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Norfolk Boreas Offshore Wind Farm

Applicant's response to Open Floor Hearing 3

Applicant: Norfolk Boreas Limited
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Glossary

CIA	Cumulative Impact Assessment
ExA	Examining Authority
dDCO	Draft Development Consent Order
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
ExA	Examining Authority
LVIA	Landscape and Visual Impact
HGV	Heavy Goods Vehicle
HIS	Highway Intervention Scheme
HP3	Hornsea Project Three
HVDC	High Voltage Direct Current
NCC	Norfolk County Council
OCoCP	Outline Code of Construction Practice
OLEMS	Outline Landscape and Ecological Management Scheme
OFH	Open Floor Hearing
OTMP	Outline Traffic Management Plan
RSA	Road Safety Audit
SoCG	Statement of Common Ground
SoS	Secretary of State
VWPL	Vattenfall Wind Power Limited

Applicant's response to the Open Floor Hearing Three (Sessions One to Four)

1. Introduction

1.1 A virtual third Open Floor Hearing (**OFH3**) for the Norfolk Boreas Development Consent Order (**DCO**) application took place over four sessions based on geographical area; Session One – Oulton 14th July 2020, Session Two – Necton 15th July 2020, Session Three – Cawston 16th July 2020, and Session Four – Happisburgh 17th July 2020.

1.2 The Examining Authority invited the Applicant to respond in writing following OFH3. Many of the issues raised at the OFH have been addressed in the Applicant's previous submissions to the examination; the Applicant has therefore responded to the topics raised and provided cross-references to the relevant examination documents in the text below.

1.3 A number of technical points regarding the proposed Highway Intervention Scheme (HIS) for Cawston, where raised by Cawston Parish Council and interested parties. A subsequent meeting was held to discuss these matters on the 20th July 2020 and details of matters discussed are presented in the Position Statement on the Meeting with Cawston Parish Council [ExA.AS-2.D13.V1] and are not repeated in this document.

Reference	Topic	Applicant's Response
1.	**Implications of Norfolk Vanguard consent on Norfolk Boreas scenarios** *Oulton Parish Council requested clarification on the approach to scenarios for Norfolk Boreas now that Norfolk Vanguard has consent, and whether this means that only Norfolk Boreas Scenario 1 will be taken forward*	As detailed in the Applicant's written summary of the oral case at Issue Specific Hearing 1 [REP1-041], and the Inter-relationship report for Norfolk Boreas and Norfolk Vanguard [APP-023], Norfolk Vanguard and Norfolk Boreas have been designed strategically to maximise efficiencies, reduce environmental impacts and minimise disruption, in that both projects follow the same cable route to connect at the existing National Grid substation near Necton. For this reason, the Norfolk Vanguard DCO consents enabling development for Norfolk Boreas, such as the ducting for Norfolk Boreas. In this way, if Norfolk Vanguard is commenced, Norfolk Boreas can undertake a cable pull through operation only (Scenario 1) as opposed to a duct installation and cable pull through operation (Scenario 2). Scenario 1 is the preferred option and considered to be the most likely. However, Norfolk Boreas needs to consider the possibility that Norfolk Vanguard may not proceed to construction. The recent decision from the Secretary of State to grant development consent for Norfolk Vanguard makes Scenario 1 more likely, but there is still the possibility that Norfolk Vanguard may not proceed to construction. As such, in order for Norfolk Boreas to stand as an

		independent project, this possibility must be provided for within the Norfolk Boreas DCO. Thus, consent will continue to be sought for both scenarios within the DCO. A decision as to which scenario will be taken forward will be made post consent but prior to commencement of the Norfolk Boreas project. If both projects secure consent and proceed to construction, then Norfolk Boreas would only implement Scenario 1 as secured under Requirement 15(2) of the dDCO for Norfolk Boreas. The Applicant refers to the Written Summary of the Applicant's Oral Case at Issue Specific Hearing 5 [ExA.ISH5.D13.V1], Agenda Item 3 for further details.
2.	**Cumulative Impacts** *Oulton Parish Council, Necton Parish Council, Cawston Parish Council and other Interested Parties and residents raised concerns over impacts from projects not being assessed cumulatively with one another. Reference was made to Norfolk Vanguard, Hornsea Project Three and to the future Dudgeon and Sheringham Shoal extension projects.*	The Applicant's Environmental Impact Assessment (EIA) includes an assessment of cumulative impacts with Norfolk Vanguard and Hornsea Project Three, along with other appropriate projects. ES Chapter 33 Onshore Cumulative Impacts [APP-246] outlines the projects included in the technical assessment and provides details of the assessment methodology. The details of the assessment of cumulative impacts are included in each relevant technical chapter. 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)). The Landscape and Visual Impact Assessment (LVIA) (ES Chapter 29 [APP-242] identifies that under Scenario 1 the Norfolk Boreas onshore project substation and National Grid substation extension would be sited adjacent to the respective infrastructure for Norfolk Vanguard and the cumulative impact assessment has considered the combined effects of these developments. As such, under Scenario 1, visualisations show the Norfolk Vanguard onshore project substation and associated National Grid substation extension in conjunction with the Norfolk Boreas onshore project substation and National Grid substation extension (ES Figures 29.23 to 29.46 [APP-509 to APP-532). Under Scenario 1, mitigation planting associated with the Norfolk Vanguard project would already be implemented as part of this project and the mitigation planting associated with the Norfolk Boreas project would be added to this, in order to increase the overall extent of mitigation planting relative to the increase in development.

