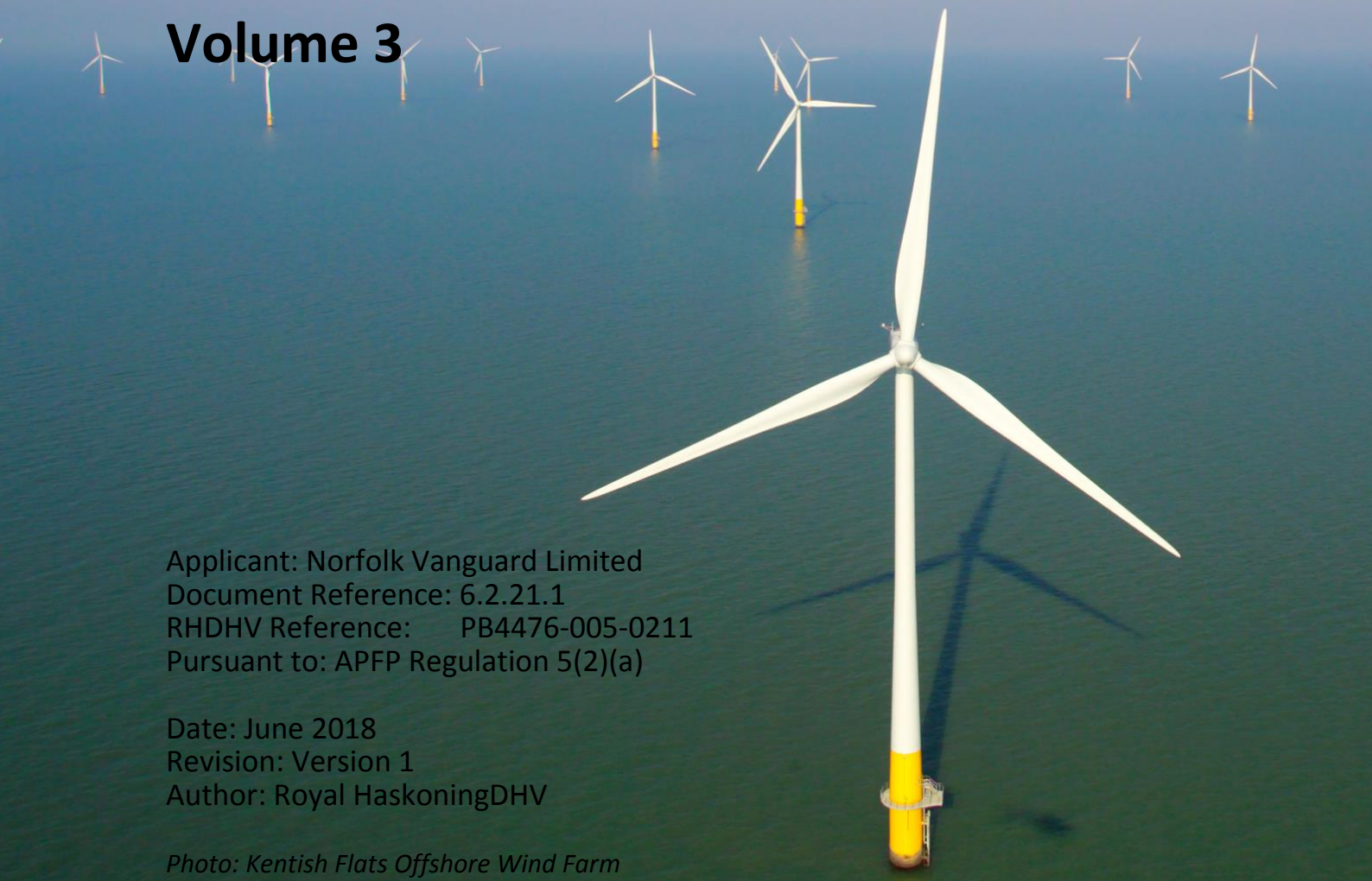
Norfolk Vanguard Offshore Wind Farm

Appendix 21.1

Consultation Responses

Environmental Statement

Volume 3



Applicant: Norfolk Vanguard Limited
Document Reference: 6.2.21.1
RHDHV Reference: PB4476-005-0211
Pursuant to: APFP Regulation 5(2)(a)

