grant consent if, <i>inter alia</i>, due consideration has been given to the precautionary principle. The Applicant considers that the assessment as conducted by the RSPB gives undue consideration to over-precaution in reaching their conclusions. As noted in the above responses, precaution has been introduced to the assessment at many stages. While these individual precautions are, in most cases, appropriate to consider, adding these together results in a final assessment which is over-precautionary. The Applicant considers there is a pressing need for this practice to be reviewed and appropriate guidelines developed which balance precaution with reality. The sources of precaution in ornithology impact assessments for offshore wind farms are discussed in more detail in ExA; AS; 10.D8.8A (submitted at Deadline 8).</p>
<p>Requirement for mitigation</p>	<p>The RSPB has requested further mitigation be explored through an increase in draught height. The Applicant has provided this in the submission at Deadline 7 (ExA; AS; 10.D7.5.2, late submission accepted at the discretion of the Examining Authority) which provided updated collision estimates which included all the mitigations adopted by the Applicant: removal of the 9MW turbine, revised layout across the East and West sites and a 5m increase in draught height from 22m to 27m above Mean High Water Springs. Through these mitigations the Applicant has achieved a very substantial reduction in the average predicted collisions for seabirds of 65%.</p>



## 2.33 Simon Fowler

Written submission	Applicant's Response
<p>My name is Simon Fowler and I chair Little Dunham Parish Council. We have some experience of large infrastructure applications such as this, having opposed Warwick Energy for some two and a half years and through two planning appeals in connection with their original application to have the current substation located immediately adjacent to Little Dunham on some of the highest land in Norfolk. That application was eventually withdrawn. The reason I mention this is that the first appeal by Warwick Energy against the local planning authority's refusal failed on landscaping grounds. Warwick Energy were then allowed to alter their application so that the substation would be for alternating current only and this removed the requirement for the large converter buildings shown in this application. Madam, if you were to decide that no amount of landscape mitigation is going to be adequate then I would suggest that you could follow this example.</p>	<p>The Applicant notes Mr Fowler's experience in relation to development of the Dudgeon Wind Farm Project. However, the Applicant would respectfully suggest that comparing these two energy projects in terms of the technology and infrastructure [to be] deployed is appropriate only up to a point. Offshore wind is an industry developing and innovating at a very rapid pace, as evidenced by the growth trajectory of the industry and the size of the projects in development. The "Rochdale envelope" approach acknowledges and makes allowances within the planning system for this rapid maturation.</p> <p>The Applicant assessed both HVAC and HVDC export systems for the preliminary environmental information report. The results of the Applicant's own assessments, the evidence gathered during consultation, and the technical work and engagement with the supply chain enabled the Applicant to conclude that an HVDC transmission system represents, for the Project (and its sister project, Norfolk Boreas) a more environmentally sensitive, more efficient and deliverable solution. As a result, of this evidence-based determination, only the HVDC export infrastructure was assessed under the Environmental Statement. Accordingly, the project to be consented is for an HVDC export infrastructure system only and an HVAC export system could not be constructed under the terms of the draft DCO.</p> <p>HVDC is a suitable, and in many cases a more beneficial, connection technology for long distances and offshore connections such as wind farms.</p> <p>Benefits to be realised through Norfolk Vanguard's commitment to HVDC technology, and associated embedded mitigation to minimise environmental impacts, include the following design considerations:</p> <ul style="list-style-type: none"> <li>• Fewer cables than the HVAC solution reducing the cable route working width (for Norfolk Vanguard and Norfolk Boreas combined) to 45m from the previously identified worst case of 100m. As a result,</li> </ul>