		The Applicant refers to the Applicant's response to Open Floor Hearing 2 [ExA.OFH2.D13.V1], Item 4, with regards to potential cumulative effects with the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions, which states that due to insufficient detail being available from those projects to conduct a meaningful cumulative assessment at this stage, any potential cumulative impacts of the projects with Norfolk Boreas will need to be considered as part of the Dudgeon and Sheringham Shoal extensions EIA and subsequent application.
3.	**Impacts of Covid-19 and Brexit on supply chain and construction methodology** *Oulton Parish Council raised whether Covid-19 or Brexit could result in disruptions to supply chains, particularly from abroad and how this will impact the construction methodology and particularly the need for storage at the cable logistics area and whether this will result in increased traffic movements.*	The construction methodology, as detailed in Chapter 5 Project Description [APP-218] and as assessed throughout the Environmental Statement, will be employed and external factors would not alter this approach. The Applicant is committed to local supply chain content so far as possible to benefit local businesses and the local community [APP-244], this in turn would mitigate supply chain disruptions. Furthermore, the Outline Traffic Management Plan (OTMP) [REP10-016] secures the traffic management and mitigation measures, including control of HGV numbers. With respect to cable drum storage at the cable logistics area, the Applicant has assessed the maximum number of cable drum deliveries that could be required under the worst case (i.e. all project required cable drums delivered via the cable logistics area). This has been clarified within the Applicant's Clarification Note Cable Logistics Area [REP2-027] and the Written Summary of the Applicant's Oral Case at Issue Specific Hearing 3 (onshore) [REP4-013]. Therefore any external disruptions would not result in any additional cable drums or traffic movements than those already assessed. However, the Applicant will seek to minimise the number of cable drums delivered to the cable logistics area through just in time delivery directly to the joint bay locations where possible.
4.	**Maintenance of Road Network** *Oulton Parish Council raised concerns over maintenance of the roads as a result of additional traffic movements and who will fund this. A Cawston resident also raised concerns over the existing road condition and its future maintenance.*	The OTMP, submitted at Deadline 10 [REP10-016] details the cumulative commitments agreed by Norfolk Boreas Limited and Hornsea Project Three for the resurfacing of Cawston High Street including the reinstatement of surface depressions (e.g. old utility trenches) repair and raising to level carriageway 'ironwork'. Further measures are committed to for The Street, Oulton and consist of the following carriageway works; • Improvement of the existing bellmouth junction between The Street and the B1149 (Holt Road). • Widening of The Street near the Dorking farm access (using full carriageway construction).

		• Regrading of the existing road hump on The Street in the vicinity of the Old Railway Gatehouse to minimise noise and vibration impacts on the Old Railway Gatehouse. The OTMP [REP10-016], details the Highway Asset Management measures (Section 3.9, Page 33) which will be undertaken throughout the project and includes a commitment to undertake highway condition surveys prior to commencement of construction and after the substantial completion of construction works. In addition, any damage to the existing road network or public highway (including the post carriageway improvement works in Cawston and Oulton) as a consequence of the construction activities, will be made good to the reasonable satisfaction of Norfolk County Council (NCC). As explained in paragraph 71 of the OTMP [REP10-016], in addition to the powers set out in the draft DCO, relevant powers under the Highways Act (1980), the Road Traffic Regulation Act (1984) and the New Roads and Street Works Act (1991) may also be relied upon. It is anticipated that the above measures will be undertaken via a Section 59 (Recovery of Expenses Due to Extraordinary Traffic.) agreement under the Highways Act (1980). A Section 59 Agreement allows the Highway Authority (NCC) to recover from any person (in this case Norfolk Boreas Limited/Hornsea Project Three) the excess expenses incurred by the exceptional traffic generated by the cumulative construction traffic.
5.	**Impacts of construction traffic on other road users and services** *Oulton Parish Council, Interested Parties and local residents expressed concerns over potential effects on other road users such as cyclists, disruption of bus services and effects on emergency response times as a result of the high volume of construction traffic.*	The Traffic Management Act (TMA) was introduced in 2004 to legislate with regards to congestion and disruption on the road network. The TMA places a duty on local traffic authorities to ensure the expeditious movement of traffic on their road network and those networks of surrounding authorities (NCC and Highways England (HE) are the designated traffic authorities for the Project's study area). The TMA directs effective communication between highway authorities and parties interested in carrying out street works. The ES Chapter 24, Traffic and Transport [REP-237] recognises the TMA as key legislation and the application has been developed in accordance with the duties placed on the traffic/highway authorities recognising the needs of all road users and assessing and mitigating the potential significant impacts. In determining the Application, NCC and HE will place their TMA duties as a key consideration.