Date: June 2018
Revision: Version 1
Author: Royal HaskoningDHV

Photo: Kentish Flats Offshore Wind Farm

Environmental Impact Assessment
Environmental Statement

Document Reference: PB4476-005-0211

June 2018

For and on behalf of Norfolk Vanguard Limited

Approved by: Ruari Lean, Rebecca Sherwood

Signed: [redacted]

Date: 8th June 2018

For and on behalf of Royal HaskoningDHV

Drafted by: Sophie Thompson

Approved by: Jon Allen

Signed: [redacted]

Date: 25th May 2018

Date	Issue No.	Remarks / Reason for Issue	Author	Checked	Approved
29/03/18	01D	First draft for Norfolk Vanguard Limited review	ST	RH	AH
30/04/18	02D	Second draft for Norfolk Vanguard Limited review	ST	RH	AH/JA
25/05/18	01F	Final for ES submission	ST	JA	JA

Tables

21 APPENDIX 21.1

Table 21.1 Consultation Responses

Consultee	Date /Document	Comment	Response / where addressed in the PEI
SoS	Scoping Opinion November 2016	The Scoping Report has identified the need for works to be undertaken by National Grid at the Necton National Grid substation. The ES should describe these works as far as possible with the information available at the time. The ES should also identify whether there is any other consequential development, for example any upgrading of overhead lines, and consider any such works within the cumulative assessment.	Information on works undertaken as part of the National Grid substation extension is included in Chapter 5 Project Description.
Norfolk County Council	Scoping Opinion November 2016	.5.1.6 – Local planning policies and designations This section does not refer to the adopted Norfolk Minerals and Waste Core Strategy and Development Management Policies DPD or the Minerals and Waste Site Specific Allocations DPDs. These minerals and waste planning policy documents form part of the development plan and therefore should be referred to. They can be viewed on our website at: www.norfolk.gov.uk/nmwdf on the 'Adopted policy documents' page.	The Norfolk Minerals and Waste Development Framework 'Mineral Site Specific Allocations Development Plan Document' and the 'Core Strategy and Minerals and Waste Development Management Policies Development Plan Document' are referred to in section 21.2.2.
East Ruston Parish Council	PEIR November 2017	The loss of land suggested in the PEIR only relates to the CRS compound and control building rather than the full area impacted. The temporary compound, planting and arrival of Boreas will mean that the farmer will lose 30 acres of high-grade farmland, and it will have a significant impact on access to other areas and the day to day running of the business.	Norfolk Vanguard Limited has reviewed consultation received and in light of the feedback, has made a number of decisions in relation to the project design in order to deliver an environmentally sustainable project. One of those decisions is to deploy High Voltage Direct Current (HVDC) cable technology to the UK's National Grid and this removes the need for a Cable Relay Station from

Consultee	Date /Document	Comment	Response / where addressed in the PEI
			the project.
CPRE	PEIR December 2017	There is an overwhelming case for HVDC to be taken as an embedded mitigation measure for the onshore transmission of electricity from landfall to the national grid. In many ways it has advantages over the use of HVAC, and for differing aspects this is widely recognised by residents, farmers and the interests of nature conservation.	Norfolk Vanguard Limited has reviewed consultation received and in light of the feedback, has made a number of decisions in relation to the project design in order to deliver an environmentally sustainable project. One of those decisions is to deploy High Voltage Direct Current (HVDC) cable technology to the UK's National Grid and this removes the need for a Cable Relay Station from the project.
Happisburgh Parish Council	PEIR September 2017	The Council will not accept AC as an option, and recommends only DC as a possibility on the basis that AC is simply too disruptive to the fragile land in the village.	Norfolk Vanguard Limited has reviewed consultation received and in light of the feedback, has made a number of decisions in relation to the project design in order to deliver an environmentally sustainable project. One of those decisions is to deploy High Voltage Direct Current (HVDC) cable technology to the UK's National Grid and this removes the need for a Cable Relay Station from the project.
Oulton Parish Council	PEIR December 2017	Potential Mobilisation area on land near Docking Farm. • Consideration should be made regarding whether access to the site is suitable, as it would require HGV's to negotiate narrow country lanes with informal	Potential impacts on soils are discussed in section 21.6.4 and 21.7.5.3. Handling and protection of soils will be managed