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	<p>the overall footprint of the onshore cable route required for the duct installation phase is reduced from approximately 600ha to 270ha</p> <ul style="list-style-type: none"> <li>• The width of permanent cable easement is reduced from 54m to 20m</li> <li>• Removes the requirement for a Cable Relay Station</li> <li>• Reduces the maximum duration of the cable pull phase from three years down to two years</li> <li>• Reduces the total number of jointing bays for Norfolk Vanguard from 450 to 150</li> <li>• Reduces the number of drills needed at trenchless crossings (including landfall)</li> </ul> <p>Norfolk Vanguard's commitment to HVDC technology provides the most environmentally sustainable approach.</p>
<p>Madam, I have been requested by Little Dunham Parish Council to address you only on the question of landscape mitigation. You will appreciate that the applicant's landscaping proposals are not detailed and I would submit that the information supplied shows them to be inadequate. I am aware of the directions issued to applicants as the result of the Rochdale cases. However I would suggest that this should not be used as an excuse by applicants to fail to provide anything other than rudimentary indications of what we consider to be wholly insubstantial landscape mitigation measures. I would like to refer to Mr Justice Sullivan's judgement when he referred to the abuse of the need for flexibility "this does not give developers an excuse to provide inadequate descriptions of their projects. It will be for the authority responsible for issuing the development consent to decide whether it is satisfied, given the nature of the project in question, that it has 'full knowledge' of its likely significant effects on the environment. If it considers that an unnecessary degree of flexibility, and hence uncertainty as to the likely environmental effects, has been incorporated into the description of the development, then it can require more detail, or refuse consent" (para.95).</p>	<p>A similar submission has been responded to in section 2.12 of this document. Furthermore, the Applicant has also provided a detailed response to this topic in the Schedule of Responses to the Relevant Representations (document reference ExA; RR; 10.D1.1) submitted at deadline 1, and as a response to REP 27 in section 2.3 of Applicant's Comments on Written Representations (document reference ExA; WRR; 10.D2.2), submitted at deadline 2. The Applicant will work to ensure that mitigation proposed is proportional to the scale of the substation infrastructure, and that it mitigates the impact on the local area. The key mitigation in relation to landscape and visual impacts of the onshore project substation is its location; the proposed onshore project substation footprint makes effective use of topographic undulations and natural screening. Details of what this includes are given in the response to REP 27 as mentioned above.</p>
<p>Such information as we have been able to find indicates that two metre high bunds will be built on which trees will be planted. Firstly it is generally accepted that trees in Norfolk are only in leaf for five months of the year and secondly the applicants themselves on page 117 of Chapter 29 of your papers indicate that after twenty years the trees will be between 6.75 m and 9.05 m high and after thirty years they will be between 9.25 m and 12.55 m high. If you take an average of these figures then the applicant is admitting that the trees will come up to only half the</p>	<p>The Applicant's responses to the Examining Authority's written questions 14.5, 14.6 and 14.7 within document reference ExA; WQ; 10.D1.3 address similar planting questions. In summary, the growth rates applied are conservative to ensure a worst case scenario is represented and it is considered likely that faster growth rates of all species, but especially the nurse species, would be achieved. Additionally, opportunities for advanced planting, including mitigation</p>

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<p>nineteen metres height of the substantial convertor buildings. This should be unacceptable.</p> <p>Madam, our request to you is that you require the applicant to provide detailed plans and proposals at this stage for effective landscaping particularly from the viewpoints along the A47, ie. Viewpoints 5 and 6 before you grant the Development Order and we would like an opportunity to consider such proposals. The applicant concedes on page 121 of Chapter 29 paragraph 163 table 29.15 that there is the potential for significant cumulative effect from the views from the A47 and surely this should be minimised.</p>	<p>planting areas associated with the onshore project substation, are currently being explored as part of discussions with landowners and will be carried out where practicably possible once detailed design is finalised post-consent.</p> <p>The possibility of advanced planting is noted within section 6.5 of document 8.07 Outline Landscape Ecological Management Strategy and where possible, would be proposed to be implemented at the start of the construction phase, allowing approximately three years of growth prior to completion of construction and commencement of operation. However, the Applicant is not reliant on advanced planting to deliver the described mitigation.</p> <p>To ensure planting becomes properly established, tree whips would be planted individually in pits, as would larger specimens which would be staked with stakes orientated from downslope to upslope. Grass seed would not be used owing to the risks of seeds being washed away. Along edges turf may be used to stabilise the soil. Tree planting would be thinned and tree guards removed at the appropriate stages of development to ensure successful establishment.</p> <p>The detail of the advanced planting and earth bund construction with associated planting will be presented in the Landscape Management Scheme to be produced in line with Requirement 18 of the DCO and in accordance with the Outline Landscape and Ecological Management Strategy (OLEMS).</p>
<p>Madam, you will be familiar with the Overarching National Policy Statement for Energy E.N.1. You will be aware that paragraphs 5.9.18, 5.9.19 and 5.9.20 deal with the visual impact of a development and paragraphs 5.9.21, 5.9.22 and 5.9.23 deal with mitigation. I would respectfully suggest that these paragraphs put an obligation on you to consider full proposals to minimise the adverse landscape and visual effects both on site and off site. We would suggest that this made difficult for you from the scanty information that has been provided by the applicants relating to landscape mitigation.</p>	<p>The Applicant has provided a detailed response to this topic in the Schedule of Responses to the Relevant Representations (document reference ExA; RR; 10.D1.1) submitted at deadline 1, and as a response to REP 27 in section 2.3 of Applicant's Comments on Written Representations (document reference ExA; WRR; 10.D2.2), submitted at deadline 2.</p> <p>Additionally, the response to question 14.1 within Applicant Responses to the ExA's First Written Questions (document reference ExA; WQ; 10.D1.3) explains how the concept of good design (as set out in National Policy Statement (NPS) EN-1 has been taken into account.</p>