		Traffic impacts are assessed in full within ES Chapter 24 Traffic and Transport. The impact assessment considers the effect that the additional construction traffic would have on driver delay. This assessment has been undertaken for all the road links that Norfolk Boreas require for construction traffic. No significant impacts have been identified associated with driver delay for Norfolk Boreas alone or cumulatively with Hornsea Project Three. On this basis no significant driver delay impacts are anticipated for local bus services or for the emergency services. In practice, all construction vehicle drivers will be reminded within their 'Driver Induction Packs' (which must be provided in accordance with the OTMP [REP10-016]) that they must adhere to Highway Code 219 which states: *"**Emergency and Incident Support vehicles.** You should look and listen for ambulances, fire engines, police, doctors or other emergency vehicles using flashing blue, red or green lights and sirens or flashing headlights, or Highways Agency Traffic Officer and Incident Support vehicles using flashing amber lights. When one approaches do not panic. Consider the route of such a vehicle and take appropriate action to let it pass, while complying with all traffic signs. If necessary, pull to the side of the road and stop, but try to avoid stopping before the brow of a hill, a bend or narrow section of road. Do not endanger yourself, other road users or pedestrians and avoid mounting the kerb. Do not brake harshly on approach to a junction or roundabout, as a following vehicle may not have the same view as you."* The Applicant refers to the Applicant's response to the ExA's further written question Q2.14.2.9 [REP5-045]. The Highway Mitigation Scheme at Oulton has been designed to comply with the functional hierarchy of The Street. As there is no formal cycleway, bridleway or footpath designation there is no requirement to make special provisions for this mode of travel. The Oulton scheme was subject to an independent Road Safety Audit (RSA) to identify aspects of engineering interventions that could give rise to road safety problems. The RSA and the scheme were subsequently approved by NCC.
6.	**Traffic Mitigation Proposals** *The Parish Council's, interested parties and local residents of Cawston and Oulton have raised concerns that they believe the proposed traffic mitigation schemes at Cawston and Oulton, to be un-workable*	Site specific traffic mitigation schemes have been developed for Link 34 B1145 Cawston and Link 68, The Street Oulton, and full details of these schemes are presented in the OTMP [REP10-016] sections 4.3.1 and 4.3.2 respectively. Both schemes have been designed to mitigate potential traffic impacts associated with Norfolk Boreas alone and cumulatively with HP3. With these mitigation measures in place the residual impacts on Link 34 and Link 68 are assessed in ES Chapter 24 Traffic and Transport (APP-237), to be reduced below significant levels. There has

	and have concerns over road space, delays and driver compliance and enforcement.	been extensive consultation with NCC as the Highway Authority on the development of the schemes and both have been subject to an independent Road Safety Audit (RSA) to identify aspects of engineering interventions that could give rise to road safety problems. The results of the RSA and the proposed mitigation schemes have subsequently been approved by NCC. A number of technical points regarding the proposed Highway Intervention Scheme (HIS) for Cawston, were raised during OFH2. A subsequent meeting was held to discuss these matters on the 20th July 2020 and the Applicant refers to the Position Statement on the Meeting with Cawston Parish Council [ExA.AS-2.D13.V1] for a response on these specific matters. The Applicant has continued to respond to and provide clarification on all the specific concerns raised on the Cawston HIS throughout the examination., Please refer to the Applicant's response to Open Floor Hearing 2 [ExA.OFH2.D13.V1] for further details. The Applicant refers to the Applicant's oral case at issue specific hearing 3 [REP4-013] agenda item 2, b) Oulton where it has provided responses on specific concerns regarding the traffic mitigation at Oulton.
7.	**Old Railway Gatehouse** *Residents expressed concerns over potential impacts as a result of the traffic movements and mitigation proposed is not enough.*	The Applicant is aware of the concerns raised by the residents of Old Railway Gatehouse and continues to engage with them to identify additional measures which would be mutually acceptable.
8.	**Siting of construction compounds** *Interested parties and local residents raised concerns over the location of construction compounds, particularly at Oulton where compounds are proposed to be sited for multiple projects.*	The Applicant refers to the Clarification Note Cable Logistics Area [REP2-027] which provides details of the cable logistics area, which is located to the south-east of Oulton, how it will be used by Norfolk Boreas (and Norfolk Vanguard) and cumulative considerations with the construction compound in Oulton proposed by Hornsea Project Three (HP3). To clarify, the cable logistics areas at Oulton is for use during the cable pulling activities only and is not a main construction compound, as is proposed by HP3. It is the Applicant's preferred strategy to deliver cable drums and associated materials directly to the jointing pit locations from the supplier, however a small number of cable drums (approx. 20) may be stored at the cable logistics area to act as a buffer in the event that delivery or installation issues arise. The cable logistics area may also accommodate a site office, welfare facilities and associated temporary infrastructure. The total daily HGV deliveries to the cable logistics area (cable drums and associated material) is

		considered to be up to 5 per day (10 HGV movements per day) and up to 20 employee vehicles per day, as secured in the OTMP Appendix 1 and 2 [REP10-019].
9.	**Impacts during construction activities** *Happisburgh Parish Council, interested parties and local residents raised concerns over impacts during construction with reference to noise, dust, lighting and out of hours working.*	The Applicant acknowledges concerns with regards to potential temporary effects on local residents during the construction activities and refers to the Outline Code of Construction Practice (OCoCP) [REP10-013] which details the control measures which will be adopted to minimise such impacts, including but not limited to control measures for; • Artificial light emissions (section 3.7); • Noise (section 9.2), including any enhanced mitigation measures (section 9.2.2.) which will be employed where required in the event of night time working, including at the landfall; and • Dust management (section 10.1.1). The OCoCP also includes information on local community liaison (section 2.4) and details how the Applicant is committed to effective and open communication with local residents and businesses who may be affected as a result of the construction works. A designated Norfolk Boreas Limited local community liaison officer will respond to any public concerns, queries or complaints in a professional and diligent manner and Parish Councils in the relevant area will be contacted (in writing) in advance of the proposed works and ahead of key milestones. This information will include indicative details of the timetable for the relevant works, a schedule of working hours, the extent of the works, and a contact name, address and telephone number in case of complaint or query. The onshore construction working hours (and exceptions to these) are specified in Requirement 26 of the dDCO and the OCoCP provides further details on working hours and timing of works (section 3.1). Works at the landfall may require 12 hours working during drilling activities but this will be subject to advance notification under Requirement 26 (4) which requires full details, including but not limited to the type of activity, vehicle movements and type, timing and duration and any proposed mitigation, of all essential construction activities undertaken outside of the specified working hours, which must also be agreed with the relevant planning authority in writing in advance, and must be carried out within the agreed time.
10.	**Impacts on hedgerows**	Under Scenario 2 sections of hedgerows will be removed along the cable route to facilitate duct installation. The removal of hedgerows along the cable route has been assessed in the