Consultee	Date /Document	Comment	Response / where addressed in the PEI
		passing places. Possible conflict with year round use by agricultural vehicles, residents and other vehicles plus the possibility of cumulative impact from HGV's from Dong/Orsted Hornsea 3 project also accessing another potential compound on the old airfield at Oulton Street. • Impact of soil being returned to the trenches in the right order safe guarding future agricultural uses.	through the Soil Management Plan, the principles of which are included in the Outline Code of Construction Practice (OCoCP) (document reference 8.1) which has been produced and submitted alongside the DCO application. Embedded mitigation measures in relation to soils and drainage are considered in Table 21.14 and Table 21.15.
ES Pipelines National Grid Cadent Gas Ltd	PEIR November/ December 2017	ES Pipelines Ltd may be affected by the proposed works in the area of Norfolk Vanguard Offshore Wind Farm. ES Pipelines Ltd has a low pressure gas main serving the area in question (Reference Norfolk Vanguard Offshore Wind Farm) at grid reference E587959, N309485 and security of supply is vitally important. As your plans for the proposed work develop you are required to keep ES Pipelines Ltd regularly updated about the extent and nature of your proposed works in order for us to fully establish whether any additional precautionary or diversionary works are necessary to protect our gas network. National Grid requests to be consulted at the earliest stages to ensure that the most appropriate protective provisions are included within the DCO application to safeguard the integrity of our apparatus and to remove the requirement for objection. Where the Promoter intends to acquire land, extinguish rights, or interfere with any of Cadent's apparatus, Cadent will require appropriate protection and further discussion on the impact to its apparatus and rights including adequate Protective Provisions.	Potential impacts to utilities are assessed in section 21.7.5.6, section 21.7.6.4 and are shown on Figure 21.5. All utilities owners that are potentially impacted by the project will be further consulted post-submission of the DCO and post-consent where necessary to ensure agreements are reached on the details of construction and operation of the project.
Royal Mail	PEIR December	Vattenfall should confirm more precisely that it has the location of any post boxes or other apparatus / infrastructure in order that	Traffic flows have been assessed in Chapter 24 Traffic and

Consultee	Date /Document	Comment	Response / where addressed in the PEI
	2017	Royal Mail can check and confirm ownership (or otherwise).	Transport, and will provide potential impacts on the road network during construction and operation of the project.
NFU	PEIR December 2017	AC v DC Cables We would like Vattenfall to keep the NFU and its members updated at all times as to the decision regarding HVDC or HVAC.	Norfolk Vanguard Limited has reviewed consultation received and in light of the feedback, has made a number of decisions in relation to the project design in order to deliver an environmentally sustainable project. One of those decisions is to deploy High Voltage Direct Current (HVDC) cable technology to the UK's National Grid.
NFU	PEIR December 2017	Construction We understand that once a jointing pit has been established the cables will be pulled through and joined together and once jointed the ground above would be reinstated. A 100m sections may be carried out in one go but that the running track will remain in situ until all of the duct installation is complete. Further it is not clear as to whether if on commissioning there was a problem, would it be necessary for these sections to then have to be reopened?	Further details regarding construction can be found in Chapter 5 Project Description.
NFU	PEIR December 2017	Corridors Further justification is required as to why a 100m working corridor is required?	Norfolk Vanguard Limited has reviewed consultation received and in light of the feedback, has made a number of decisions in relation to the project design in order to deliver an environmentally sustainable project. One of those decisions is to deploy