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	Additional details from these documents are summarised in section 2.12, above.
<p>Madam, you will also be familiar with Appendix A to the National Grid Guidelines for the siting of substations. These require applicants to set out mitigation measures where significant adverse effects are identified and refer specifically to design, colour, landscaping and tree planting. Madam, we are fortunate to have on our Parish Council a man with both practical experience and academic qualifications in landscaping and we would be prepared to help with and comment on the measures referred to in Appendix A but we are unable to assist without more detailed plans and proposals being available. Madam, it is within your powers I think to request that the applicant provides more specific details of landscape mitigation at this stage and I would hope that you press for this and allow time for further discussion.</p>	<p>As summarised in section 2.12, in response to Q14.1 of the Applicant's Responses to the Examining Authority's First Written Questions (document reference ExA; WQ;10.D1.3), the Applicant states that appropriate design is an ongoing process and a further level of design will be undertaken through preparation of the detailed plans for the construction of the project and implementation of associated landscape works. These will cover issues such as the colour selection for structural components and plant species and mixes for the structural landscaping. These decisions will be captured in a Landscaping Management Scheme secured through DCO Requirements 18 and 19.</p>

### 2.34 Stephen Cross BSc(hons)

Written submission	Applicant's Response
<p>Mr Cross expresses an opinion that Project proposals and potential future developments which he deems may seek to connect into the National Grid at the National Grid 400 KV substation near Necton will result in an unacceptable environmental impact, affecting agricultural land – including his own landholding – located between the coast and Necton.</p> <p>Mr Cross suggests “the environmental impact will be felt for years to come”, and offers an alternative solution, “to build a new substation on the coast designed to take and distribute the power from Windfarms along the coast. This model would allow the Windfarms a much cheaper access point to the distribution network and have a far smaller environmental impact than the scheme before you.”</p> <p>Mr Cross expresses concern that the negative impacts likely to arise from the Project (and possibly other projects, not yet proposed) “could create a scar across the Norfolk countryside visible for decades to come”.</p> <p>Mr Cross also writes “At a time when we have uncertainty about Brexit and our food supply chain it does not seem appropriate to take viable agricultural out of production whilst the capital works are carried out and then suffer poor yields whilst the land is allowed to recover, if it ever does!”</p> <p>Mr Cross expresses the opinion that it would be preferable to delay the development of offshore wind power until a costed, less environmentally damaging alternative, connecting at the coast can be progressed through the</p>	<p>The Applicant would refer Mr Cross to ES Chapter 4 Site Selection, and also to a report submitted to the Planning Inspectorate, entitled “A strategic approach to selecting a grid connection point for Norfolk Vanguard and Norfolk Boreas”. The latter summarises the context and work carried out by National Grid and Vattenfall Wind Power Ltd to select an appropriate onshore connection point. The Landowner Information Pack published by Vattenfall (Appendix 25.13 of the Consultation Report) describes how the construction methodology proposed by Vattenfall further helps to embed mitigation with the proposals, ensuring that the trenching to lay ducts and reinstatement of land is conducted in short sections (of up to 150m per week) in order to minimise impacts on agricultural land. Soil management methodology is also described within the landowner Information Pack.</p> <p>The depth at which ducting will be laid does not prohibit the cultivation of the land following reinstatement.</p> <p>Furthermore, as the Applicant has committed to an HVDC transmission system to deliver power from the Wind Farm to the National Grid, this has reduced the width of the cable corridor to 45m.</p>