	An Interested Party raised concerns over the removal of hedgerows as a result of the cable route and effects on biodiversity.	Environmental Statement including any potential impact on biodiversity (see ES Chapter 22 Onshore Ecology [APP-235] and Chapter 29 LVIA [APP-242]). Embedded mitigation for the project includes minimising the number of hedgerow crossings as far as possible and when crossing hedgerows the width of the cable easement will be reduced to the running track and cable trenches only to minimise the amount of hedgerow removal. The maximum size of the hedgerow gap created during the two-year duct installation phase would be 13m (or up to 16.5m where the cable route crosses a hedgerow at an oblique angle) at any one location during duct installation under Scenario 2. Mitigation measures are detailed within Section 9.2 of the Outline Landscape and Ecological Management Strategy (OLEMS) [REP10-014], which includes; • all hedgerows to be subject to an Extended Phase 1 Habitat Survey prior to construction; • during detailed design, the project will seek to avoid mature trees within hedgerows through the micro-siting of individual cables, in order to retain as many mature trees as possible; and • a Hedgerow Mitigation Plan will be developed in consultation with Natural England prior to the removal of hedgerows. This mitigation plan will be included within the final Ecological Management Plan, secured through Requirement 24 of the DCO. This mitigation plan will detail the reinstatement approach for hedgerows removed during construction and the monitoring and maintenance requirements following hedgerow planting. All hedgerows will be reinstated, following guidance within the Norfolk hedgerow BAP and enhanced where possible. As a result, the ecological and landscape and visual impacts associated with hedgerow removal are short term and are not significant, as agreed with the local authorities and Natural England.
11.	**Impacts on Conservation Areas** *An Oulton resident referenced the presence of conservation areas and listed*	An assessment of potential impacts on the onshore historic environment has been undertaken and is presented in ES Chapter 29 Onshore Archaeology and Cultural Heritage [APP-241]. This includes a detailed assessment of potential impacts on the landscape character elements of the Blickling Conservation Area (referred to as heritage asset 356) where impacts will be temporary in nature and confined to the construction period and therefore are not considered to constitute

	buildings and the need to protect them from construction impacts.	harm to the significance of the Conservation Area (please refer to sections 28.6.2.1 and 28.7.5.2 of the ES for further details). The project avoids any physical impacts upon any listed buildings, however the impact assessment methodology adopted for onshore archaeology and cultural heritage is not limited to direct physical impacts, but also assesses possible indirect (nonphysical) impacts upon the setting of designated and non-designated heritage assets. The assessment identifies that the noise and vibration assessment (Chapter 25 Onshore Noise and Vibration [APP-238]) for the project concluded that, with the adoption of best practice and enhanced mitigation measures, residual impacts arising as a result of noise and vibration in relation to the construction phase will be reduced to no impact. As such noise and vibration impacts are not considered to represent a material consideration with respect to heritage setting and the construction works. Additional noise and vibration assessments associated with project construction traffic have been undertaken for Old Railway Gatehouse at Oulton (undertaken by Norfolk Vanguard and submitted as part of the Examination as Appendix 1 of the Broadland District Council Statement of Common Ground [REP10-036] and for Cawston Village (Clarification Note [REP8-028]), both assessments conclude that the predicted vibration impacts on buildings, including those designated as listed buildings, are below the threshold for cosmetic or structural damage. As the predicted vibration impacts on buildings, including those designated as listed buildings, are below the threshold level for cosmetic damage no further mitigation is required. Within the Statement of Common Ground with Broadland District Council (Version 4) submitted at Deadline 10 [REP10-036] all matters on above ground cultural heritage have been agreed.
12.	**Impacts on Tourism and Local Businesses** *Cawston Parish Council, Happisburgh Parish Council and Interested Parties raised concerns over impacts on tourism and businesses as a result of construction traffic.*	An assessment of the potential effects on local tourism during the construction phase, are assessed in ES Chapter 30 Tourism and Recreation (APP-243). Issues related to disruption to local residents and businesses have further been considered in ES Chapter 31 Socio-economics (APP-244) and also during consultation as detailed in the Consultation Report (Appendix 3.3 - Hearing Your Views III [APP-030], Appendix 24.1 - Section 42 responses [APP-180] and Appendix 25.1 - Section 47 responses [APP-181]). It is concluded that following mitigation the residual potential impacts are not significant.

