VATTENFALL

Norfolk Boreas Offshore Wind Farm

Applicant's response to the Open Floor Hearing

Applicant: Norfolk Boreas Limited
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Photo: Ormonde Offshore Wind Farm

Glossary

AC	Alternating Current
CIA	Cumulative Impact Assessment
dDCO	Draft Development Consent Order
DC	Direct Current
DCO	Development Consent Order
EMF	Electromagnetic Field
EPUK	Environmental Protection UK
ES	Environmental Statement
ExA	Examining Authority
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
IAQM	Institute of Air Quality Management
NO_2	Nitrogen Dioxide
OLEMS	Outline Landscape and Ecological Management Scheme
OFH	Open Floor Hearing
OTMP	Outline Traffic Management Plan
PM_{10}	Particulate Matter with an aerodynamic dimeter of less than 10µm
$PM_{2.5}$	Particulate Matter with an aerodynamic diameter of less than 2.5µm
SoCG	Statement of Common Ground
VWPL	Vattenfall Wind Power Limited

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1. Introduction

1.1 An Open Floor Hearing (**OFH**) for the Norfolk Boreas Development Consent Order (**DCO**) application took place on 13 November 2019 at 19:00 at The King's Centre, King Street, Norwich, NR1 1PH.

1.2 The Examining Authority invited the Applicant to respond in writing following the OFH. Many of the issues raised at the OFH have been addressed in the Applicant's Comments on Relevant Representations (document reference (ExA.RR.D0.V1 / AS-024) and/or as part of the application documents; the Applicant has therefore responded to the topics raised and provided cross-references to the relevant application or examination documents in the text below.

Reference	Topic	Applicant's Response
1.	**Site selection and onshore project substation siting** *Necton Parish Council raised concerns over the siting of the onshore project substation and referred to alternative proposals such as Top Farm, which was their preferred site location*	In response to these points, the Applicant would refer to Application Document 5.1 Consultation Report (APP-027), Chapter 28.2.11 "Learnings from the Norfolk Vanguard examination process and community representations". The map provided as Figure 2 in Chapter 28.2.11 (APP-027) illustrates the proposed co-location of the Norfolk Boreas and Norfolk Vanguard onshore project substations, and the proposed National Grid extension works (Scenario 1). The map highlights important constraints and opportunities pertinent to sensitive siting of the project infrastructure including "residential buffers" – which ensure that the infrastructure is located sufficiently far away from residential receptors so as to limit impacts, primarily noise. It also shows how existing woodland such as Necton Wood, Great Wood and other blocks of woodland and hedgerow provide effective natural screening, which along with the topography, help to reduce visual impacts. Mitigation planting, also shown, will help to mitigate remaining impacts further. The topology layer shows the gently undulating landscape of the area. A relatively elevated area creates a gentle "shoulder of land" running East North East to West South West (Little Dunham through Wood Farm to Bradenham Hill) to the north of the proposed onshore project infrastructure. Hence, several of the viewpoints in Environmental Statement (ES) Chapter 29 Landscape and Visual Assessment (APP-242) illustrate views looking down upon the proposed sites for development. An advantage of the proposed onshore project substation sites is that the land is relatively flat which minimises required earthworks to create a level foundation. Moving the footprints westward, as some have suggested, or north-westward closer towards Top Farm, would have two significant