Consultee	Date /Document	Comment	Response / where addressed in the PEI
			High Voltage Direct Current (HVDC) cable technology to the UK's National Grid and this removes the need for a 100m corridor. Under the HVDC technology, a working width of 45m is required to include a running track, cable trenches, topsoil storage and adequate separation distance between cables. An indicative cross section of the working width is provided in Chapter 5 Project Description.
NFU	PEIR December 2017	There are general concerns on how will the running track be built and will different methods to be discussed with farmers and landowners. Further will access be allowed along the running track or will this only be for construction traffic? How are contractors going to take access to the running track and that access point must be agreed with farmers and landowners. Further how are farmers to access their land which has been severed by the working strip?	Where land area is separated by the works, access for farm vehicles would be maintained where practicable, in consultation with individual landowners and occupiers. Where necessary, crossing points would be agreed prior to construction. Embedded mitigation in relation to farm traffic is included in Table 21.14 and Table 21.15. Chapter 5 Project Description and Chapter 24 Traffic and Transport provide further details on the construction methodology for accesses.
NFU	PEIR December 2017	The NFU would like to see that an agricultural liaison officer is appointed during construction and is available at all times	Details of mitigation measures which include the provision

Consultee	Date /Document	Comment	Response / where addressed in the PEI
		during construction 24 hours a day and 7 days a week.	of an Agricultural Liaison Officer can be found in section 21.7.5.1.3
NFU	PEIR December 2017	The NFU would like to receive further information on the following: • What is the intended permanent easement width, • Is an easement requested in perpetuity or time limited, • What restrictive covenants are to be put in place, • Is there to be a development clause.	Details of the permanent easement can be found in Chapter 5 Project Description. A 20m permanent easement will be sought, and discussions had with landowners in relation to any restrictions on certain activities agreed.
Colby and Banningham Parish Council	PEIR December 2017	The use of HVDC cabling will minimise the area of land take for the cable corridor, as the width will be reduced, and the cabling quicker to lay and less intrusive.	Norfolk Vanguard Limited has reviewed consultation received and in light of the feedback, has made a number of decisions in relation to the project design in order to deliver an environmentally sustainable project. One of those decisions is to deploy High Voltage Direct Current (HVDC) cable technology to the UK's National Grid. Under the HVDC technology, a working width of 45m is required to include a running track, cable trenches, topsoil storage and adequate separation distance between cables. An indicative cross section of the working width is provided in Chapter 5 Project Description.
Bidwells	PEIR December	Clarification on the restrictions to be imposed on the use of the land within the	Information can be found in Chapter 5

Consultee	Date /Document	Comment	Response / where addressed in the PEI
	2017	easement strip is required.	Project Description, however the permanent easement would seek to restrict activities which would penetrate the ground by more than 0.65m.
Bidwells	PEIR December 2017	Due to the increasing technology in agriculture, we require further details to justify the stated view that negligible impacts are predicted and to confirm it will not affect agricultural software. Could you confirm that there will be no effect on public health due to electromagnetic fields.	Norfolk Vanguard Limited is working closely with Ørsted regarding the crossing of the projects. A detailed study has been undertaken against government standards for potential EMF of both projects at the crossing point. The maximum EMF expected to be produced has been calculated as less than exposure limits. The crossing point is therefore compliant with UK EMF policy. This is detailed further, along with potential cumulative impacts on soils and agriculture, in Chapter 27 Human Health.
Savills	PEIR December 2017	The locations of the link boxes are yet to be determined, however it is noted that every effort must be taken that the Scheme should avoid the unnecessary loss of agricultural land which means that these need to be sited in boundaries and hedgerows following discussions with the landowner.	The site selection process and embedded mitigation has aligned the onshore cable corridor with field boundaries where possible to minimise sterilisation of land parcels. Further detail can be found in Table 21.14, Table 21.15 and in Chapter 4 Site Selection and Assessment of