		As detailed in the Applicant's response to the ExA's third written questions [REP8-015] Q3.13.2.1, the Applicant has committed to a number of embedded mitigation measures to ensure that the impact of construction on local tourism and businesses is minimised. For example; • Tourism and recreation receptors were considered as part of site selection and the constraints mapping process. Through constraints mapping and site selection, overlap and direct interaction with a number of key sites have been avoided such as The North Norfolk AONB and the Heritage Coast, Blue flag beaches, golf courses, caravan parks. • A strategic approach to delivering Norfolk Boreas and Norfolk Vanguard and use of a sectionalised workfront strategy has been adopted to minimise the amount of land being worked at any one time and would minimise overall disruption. • A commitment has been made to a long HDD at the landfall to avoid restrictions or closures to Happisburgh beach and retain open access to the beach during construction. There is also an agreement not to use the beach car park at Happisburgh South. • Community engagement is ongoing and will continue throughout the development of the project including with key tourism and recreation stakeholders, including business owners in the vicinity of the onshore works.
13.	**Landscape impacts and proposed mitigation for the onshore above ground infrastructure** *Interested parties raised concerns over the potential visual impact of the onshore above ground infrastructure, and expressed that the mitigation proposed would be insufficient. Reference was made to not sufficiently mitigating the HVDC infrastructure and the need for 10 years planting and maintenance.*	The Applicant refers to the Applicant's response to Open Floor Hearing 2 [ExA.OFH2.D13.V1], Item 7, where it has provided a response regarding visual impact of the onshore infrastructure including accuracy of visualisations and mitigation proposals, with reference to lower ground levels, earth banks and mature planting. The landscape mitigation measures, embedded in the indicative plans for the onshore project substation (APP-492, APP-495, APP-503, APP- 508) have been developed for the HVDC infrastructure and are considered in the LVIA to be sufficient to mitigate potential landscape and visual impacts experienced in the local area, albeit in some instances over a time frame of between 15 and 25 years. As secured in the OLEMS (Version 5) [REP-014] '*During the development of the landscape management scheme for the onshore project substation, the use of bunding will be given further consideration as part of the overall detailed design. There will also be consideration regarding opportunities to extend the currently proposed new areas of woodland planting, potentially into parts of those areas currently identified for species rich grassland, and providing these do not compromise improvements to the provision for bio-diversity.'*

		The Applicant refers to the Applicant's response to the ExA's written questions [REP2-021] Q9.5.2 on the use of the industry standard 5 year aftercare period. Also to the Applicant's comments on responses to the ExA's fourth written questions [REP11-007] Q4.9.6.4 where the Applicant responds to Necton Parish Council's request for extending the planting and maintenance period, by confirming that an appropriate aftercare period of 5 years is secured for all planting in the Breckland administrative area and no evidence has been submitted to demonstrate that this aftercare period is not sufficient. Therefore, it is not necessary to secure an extended aftercare period. An additional 5 year aftercare period has been secured in North Norfolk however this is as a result of evidence submitted by North Norfolk District Council on the challenging growing conditions closer to the coast, such evidence is not applicable to the Breckland area.
14.	**Design of the onshore project substation** *Holme Hale Parish Council raised that more consideration should be given to mitigating impact through design not just landscaping and that the design should be progressed and secured prior to consent.*	The application is based on realistic worst-case parameters for the onshore project substation. The design of the onshore project substation will continue to be developed post-consent and a detailed design will be submitted for approval in accordance with dDCO Requirement 16 and any principles included within the Design and Access Statement (DAS) [REP7-005]. The DAS explains the principles and concepts that have influenced the form and appearance of the elements of the onshore project substation area and provides a tool to communicate how the requirements for good design and access provision have been considered, and will be considered for the detailed design of the onshore project substation in due course. The Applicant refers to Issue Specific Hearing 1 and 2 Action Points [REP2-033] where, in response to Action Point 12 from the ExA, the Applicant engaged with Breckland Council to outline why further design definition is not possible at this stage. A note on the Onshore Project Substation Design is included as Appendix 1 to the SoCG [REP9-013]. In summary, it is important to maintain flexibility in design to ensure the best available technology and design can be implemented. Furthermore, the design and layout will differ from supplier to supplier, such that until procurement exercises have been completed, specific designs are not available. However, the maximum design parameters are secured through dDCO Requirement 16 and the mitigation proposals have been designed based on these maximum parameters. During the detailed design stage consideration will be given to the design of the onshore project substation as well as landscaping proposals to mitigate visual impacts. The Applicant refers to the DAS [REP7-005] section 5.3.6 which details the design process which will be followed and the Design Guide which will be developed and set out the design approach and mitigation to be

		applied to the onshore project substation. The design process will include engagement with a range of stakeholders including Holme Hale Parish Council.
15.	**Operational noise** *Interested parties raised concerns over the operational noise at the onshore project substation and the proposed limits.*	The Applicant refers to the following previous submissions where the Applicant has responded to concerns raised regarding the operational noise of the onshore project substation: • Applicant's Comments on Deadline 5 Submissions [REP6-013], section 1.8 on the baseline noise survey undertaken; • Applicant's Comments on Deadline 6 Submissions and Other Submissions [REP7-016], sections 1.1 and 1.11 and on noise receptors; • Applicant's Comments on Deadline 8 submissions [REP9-011] section 1.4 on operational noise limits. The Applicant refers to ES Chapter 24 [APP-238] which provides full details on how the operational noise criteria have been derived and assessed in accordance with British Standard 4142. Requirement 27 of the dDCO contains noise limits for the operational onshore project substation, which were set by Breckland Council and can be summarised as not exceeding 35 dB LAeq (5minutes) at any time at a free field location immediately adjacent to any noise sensitive location. A further limit of 32 dB Leq (15minutes) also applies to the 100Hz third octave band. Detailed noise assessments have shown that with proven noise reduction technology or procurement of low noise emitting equipment, this requirement can be readily achieved, and no impacts will occur.
16.	**Plane Crash Contamination** *An Interested Party raised concerns over potential contamination following the historic plane crash.*	The Applicant refers to the response previously provided regarding ground contamination in the Applicant's Comments on Relevant Representations (AS-024). Specifically, Table 14 item 7. In summary, the Applicant has set out the approach to assessing potentially contaminated sites in the ES Chapter 19 Ground Conditions [APP-232) and ES Appendix 19.2 Land Quality Preliminary Risk Assessment [APP-584], 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. The proposed mitigation provided in the Outline Code of Construction Practice [REP10-012] includes a commitment to providing a written scheme for dealing with contamination of any land and groundwater, approved by the local planning authority in consultation with the Environment Agency. This will include further ground investigations and further assessment of potential