		effects – moving them closer to more residential properties, including within the currently excluded residential buffer zones, and requiring significant earthworks in order to level the footprint, prior to commencement of construction works. This second consideration is significant because it would require a lengthier pre-construction and construction period to establish a level foundation, require greater traffic movements to remove excavated materials and transport additional construction materials with associated impacts such as noise, and create a more notable impact on landscape character and visual amenity due to additional earthworks. The map (Figure 2, APP-027) is presented for illustrative purposes, including to provide additional explanation on why the alternative siting suggested by some local stakeholders does not represent a viable alternative. Any potential site at Top Farm is constrained from a technical perspective (by the overhead lines) and it is too close to residential properties. In relation of visual impacts Top Farm would not make a suitable alternative as it is located much closer to a number of principal visual receptors including the A47, which is approximately 250m from Top Farm and Little Fransham village which is approximately 500m from Top Farm. Furthermore, Top Farm is located at an elevation of 75m AOD and set close to the localised plateau where Little Fransham sits. This would make this potential site for the onshore project substation more exposed in the local landscape than the currently proposed site which is at 65 to 70m AOD and which benefits from more natural enclosure from existing woodland and hedgerows. The Top Farm site would potentially be more visible from Necton, while visibility of the current site is very limited as illustrated in Viewpoint 8. For more detail on constraints and opportunities and site selection, refer to Environmental Statement (ES) Chapter 4 ES (APP-217).
2.	**Landscaping at the onshore project substation** *Necton Parish Council and Julian Pearson referred to the site being impossible to screen, with the mitigation not being effective for years, and their preference for bunds (in all directions) or for the lowering of ground levels to reduce the height of buildings*	The Applicant provided a response to representations made on the topic of onshore project substation visual impact mitigation under Table 24 item 5 in its Comments on Relevant Representations (AS-024). In summary, the Applicant will work to ensure that mitigation proposed is proportional to the scale of the substation infrastructure, and that it mitigates the overall impact on the local area. The location of the onshore project substation is already screened from many of the surrounding visual receptors in the local area owing to the enclosure of existing vegetation. Views of the onshore project substation occur from different directions, distances and elevations. Owing to this, the mitigation planting will form an effective screen sooner in respect of some views owing to the specific perspective, while in other views it will take longer. This differential is considered in the assessment of visual effects. Large scale bunds would look out of character in this rural landscape and could potentially draw more attention to the onshore project substation.

		The growth rates applied to estimate tree heights in the Norfolk Boreas visualisations are cautionary to ensure a worst case scenario is represented. As the operational lifespan of the project is 30 years, the reality will be that by this stage the fast growing nurse species will have reached maturity and many of the slower growing core species will be between middle and full maturity. It is noted in the Design and Access Statement (document 8.3, APP-694) that the earthworks required for the cut and fill to create the level platform may produce surplus soil which could be used to form subtle earthwork bunds of up to 2m along the western side of the onshore project substation. This would help to give an incremental increase to the overall height of screening along this sensitive boundary which is not constrained by planting restrictions associated with underground cables. Such a bund has not been included within the landscape and visual assessment, to provide a worst case assessment.
3.	**Design of Onshore Connection Point** *Some Interested Parties (in particular Holme Hale Parish Council) raised concerns in respect of the Horlock Rules and made reference to Policy EN-1. A request was made that more detail be given on design now.*	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, to ensure blending with the local environment and minimisation of impacts as far as possible. The Design and Access Statement (document 8.3, APP-694) includes a set of Design Principles for the onshore project substation and National Grid substation extension (Table 4.3) which will set out the process to develop the final design. As the final design is not yet known, the environmental impact assessments have been conducted on the basis of a 'Rochdale Envelope' series of maximum extents of the project, with which the significant effects are established. These maximum extents which define the significant effects are secured in the dDCO under Requirement 16, namely the total number of buildings housing the principal electrical equipment, height, width and length of such buildings, maximum height of external electrical equipment and maximum fenced compound areas.
4.	**Offshore Ring Main** *Some Interested Parties referred to an Offshore Ring Main as an alternative grid connection solution and called on the Secretary of State to review the system for connecting to the National Grid, and for the ExA to recommend this.*	The Applicant provided a response to relevant representations made on the topic of 'offshore ring main' under Table 28 item 3 in its Comments on Relevant Representations (AS-024). In summary, the Applicant is currently at an advanced stage in the consenting process for both Norfolk Boreas and Norfolk Vanguard and must work within the constraints of the current regulatory framework in order to deliver the project. 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 has applied the statutorily mandated process to determine the onshore connection point involving both the Applicant and National Grid, to identify a direct connection to the 400kV national transmission