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Environmental Impact Assessment process system and consented.	<p>The theoretical alternative which Mr Cross proposes would require the development of a new substation near the Norfolk Coast, and the extension of a circuit (two lines) of overhead lines from the existing distribution network to the connection point. This possibility was considered location identification process and rejected by NG as not representing the most efficient, coordinated and cost-effective approach to connecting power from Norfolk Vanguard into the National Grid.</p> <p>It is also the professional Applicant's opinion, having undertaken an EIA assessment in relation to a proposed Cable Relay Station near the coast, and following extensive consultation evidenced in the Consultation Report, that a new National Grid substation near the coast would not necessarily represent a either a less environmentally damaging nor better supported solution.</p>

### 2.35 Tony Smedley

Written submission	Applicant's Response
<p>Further to my comments made at Open Floor Hearing 3 in Dereham on 24th April I would like to expand on those for your consideration and subsequent response from the Applicant.</p> <p>a) In answer to a question, the National Grid have confirmed it is the Applicants responsibility to undertake consultation on all aspects of their project, including the extensions required to the existing Necton National Grid substation. The Applicant has failed to do this fully.</p>	<p>All parties are able to comment on adequacy of consultation. Local Planning Authorities are invited to comment on the adequacy of consultation ahead of acceptance of a DCO application. In the case of the consultation undertaken by the Applicant with respect to the Project, all relevant LPA's acknowledged that the consultation met the test of adequacy.</p> <p>Descriptions of, and a full EIA for, the National Grid extension works required by the Project were included in the PEIR (Preliminary Environmental Impact Report) which was provided for the Section 42 consultation.</p> <p>The Applicant received responses which refer to this element of its proposals and which were considered as part of the consultation. A record of responses from consultees at Section 42 consultation is provided in Appendix 22.1 of the Consultation Report (document reference 5.1).</p>
<p>b) At all consultations held at Necton Community Centre, when asked about the NG substation extension, the Applicants representatives said they could not talk about it. Or, they did not know about it.</p>	<p>The Project proposals evolved during the many months of development, and consultation began early, in order to enable consultation to feed into the assessment of alternatives and Project decisions. As the</p>

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	<p>Applicant considered and amended project design assumptions, the draft outlines put before consultees for their consideration and feedback become more detailed. The Applicant accepts that during early informal consultation, there was little detail available in relation to the required extension works at the National Grid substation, although colleagues from National Grid were present at several drop-in exhibitions at Necton to answer general questions about the required NG extension works and overhead line modification.</p> <p>During the Statutory Consultation, all plans consulted upon, as well as photomontages and other visual aids clearly display the extent of the NG extension works and overhead line modifications, and consider assessments for any "worst case scenario" design assumptions. The Summary Consultation Document (Appendix 20.9 of the Consultation Report, document 5.1) illustrates the extent of the proposed NG extension works for the Project and for Norfolk Boreas, as did other relevant materials.</p>
<p>c) One of the Applicants representatives showed computer generated views of the Vanguard substation to show people what they might see from their home and/or street or other viewpoint. When asked if he would show a computer generated view of the extension to the existing NG substation he said he could not do that.</p>	<p>The computer generated model to illustrate the onshore project substation and other Project elements did not illustrate the NG extension works. Insufficient design work had been undertaken at the time to faithfully represent what the NG extension works would look like, in sufficient detail for the 3-D model. (Note, the generation of such a model is not a requirement of the DCO or EIA process) However, a suite of photomontages were produced to accompany Chapter 29 LVIA of the ES (document reference 6.1.29). These photomontages show the potential view of the onshore project substation and the National Grid substation extension from each of the viewpoints assessed in the chapter. These were later reproduced for Deadline 3 with a 19m Rochdale envelope, at the request of the Examining Authority (document reference ExA; ISH; 10.D3.1G).</p>
<p>d) Notwithstanding the fact that a description of the extension to the NG substation is in the Applicants documentation, Necton residents have been denied details on a significant part of the project, ie we do not know what it will look like. Not even an artist's impression. And I would ask you to take into consideration that Necton has a high proportion of elderly residents who do not have a computer and who could not reasonably be expected to</p>	<p>As noted in section 2.12 and 2.28 of this document, appropriate design is an ongoing process and a further level of design will be undertaken through preparation of the detailed plans for the construction of the project and implementation of associated landscape works. These will cover issues such as the colour selection for structural</p>