		contaminants in the relevant on-site source areas including the plane crash area. This will include a radiological investigation, undertaken by a specialist contractor, to identify any potential radiological impacted soils from the plane crash and if required ensure appropriate controls are in place, to mitigate impacts.
17.	**National Farmers' Union (the NFU)** *The NFU raised points on (1) a managing agent for interaction between an OFTO and landowners; (2) wording in paragraph 69 and 70 of the Design and Access Statement; (3) the crossing with Hornsea Project Three (HP3) and the principles from the position statement regarding the proposed order in which cables will be laid; (4) the wording in relation to Private Water supplies; and (5) the details to be provided with Article 16 and the timeframes under Article 26 of the dDCO.*	**1. Managing Agent for OFTO** The Applicant continues to engage with the NFU with respect to considering a managing agent as a point of singular contact for landowners during operation. **2. Design and Access Statement** As detailed and secured in the DAS [REP7-005] the Applicant is committed to consulting with a range of stakeholders including relevant landowners on the design of the onshore project substation. In the Applicant's comments on responses to the ExA's fourth written questions [RE11-007] in response to the NFU to Q4.9.6.6 the Applicant confirmed that 'relevant landowners' does include the landowners directly impacted by the onshore project substation and the Applicant is committed to engaging with them as the development progresses. In accordance with the design process set out in section 5.3.6 of the DAS [REP7-005] this will include consultation through the design guide on preferences to colour and material of the convertor buildings. **3. Crossing with HP3 and the Position Statement** As noted in the Statement of Common Ground with the NFU [REP10-037], the Applicant and the NFU are aligned on the position with respect to the principles of the Hornsea Project Three crossing. The Applicant can confirm that the outcome of the Norfolk Vanguard decision does not change the principles of the Hornsea Project Three crossing. **4. Private Water supplies** The Applicant refers the NFU to the Applicant's response to the fourth round of Written Questions, Q4.13.3.2 at Deadline 11 [REP11-007]. The Applicant has included wording within the updated outline CoCP [REP10-013] to reflect the Applicant's final position on private water supplies. The Applicant considers that this wording should be the final wording included in the CoCP for the reasons outlined in response to Q4.13.3.2 [REP11-007] and given that it reflects the principle of

		the request from the NFU yet, at the same time, allows a necessary measure of control and reasonableness. **5. Article 16 and Article 26** In relation to Article 16 (*Authority to survey and investigate the land onshore*), the Applicant refers the NFU to the Applicant's response to the fourth round of Written Questions, Q4.5.1.1 at Deadline 11 [REP11-007]. The Applicant notes the NFU's comments, however this does not change the Applicant's previous position. It should also be noted that Article 16 has since been included in the as made Norfolk Vanguard DCO 2020 in the same form as that included within the Norfolk Boreas dDCO [REP11-003]. In view of the overlap in the onshore areas across both the Norfolk Vanguard and Norfolk Boreas DCOs, it could cause confusion for contractors, local authorities, and landowners/occupiers if Vattenfall had to adopt different procedures and processes for the survey and investigation of land under the Boreas DCO. In relation to the timeframes within Article 26 (*Temporary use of land for carrying out the authorised* project), the Applicant refers the NFU to its response to the ExA's third round of Written Questions, Q.3.5.1.3 at Deadline 7 [REP7-017] for reasons why 14 days is appropriate in these circumstances. The Applicant notes the NFU's points, however these do not change the Applicant's previous position outlined at REP7-017. Furthermore, the as made Norfolk Vanguard DCO 2020 has a 14 day timeframe for notice of temporary possession under the same respective Article. Having a separate notice period in the Boreas DCO could decrease the ability for the projects to co-ordinate entry onto land. This could, in effect, lead to greater disruption for landowners as one set of contractors could be entering after 14 days (under the Norfolk Vanguard DCO) and then, if the NFU's wording was accepted in the Boreas context, one set of contractors could be entering 14 days later (following the expiry of a 28 day notice period under the Boreas DCO). In addition to the reasons outlined previously in REP7-017 and Q2.5.1.8 at REP6-014, the Applicant therefore considers that there should be consistency across the Norfolk Vanguard and Norfolk Boreas DCOs for the purposes of Article 26. Accordingly, the Applicant does not consider it necessary or appropriate to amend Article 16 and/or Article 26.