		system. This mechanism is described in Appendix 4.3 Strategic approach to selecting a grid connection point (document 6.3.4.3, APP-539). That said, the Applicant considers that the Project, and the Norfolk Vanguard project – including the associated transmission infrastructure – are an excellent example of 'coordinated development' which will minimise as far as possible the impacts on local residents.
5.	**Flood Risk** *Necton Parish Council raised an issue of flood risk at the Onshore Project Substation and surrounding area as a result of the clay soils and their experience of flooding issues over many years.*	The Project assesses each of the potential sources of flood risk in accordance with the National Planning Policy Framework and acknowledges the existing flood risk in the vicinity of the proposed onshore project substation. Comments received from stakeholders, including information related to historical flooding of Necton, Ivy Todd and West End, have been considered within ES Chapter 20 Water Resources and Flood Risk and Appendix 20.1 Flood Risk Assessment (APP-586). Flooding along the ordinary watercourse which flows in a southerly direction towards Ivy Todd has been noted and acknowledged. Paragraphs 209 - 210 of the Flood Risk Assessment (APP-586) confirm that the final Surface Water Drainage Strategy and drainage design will be developed such that surface water runoff from the onshore project substation and National Grid substation extension is attenuated and discharged at a controlled rate. The controlled runoff rate will be equivalent to the greenfield runoff rate and appropriate attenuation will be provided to ensure that during the 1 in 100 year event plus an allowance for climate change there will be no increase in runoff from the site. Further to the above, in Paragraph 177 of the Flood Risk Assessment (APP-586), a review of the Breckland District Council Strategic Flood Risk Assessment identified that Chantry Lane, Necton has flooded a number of times from the Necton Brook. Necton Brook is a hydrologically separate watercourse to that which passes between the onshore project substation and the National Grid substation extension and therefore will not be affected by the Project.
6.	**Ecological impacts at the onshore project substation** *Necton Parish Council raised concerns that there would be impacts on bats given the close proximity of ancient woodland.*	Potential impacts upon Necton Wood and Great Wood ancient woodlands, including impacts to bats associated with these woodlands, have been considered within ES Chapter 22 Onshore Ecology (APP-235). ES Chapter 22 Onshore Ecology (APP-235) identifies that potential severance of bat commuting and foraging habitat connected to these woodlands is likely to occur at two locations during construction. In order to mitigate this impact, mitigation measures are provided within Sections 7.8 and 7.2 of the Outline Landscape and Ecological Management Strategy (OLEMS) (APP-698), which will be applied to the two species-rich hedgerows located between Necton Wood and Great Wood. These measures include, pre-construction surveys, the development of a Hedgerow Mitigation Plan in consultation with Natural England, which will include the detail of all hedgerow reinstatement activities, details of habitat enhancements which will be included within hedgerow

		reinstatement, procedures for micrositing and seasonal vegetation removal to reduce the impact of temporary works upon hedgerows, and provision for post-construction monitoring / aftercare. Following implementation of these mitigation measures, the greatest magnitude of effect upon ancient woodlands during construction is predicted to be of at most minor adverse significance. In addition, disturbance to bats from lighting during operation of the onshore project substation is predicted to be of a negligible magnitude of effect and to only affect receptors in the immediate vicinity of the onshore project substation. This is because operational lighting at the onshore project substation under either scenario will be provided for operation and maintenance activities only, and under normal conditions it will not be lit.
7.	**Terrorism** *Some Interested Parties raised concerns over security and terrorism associated with the Onshore Project Substation.*	When mitigating the risk of terrorism, the risk itself must be reasonably foreseeable. No terrorism attack has ever occurred to a substation on UK soil and, on this basis, it is reasonable to say that the risk of terrorism is low. Beyond this, the design and operation of substations are regulated and controlled to the highest health and safety standards; and operators are required to develop emergency response plans and crisis management procedures as part of that regulatory process.
8.	**Fire Risk** *Necton Parish Council raised concerns that there were no fire breaks between the onshore project substation and arable crops, which could then spread to local homes.*	Substations are generally not a significant fire risk because of the measures put in place to minimise that risk. Any potentially flammable assets are not located near the perimeter of the infrastructure, and the ground materials and other physical barriers included in the design will contain fire to within the compound. The risk of substation fires is historically low; however, substation fires can impact the supply of electricity and create a localised fire hazard. The highest appropriate levels of fire protection and resilience will therefore be specified for the onshore project substation to minimise fire risks. The energy sector has some of the highest health and safety requirements and these standards will be incorporated into the substation design.
9.	**Contamination** *Necton Parish Council referenced a plane crash on land close to the onshore project substation and the need for further surveys to be undertaken pre-commencement. Two missiles were noted to have been retrieved and a risk of radiation was referred to.*	The Applicant provided a response to concerns regarding ground contamination in its Comments on Relevant Representations (AS-024). Specifically, Table 14 item 7. In summary, the Applicant has set out the approach to assessing potential contaminated sites in the ES Chapter 19 Ground Conditions (document 6.3.19.1, APP-583), which would be undertaken post-consent. The approach to assessment has been discussed and agreed with relevant stakeholders, for example the Environment Agency and Norfolk County Council, as part of the pre-application process, whereby expert topic groups were established to ensure that the assessments were being undertaken in a satisfactory way. The proposed mitigation provided in the Outline Code of Construction Practice (document 8.1, APP-692) includes a commitment to providing a written scheme for dealing with contamination of any land and groundwater.