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look through all the Applicants books on display in the Community Centre.	components and plant species and mixes for the structural landscaping. These decisions will be captured in the final Landscaping Management Scheme secured through DCO Requirements 18 and 19, for approval by the LPA.
e) The Applicant will argue that drawings and cg images have been produced to show the NG substation extension. Those that have been are inadequate to show what this extension will look like on the ground. Rather, those that have been done included a poor wide angle view from certain viewpoints and a block plan view (handy when flying over the site at 10,000 feet). But no cg image or line drawing has been published to show what the NG extension will look like on the ground.	The photomontages provided as part of the suite of figures accompanying Chapter 29 LVIA of the ES (figures 29.13 to 29.24, document reference 6.2.29) show the view of the National Grid substation extension and onshore project substation from a height of 1.5m above ground level at each of the viewpoints assessed within the chapter. This height is set out in the best practice guidance and was agreed as part of the methodology through the evidence plan process. 1.5m represents the average eye level for a person (which is given as 5 feet). Two fields of view are provided, a 53.5 degree and a 90 degree field of view. Again these are standard approaches described in the relevant guidance and were agreed through the evidence plan process. A second set of photomontages was produced by the Applicant at Deadline 3 (document reference: ExA; ISH; 10.D3.1G), with a Rochdale envelope of 19m for the onshore project substation, at the request of the Examining Authority.
f) With regards as to what will be visible of the Applicant's Vanguard substation itself, the cg views as presented to Necton residents on the consultation days clearly showed how visible and intrusive it would be (this is without taking the extensions to the NG substation also into account). Some people were seen leaving the venue in tears because of what they were shown they would see of the substation. In fact one couple immediately put their property up for sale. Yet recent comments from the Applicant's representatives have said that no one will see the substation. Who is correct? Why should either be believed to be true?	The LVIA in Chapter 29 of the ES (document reference 6.1.29) details the assessment of impacts to the landscape and visual amenity with respect to the substation. This provides conclusions of impact significance from a number of viewpoints in proximity to the onshore project substation and National Grid substation extension. The photomontages associated with this chapter also provide visualisations of what the onshore project substation, and National Grid substation extension, would look like from each of the viewpoints assessed within the impact assessment. Each of these viewpoints were also visited during the Accompanied Site Inspection (ASI). Of all the viewpoints around the onshore project substation and National Grid substation extension, significant effects have been assessed in relation only to road-users on a short section of the A47, an opening on Ivy Todd Road and walkers on Lodge Lane. Post construction, embedded mitigation in the form of landscape planting would