18.	**Land Interest Group (LIG) and individual landowner** *In addition to points in relation to substation noise, siting, bunding, and mitigation planting (that are covered in the responses above), the LIG and Mr Allhusen also made submissions in relation to previous engagement / negotiations, and land-locking.*	The Applicant's Order Limits do not land lock access between the landowner's field parcels because the existing access track has been excluded from the Order Limits. During a meeting on the 23rd March 2020, the landowner raised with the Applicant that whilst the existing track width of approximately 3m had been excluded from the Order Limits, this may not allow sufficient room for larger scale agricultural machinery, such as combine harvesters with headers, to negotiate the access between the land parcels. Concern was raised by the landowner that if mitigation planting was installed to the boundary of the Order Limits that this may limit access for larger agricultural machinery which over sail beyond the width of this track. As a result, the Applicant agreed to exclude planting or other constraints to access in an area of the Order land (amounting to 12m inclusive of the existing access track) to address this concern. The Applicant has offered to secure this through private agreement with the landowner. A plan illustrating the Order Limits, the access track excluded from the Order Limits, and the 12m exclusion area inclusive of the existing access track has been submitted at Deadline 13 (Plan showing the 12m planting gap, ExA.AS-10.D13.V1). The Applicant refers to the Written Summary of the Applicant's Oral Case at Issue Specific Hearing 5 [ExA.ISH5.D13.V1] in this respect. The Applicant has engaged in ongoing dialogue with the landowner regarding several facets of the screening planting. In an email exchange with the landowner on 25 June 2020, the Applicant committed to provide cross-sectional images of the proposed screening planting, and the impact that different species and age-structures would have on the composition and efficacy of the planting screen created. The Applicant is due to provide these cross sections during the week commencing 27 July 2020. The Applicant has engaged in constructive dialogue with the landowner regarding the location of the screening planting, and both parties have exchanged views on the proposed species selection within the screening, and whether the impact of the screening could be enhanced by including other, more exotic, faster growing species. This dialogue has been wide-ranging and meaningful, and included an offer to discuss carrying out further planting on the landowner's property, outside of the Order Limits, at the expense of the Applicant. The landowner made reference to an absence of noise surveys at the landowner's property. The intention was to undertake a noise monitoring survey at Bradenham Hall to establish the existing noise experienced there during both the day and night. However, access was denied and monitoring locations were instead established on publicly accessible road verges that were a similar distance to the onshore cable route and onshore project substations The landowner has

		since requested that the Applicant undertakes further noise monitoring at the landowner's property. The Applicant is considering this request as a gesture of good will, and notwithstanding that the results will have no bearing on the application given that the worst case has already been assessed. The full results of the noise modelling are provided in Environmental Statement Chapter 25 Noise and Vibration (APP-238). In summary, the worst case night time noise at Bradenham Hall (with both Norfolk Boreas and Norfolk Vanguard in full operation) is modelled as being 25.7dB which is significantly below the relevant thresholds and only marginally above the current noise levels experienced at the property. Further baseline noise monitoring at the property would not change the modelled noise levels, i.e. the worst case noise would remain 25.7dB. The landowner stated the requisite assurance had not been provided in relation to consultation in respect of the final form of the converter station building and referred to photographs which he had been provided (copies of these photographs showing convertor stations examples are presented in Appendix 1). Notwithstanding that the DAS requires consultation with 'relevant landowners', the Applicant emailed the landowner in early July confirming that this was the case. At the meeting in March the landowner expressed concern about the operation of and lighting on the site, particularly during construction, and reflected on experience of previous developments in the area. The Applicant wrote to the landowner in April, and included a note with details of the operating procedures relating to site management and lighting as detailed in the relevant sections of the Outline Code of Construction Practice (REP8-003). The landowner has expressed their preference for a different layout and approach to some of the landscaping and drainage features on the site as they relate to the landowner's property. Issues such as the relocation of an attenuation pond and the methodology of cable location within culverts have been discussed and the Applicant has committed to carry these requests into the detailed design stage. In summary, the Applicant has engaged in an open and practical dialogue with the landowner. The discussions have evolved significantly in recent months, and the Applicant believes it has shown a flexible and reasonable approach to the requests and concerns of the landowner. The

		Applicant is committed to continuing to engaging positively with the landowner at all stages of the Project.
19.	**Cawston Alternatives** *Cawston Parish Council and interested parties stated that better alternatives to the HIS are available and have been disregarded by the Applicant due to cost.*	The Applicant has, in response to the Third Written Questions [REP7-017] Q3.14.1.8, given clear reasons why alternative options 2, 3, and 4 through Cawston are unworkable and disproportionate. A key reason for this is that they would not apply to either Norfolk Vanguard or HP3, and therefore would not address any potential cumulative impacts. Whilst Option 5 would address potential cumulative impacts, Option 5 is not supported by Norfolk County Council, or Cawston Parish Council, as detailed in their Response to the ExA's Third Round of Written Questions [REP8-036] and therefore is unable to be progressed. The Position Statement on Cawston Traffic [REP5-054] and the Applicant's response to the ExA's Further Written Questions [REP5-045] Q2.14.1.6 clearly sets out how the Applicant fully explored the alternative options. The Applicant considered the alternatives proposed by Cawston Parish Council and how they could be implemented, identifying five separate options for managing traffic around Cawston. The Applicant undertook a full review of each of the five options to identify their constraints and benefits in terms of meeting the proposed construction methodology, traffic and transport requirements, delivery within the order limits, additional land requirements and their potential environmental impacts. The findings of the Applicant's assessment were shared with Cawston Parish Council, Norfolk County Council Highways Authority and Broadland District Council at the meeting on the 12th February 2020 and they were invited to comment on any aspects of the information. Option 2 would require the pre-construction of a separate haulage road in parallel to the proposed running track, from the B1149 to MA6 and due to the additional significant constraints relating to construction methodology, traffic demand, environment impacts and additional land requirements, (see Appendix 2 of REP5-054) this option does not represent a viable alternative and as indicated above could not be adopted by Norfolk Vanguard or HP3, and therefore would not address cumulative impacts. In summary, the Applicant fully explored the alternatives before reaching a reasoned conclusion, and neither expense nor inconvenience were reasons for eliminating any options. Further, an alternative is not required to mitigate the impacts on Cawston as it is agreed with NCC that the