		The scheme will include site investigation at sites known to have a potential contamination risk, including the site of the plane crash. The written scheme will also set out protocols for dealing with any contamination, as required. These protocols will be set in place prior to construction to ensure that procedures are known and agreed with the Regulators should contaminated materials be encountered. This issue is also addressed and agreed in the Statement of Common Ground (SoCG) with the Environment Agency submitted in response to the Rule 6 Letter on 4th November (AS-026).
10.	**Tourism and impact on businesses** *Some Interested Parties raised concerns that the project would have an impact on tourism and local business.*	An assessment of the likely tourism and recreation effects during the construction, operation and maintenance phases of the project under both Scenario 1 and Scenario 2 are assessed in ES Chapter 30 Tourism and Recreation (document 6.1.30, APP-243) and it is concluded that following mitigation the residual potential impacts on tourism and recreation range from no impact to minor adverse. Issues related to disruption to local residents and businesses have further been considered in the following submission documents: • ES Chapter 31 Socio-economics (document 6.1.31, APP-244) • Appendix 3.3 of the Consultation Report - Hearing Your Views III (document 5.1.3.3, APP-030) • Appendix 24.1 of the Consultation Report - Section 42 responses (document 5.1.24.1, APP-180) • Appendix 25.1 of the Consultation Report - Section 47 responses (document 5.1.25.1, APP-181) The Applicant provided a response to concerns regarding disruption to local businesses and residents in its Comments on Relevant Representations (AS-024). Specifically, Table 25 item 3.
11.	**HVAC .v. HVDC** *N2RS welcomed the commitment to HVDC and asked for further assurances that there would be no Cable Relay Stations.*	It is the physical structures, i.e. the cable relay station and increased number of cables requiring an increased land take, as opposed to the nature of the Alternating Current (AC), that is the principal concern for Interested Parties. The Applicant's position is that because the dDCO does not consent the additional infrastructure required for HVAC technology it is not possible for the Applicant to simply switch back to HVAC. In particular: (1) The Environmental Statement does not assess the additional infrastructure; (2) The Order limits do not include the additional land which would be required to construct and operate the additional infrastructure; and (3) The works description contained within the dDCO does not consent the additional infrastructure which gives rise to the concerns (e.g. the cable relay station and the additional number of cables which would be required). Therefore, to the extent that the additional infrastructure was subsequently proposed as part of an HVAC solution, this would require a material amendment to the DCO on the basis that new

		environmental impacts would need to be assessed, additional land take would be required, and significant local concern would be raised. It is not necessary to stipulate HVDC through a Requirement or further secure the use of a HVDC system within the works description for this reason. In any event, it would not be appropriate to do so because: (1) AC cables are required offshore, as well as between the onshore substation and the existing National Grid substation extension, and this needs to be permitted within the dDCO; and (2) If technological advancements enable the future use of an HVAC system within the parameters assessed and secured by the dDCO, use of HVAC technology should not be restricted. The Applicant considers that choice of the cabling solution, provided it falls within the parameters assessed and within the bounds of the infrastructure consented under the dDCO, is a matter for the Applicant alone to determine. In summary, the Applicant's position is that because the dDCO does not consent the additional infrastructure required for HVAC it is not necessary or appropriate to restrict this through a Requirement or further secure the use of a HVDC system within the works description.
12.	**Cumulative impact with other projects** *Residents of Cawston and Oulton raised concerns in relation to the number of offshore wind farms and the associated cumulative impact. Questions were raised as to the ability to include enabling development and oversize initial projects to cater for future projects.*	VWPL has adopted a strategic approach to the planning of the transmission infrastructure for Norfolk Vanguard and Norfolk Boreas with the aim of optimising overall design and reducing impacts where practical. In order to minimise impacts associated with onshore construction works, Norfolk Vanguard are seeking to obtain consent to undertake enabling works for Norfolk Boreas at the same time (Scenario 1). This coupled with the decision to employ HVDC technology represents an unprecedented effort towards reducing overall project impacts as well as cumulative impacts with other projects. As outlined in ES Chapter 33 Onshore Cumulative Impacts (APP-246) only projects that are reasonably well described and sufficiently advanced to provide information, on which to base a meaningful and robust assessment were included in the Cumulative Impact Assessment (CIA). Table 33.3 in ES Chapter 33 (APP-246) outlines the projects and plans included in the technical assessment and section 33.4 (APP-246) provides details of the assessment methodology for the onshore CIA. Where it has been possible to undertake a detailed cumulative assessment with the projects identified this has been included in the Environment Impact Assessment in the relevant technical chapter for that topic. With regards to other offshore windfarm projects the CIA has considered Hornsea Project Three and Norfolk Vanguard (under Scenario 1), as well as the existing Dudgeon Offshore Wind Farm where relevant. This includes a detailed cumulative traffic assessment with Hornsea Project Three (section 24.8 of ES Chapter 24 Traffic and Transport, APP-237) and associated