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	mitigate these localised effects within 10 years in respect of the views from the A47, 20 years in respect of the views from Lodge Lane and 25 years in respect of the opening on Ivy Todd Road west.
<p>g) From an environmental aspect it has been stated that the HVDC option is the best for Norfolk. Yet this HVDC option is not the best for Necton and the surrounding communities from a visual, blot on the landscape, point of view. Necton was not consulted in making this HVDC v HVAC decision. Yet Mr Haughton (for the Applicant) is very keen to repeat that the Applicant took notice of residents and made changes accordingly. But when/where/how were Necton residents consulted on whether they preferred HVDC or HVAC?</p> <p>He will not be able to answer that question because Necton residents were not consulted. Rather it was presented to Necton as a fait accompli.</p>	<p>Both HVAC and HVDC options were included in the PEIR (Preliminary Environmental Impact Report) which was provided for the Section 42 consultation.</p> <p>This consultation involved Necton Parish Council among other Parish Councils and stakeholders, inviting all consultees to comment on the information provided.</p> <p>The decision to undertake the Project using an HVDC solution was made in February 2018, following Section 42 Consultation. A record of responses from consultees at Section 42 consultation is provided in Appendix 22.1 of the Consultation Report (document reference 5.1).</p>
<p>From the foregoing, I put it to you that the Applicant has not done their Consultation adequately enough.</p>	<p>The Applicant notes Mr Smedley's opinion and would refer to the response prepared to Ms P Lockwood representation above, which provides an overview of the role and scope of consultation in relation to the EIA and to NSIP planning processes, and the key elements of engagement.</p> <p>The Applicant is confident, that the Consultation undertaken in relation to the Projects has more than adequately fulfilled the requirements of the Planning Act, and has exceeded the Applicant's expectations in terms of gathering invaluable responses and evidence, which has helped shaped the Project Proposals.</p>

## 2.36 Trinity House

Written submission	Applicant's Response
<p><b>Post Hearing Submission. Proposed Arbitration procedures:</b></p> <ul style="list-style-type: none"> <li>TH confirms that the wording at article 38 and 41 is acceptable to TH.</li> <li>TH raise concerns with the deemed discharge process at Condition 15 (Schedule 9-10) of the dDCO (version 4 submitted on 16 April 2019), with particular reference to the safety of shipping.</li> <li>TH confirms that, in its view, judicial review would be the only mechanism available to the applicant to challenge a decision or a non-determination.</li> </ul>	<ul style="list-style-type: none"> <li>The Applicant welcomes TH's confirmation that the revised wording at Article 38 and 41 is acceptable to TH.</li> <li>The Applicant notes TH's concerns in relation to deemed approval. However, since version 4 of the dDCO (submitted on 16 April 2019) the Applicant has revised the drafting further to try to provide an appropriate and pragmatic solution which addresses the MMO's and</li> </ul>

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<ul style="list-style-type: none"> <li>TH suggests that the Applicant could submit plans (etc.) earlier in order to alleviate concerns over delays in discharge.</li> </ul>	<p>TH's concerns. Following discussions with the MMO, and the Schedule of Changes published by the ExA published on 09 May 2019, the Applicant has revised the drafting to include an appeal mechanism which adopts the 2011 Regulations with modified timeframes (dDCO, version 6, document reference: 3.1, submitted at Deadline 8). The Applicant therefore considers that this addresses TH's concerns as there would be no deemed approval linked to a condition that involves the safety of shipping and navigation.</p> <ul style="list-style-type: none"> <li>For the reasons outlined previously (document reference: ExA; ISH7; 10.D7.2, and response to ExA 20.109 and 20.110 submitted at Deadline 1) the Applicant strongly contends that judicial review is not an adequate or appropriate remedy to challenge a decision made by the MMO under a DML related to a nationally significant renewable energy DCO. The Applicant also does not consider that judicial review would apply for a non-determination given that there would be no 'decision' to challenge. The Applicant is in on-going discussions with the MMO and the Applicant proposes to submit a position statement with the MMO which sets out the Applicant's position in relation to arbitration/ appeal mechanisms at Deadline 9, as well as preferred drafting options for the dDCO.</li> <li>The Applicant welcomes this suggestion and the Applicant will always endeavour to submit plans in a timely manner and with the requisite information in advance of the 4 month minimum period for discharge. However, for the reasons previously identified (in particular document reference ExA; ISH7; 10.D7.2), the Applicant cannot rely on the goodwill of the MMO to determine conditions in a timely manner. The Applicant is aware</li> </ul>

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	<p>that this may not always be possible, particularly where the MMO's resource (or the resource of its statutory consultees) is limited. The Applicant therefore requires the assurance of a reasonable and pragmatic mechanism in the event of non-determination or refusal of an application to discharge a condition.</p>