		Highway Intervention Scheme is sufficient to mitigate against the traffic impact arising from the Project on Link 34 (Cawston) alone and cumulatively with other projects.
20.	**Communication with Hornsea Project Three** *Cawston Parish Council and interested parties raised concerns that there was insufficient communication between Norfolk Boreas and Hornsea Project Three.*	The Applicant has been in communication with HP3 during the examination and refers to the Statement of Common Ground with Orsted HP3 (Version 4) submitted at Deadline 9 [REP9-026], which identifies the matters discussed and agreed. Specific engagement has also been undertaken on the development of the Cawston HIS, to ensure that any development of the HIS could and will be applied across all three projects and this is confirmed in the Deadline 11 submission from Orsted HP3 [REP11-026]. The OTMP (section 1.6.1) [REP10-016] and OCoCP (section 2.4) [REP10-012] outline the commitment to ongoing communication with HP3, the details of which will be set out in a communications plan and include; • Procedures for engaging with Hornsea Project Three; • Procedures for Norfolk Boreas and Hornsea Project Three to engage with the Highway Authority; and • Measures that Norfolk Boreas and Hornsea Project Three will initiate if any complaints are made by the local community, which include how these are communicated between the two developers.
21.	**Vibration effects on buildings at Cawston** *Interested parties raised concerns over impacts of vibration particularly on listed buildings in Cawston from increased traffic movements.*	The Applicant refers to the Clarification Note on Noise, Vibration and Air Quality Potential Effects of the Revised Highway Intervention Scheme [REP80-028], submitted at Deadline 8, which provides further information on the potential noise, vibration and air quality effects associated with traffic movements through Cawston. The findings of the vibration assessment noted that although the frequency of vibrational transfer events from HGV movements through Cawston to each building during the scheme during working hours (09:00 to 15:00 and 16:00 to 18:00) will occur more often, the predicted impacts are not significant. When using a conservative approach, using the highest measured level from the baseline survey (undertaken by HP3) at each of the four receptor locations (representative of listed and residential dwellings adjacent to the B1145 and including a listed building on the High Street), the predicted vibration impacts on buildings, including those designated as listed

		buildings, are below the threshold level for cosmetic and structural damage (detailed in Table 3.2 of the Clarification Note [REP8-028]) and therefore structural surveys are not required. In response to the ExA's fourth written questions [REP10-045] Q4.1.2.1 and the clarification note, Broadland District Council confirmed that '*In terms of vibration effects it is considered that these are acceptable based on the results of the H3 monitoring.'* Within the Statement of Common Ground with Broadland District Council (Version 4) submitted at Deadline 10 [REP10-036] all matters on above ground cultural heritage and vibration have been agreed.
22.	**Landfall Drilling Method** *Interested Parties raised concerns over the use of a HDD drilling method at the landfall.*	The Applicant refers to the Applicant's Oral Case at Issue Specific Hearing 3 [REP4-013] Agenda item 3 d) where it provided a written response to the concerns of using a Horizontal Directional Drilling (HDD) method at the landfall and consideration of other methods. The Applicant provided a detailed note covering this topic at Deadline 2 'Clarification Note Landfall' [REP2- 029] which included a description of a number of potential construction methods at the landfall including Horizontal Directional Drilling (HDD) and Direct Pipe/micro tunnelling. The Applicant's position is that HDD is a proven construction method, however alternative methods such as Direct Pipe are not precluded as they fall within the design envelope assessed and are not precluded by the terms used in Requirement 17 of the dDCO. The Applicant needs to ensure that the method chosen is appropriate. The specific method of drilling will be defined post-consent following further site investigation, detailed design and contractor engagement. The Applicant is required to provide a landfall method statement under dDCO Requirement 17 post-consent which will be approved by North Norfolk District Council in consultation with Natural England as the relevant statutory nature conservation body.

APPENDIX 1 CONVERTER STATION EXAMPLES

Plate 1 Dolwin1, Germany[1]

Plate 2 Caithness-Moray, Scotland[2]

[1] https://www.hitachiabb-powergrids.com/references/hvdc/dolwin1/_jcr_content/root/container/container_1726765586/container/image.coreimg.85.1600.jpeg/1593382907971/dorpen-header.jpeg

[2] https://res.cloudinary.com/dods/image/upload/c_fill,g_face,q_85,w_600,h_300/v1/polhome/energy/ssen_caithness_-_moray_spittal_substation_hwlbxf.jpg

Plate 3 ElecLink, England[3]

Plate 4 NEMO Link, England[4]

[3] https://press.getlinkgroup.com/media/cache/getlink_no_filter_photo/5d6e3d848217ef26994c4766

[4] https://eenews.cdnartwhere.eu/sites/default/files/styles/inner_article/public/sites/default/files/images/nemo_drone_dec17_0.jpg?itok=zijZNYPO

Plate 5 Borwin3, Germany[5]

5 https://www.tennet.eu/fileadmin/_processed_/2/b/csm_20180626_BorWin3_Konverterstation_Emden_Ost__5__fa4fee1c74.jpg