		cumulative noise, vibration and air quality effects associated with road traffic (see section 25.9 of ES Chapter 25 (APP-238) and section 26.8 of ES Chapter 26 (APP-239)).
13.	**Traffic Impacts** *Residents of Cawston and Oulton expressed concern with construction traffic through, and surrounding, the villages of Cawston and Oulton including in relation to noise and sleep deprivation given an 8 to 10 year construction period, which should not be considered temporary. Cawston was more sensitive than Horsford, yet particular commitments had been made to avoid Horsford. Other alternatives were available to avoid Cawston. Particular concern raised on cumulative impacts. Concerns also raised due to heritage – impacts on listed buildings (vibration) and Conservation Area status. Also impacts on residents from cumulative road closures and diversions in place. Concerns were raised that insufficient alternative parking was being provided.* *Note that Oulton PC spoke on behalf of residents of 'The Cottage' and the cumulative effects on them.*	*Horsford Village* The Norfolk Vanguard Applicant agreed a suitable diversion route around Horsford with Norfolk County Council that ensures HGV traffic remains on roads of similar or greater standard, in terms of the road hierarchy, and therefore would not result in any impacts greater than those previously assessed. This commitment will be captured for Norfolk Boreas in the updated Outline Traffic Management Plan (document 8.8) submitted at Deadline 1. No suitable alternative route exists for Cawston. *Cawston Vibration and Noise cumulatively with Hornsea Project Three* A cumulative assessment of noise and vibration effects are considered in section 25.9 of ES Chapter 25 (APP-238) which concluded the impacts are not significant. The Applicant has committed to reducing Norfolk Boreas' peak daily HGV movements through Cawston from 144 to 112. Thus, reducing the worst case peak cumulative daily HGV movements from 271 to 239. The introduction of speed restrictions, capped traffic numbers and a resurfaced road through Cawston will however further reduce any potential vibration effects. These commitments are set out in Table 3.1 of the updated Outline Traffic Management Plan (OTMP) (document 8.8) submitted at Deadline 1. *Cawston Heritage* Temporary highway mitigation measures are expected to be required to address the cumulative traffic impacts. These measures represent a temporary change to the appearance of the Conservation Area; however, 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. Further discussion and agreement with Norfolk County Council and Broadland District Council during detailed design will be required for new surface materials and street furniture (both temporary and permanent), weighing practical and safety needs with conservation requirements and good practice within a Conservation Area. The detailed design will be will be captured within the final Traffic Management Plan and secured through dDCO Requirement 21.The increase in traffic will result in a temporary adverse impact to the character and appearance of the Conservation Area during the construction period and will result in a temporary adverse impact on the ability of people to experience and appreciate the area and the significance of its associated heritage assets. However, this will be temporary and reversible. *Road Closures* With the exception of a night time closure on the A47 to facilitate overhead power line works, there are currently no planned road closures for the Norfolk Boreas Project.

		Parking Parking provisions are included in the proposed traffic management scheme for the A1145 at Cawston, as detailed in the OTMP (document 8.8) (an updated version submitted at Deadline 1). In addition, the Applicant has been working collaboratively with Cawston Parish Council to undertake a series of car parking surveys throughout the village to further our understanding of the kerbside parking capacity for different periods during the day.
14.	**Air Quality** *Residents of Cawston and Oulton referred to Air Quality impacts as a result of construction traffic, particularly due to nature of the properties and the way they are ventilated.*	The requirement for a detailed assessment of vehicle exhaust emissions from construction traffic was considered using screening criteria provided by the Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK). The road links near to Oulton and Cawston which exceeded the screening criteria were the B1145 through Cawston (in both Scenario 1 and Scenario 2), and the B1149 to the west of Oulton (in Scenario 2 only). Increases in pollutant concentrations as a result of construction phase traffic exhaust emissions from the proposed development (and cumulatively with Hornsea Project Three) were predicted to have a negligible impact at all receptor locations within, and in close vicinity to Cawston and Oulton. Pollutant concentrations, including 'background' pollutant concentrations, existing traffic flows and cumulative traffic flows with Hornsea Project Three at the identified road links were predicted to be 'well below' the relevant air quality Objectives for nitrogen dioxide (NO_2), and particulate matter (PM_{10} and $PM_{2.5}$). Therefore, the impact of construction phase traffic exhaust emissions on properties in Cawston and Oulton were predicted to be not significant, in accordance with IAQM and EPUK guidance.
15.	**Electromagnetic Fields (EMFs)** *Some Interested Parties expressed concern with the potential for EMFs at the crossing point with Hornsea Project Three, Norfolk Vanguard and Norfolk Boreas, and a lack of detail and clarity on how the crossing would be constructed, and the effect of this on EMFs.*	The Applicant provided a response to concerns raised with respect to EMFs in its Comments on relevant representations (AS-024) under Table 22 item 1 and associated documents including ES Chapter 27 Human Health (document 6.1.27, APP-240), Appendix 4.2 of the Consultation Report – FAQ documents (document 5.1.4.2, APP-033) and the analysis of potential EMF effects, undertaken by National Grid for Vattenfall Wind Power Ltd and Orsted, which is presented in two documents, Vattenfall EMF information sheet and Vattenfall and Orsted EMF information sheet (AS-025). In summary, the decision to use HVDC technology to transmit power from the wind farm to the national grid eliminates many potential impacts associated with EMF emissions. The available evidence from studies of humans and animals has been reviewed by Public Health England and internationally by the World Health Organisation and the International Agency for Research on Cancer. None of these expert bodies has identified any health risk for humans or animals exposed to DC magnetic fields. A summary of the key principles of the co-operation agreement between Vattenfall and Orsted is provided in the Statement of Common Ground with Orsted which will be submitted at Deadline 2. This notes that with respect to construction at the crossing, both parties will design the cable installation works so as to ensure that the other parties can still install their cables – for example, if the first project installs the cables by way of open cut trench, that section of trenching will

		include enhanced thermal conductivity backfill to reduce any potential future thermal interactions with the second project.
16.	**Landfall and Coastal Erosion** *Happisburgh Parish Council, in particular, expressed concern with coastal erosion together with the suitability of Horizontal Directional Drilling at the landfall (including the associated impacts of 24 hour working at the landfall).*	The Applicant provided a response to these concerns in its Comments on relevant representations (AS-024). Specifically, Table 1 items 1 and 2, and Table 2 item 1. The Applicant will provide a landfall clarification note which will be submitted as part of the Examination to provide further details regarding the landfall method and suitability. In summary, the landfall entry point will be set back form the existing cliff-line by at least 125m to ensure natural coastal erosion will not affect the drilled cable or transition pits within the conceivable lifetime of the project (approx. 30 years). Furthermore, the landfall compound zone extends a further 200m inland, to allow further flexibility in the siting of the landfall post consent, using the most up to date information and forecasts. This is considered embedded mitigation by design to ensure that the landfall cable ducts do not become exposed under a worst case scenario during the project lifetime. In addition, the Applicant has committed to a long horizontal directional drill to avoid any interaction with intertidal areas. A SoCG has been prepared with Natural England (a version of this was submitted in response to the Rule 6 letter on 4th November (AS-028)) and North Norfolk District Council (a version of which will be submitted at Deadline 2) which include matters of agreement relating to coastal erosion.
17.	**Social effects of construction** *Professor Barnett will be submitting a report on social effects, including health effects, of the project.*	The Applicant provided a response to concerns raised with respect to health impacts in its Comments on Relevant Representations (AS-024) under Table 22 item 2, which indicates that potential impacts on human health have been considered in ES Chapter 27 Human Health (document 6.1.27, APP-240), Chapter 18.7 of the Consultation Report (document 5.1, APP-027) - Summary of responses to Norfolk Vanguard Section 47 and regard had by Vattenfall Wind Power Ltd and Appendix 4.2 of the Consultation Report - FAQ documents (document 5.1.4.2, APP-033).