Consultee	Date /Document	Comment	Response / where addressed in the PEI
			Alternatives.
Savills	PEIR December 2017	It has always been understood that access to the cable route would be obtained from the compounds/mobilisation zones which in turn would have been sited with suitable access to them so avoiding using the narrow country roads. Vattenfall confirmed that the side accesses were required to allow them to return and pull the cables through which would be at approximately 800 metre intervals. Clarification is needed. They were not intended to be used for duct installation process as the running track along the centre of the corridor will be used for the majority of the construction traffic. Many of the possible routes identified for access are wholly unsuitable. There have been no discussions or detail how landowners will be able to cross the working corridor to gain access to their other land if it has been land locked due to the presence of the corridor.	Further detail on access can be found in Chapter 5 Project Description and in Chapter 24 Traffic and Transport.
Savills	PEIR December 2017	There is considerable concern over EMF and the impact on health. The PEIR is unclear what mitigation Vattenfall will be undertaking due to the uncertainty on the appropriate policy. Further clarification needed. Greater detail is also required on potential interference on Soil Sense Technology, RTK and other agricultural software.	Norfolk Vanguard Limited is working closely with Ørsted regarding the crossing of the projects. A detailed study has been undertaken against government standards for potential EMF of both projects at the crossing point. The maximum EMF expected to be produced has been calculated as less than exposure limits. The crossing point is therefore compliant with UK EMF policy. This is detailed further, along with potential cumulative impacts on soils and agriculture, in Chapter 27 Human Health.

Consultee	Date /Document	Comment	Response / where addressed in the PEI
Savills	PEIR December 2017	Greater clarity is required on how the soils are to be treated, what is the weed control programme, how will the soils be stored, under what conditions will you undertake reinstatement, how do you propose to reinstate? What topographical and geological analysis will be undertaken?	The principles of a Soils Management Plan (SMP) are included in the OCoCP (Document reference 8.1), which has been produced and submitted with the DCO application. Contractors must comply with the contents of the SMP during construction.
Savills	PEIR December 2017	There are a number of alternative routes that have been discussed with Vattenfall but do not appear to be included within the PEIR. There are also a number of amendments to the route within the PEIR which landowners have not been advised of.	Further information is provided in Chapter 4 Site Selection and Assessment of Alternatives.
Savills	PEIR December 2017	Recent field trials have shown that cereal crops have a root depth in excess of a metre. What will be the impact of the cables be on growing crops?	The permanent easement would seek to restrict activities which would penetrate the ground by more than 0.65m.
Savills	PEIR December 2017	Due to the diverse range of soil types confirmation is required that the land will be worked on in the appropriate conditions ie. working on heavier land in the Summer months and lighter land in Spring and Autumn. This will ensure that the land is reinstated and given the best opportunity to recover following the works. We understand re-instatement will be phased in line with duct installation, please confirm.	The principles of a SMP are included in the OCoCP (Document reference 8.1). Contractors must comply with the contents of the final SMP during construction. The duct installation strategy allows for the reinstatement of land following duct installation in 150m stretches, thereby minimising the time trenches are open. Chapter 5 Project Description provides more detail.
Savills	PEIR December 2017	The Running Track will be removed following the completion of the ducting, however it is noted that up to 20% of the route will not	Chapter 5 Project Description provides more detail, however

Consultee	Date /Document	Comment	Response / where addressed in the PEI
		have the running track removed. Further details of these areas are required and what mitigation measures are proposed to reduce any issues in this regard.	In some locations, isolated sections of the running track will be left in place from the duct installation works or required to be reinstated to allow access to more remote joint locations.
Savills	PEIR December 2017	The PEIR states existing drains will be dammed or diverted. Blocking, pumping or quickly re-connecting existing ditches dissected by the scheme is vitally important during construction work to prevent the cable corridor becoming waterlogged and subsoils damaged. This includes field ditches and dykes that are seasonally wet, existing ponds and watercourses.	Table 21.14, Table 21.15 and section 21.7.5.1 provide information on drainage mitigation measures.
Savills	PEIR December 2017	During wet periods, limiting mechanised soil handling where soils are highly vulnerable to compaction will prevent permanent damage to their structure. It would be beneficial to incorporate into the construction plan the avoidance of wintertime soil excavations on lowland marsh, clayey soil or poorer draining soils where a high water table might be present. These should perhaps be considered for spring and summertime excavation and drier soils dug during winter months.	The principles of a SMP are included in the OCoCP (Document reference 8.1), detailing best practice during construction to protect the soil resource.
Savills	PEIR December 2017	How will fertility, biological activity and organic context be maintained or reinstated? Additionally, how will this be recorded, monitored and inspected by the land owner or their agent to ensure these measures are actually undertaken to the required standard?	The principles of a SMP are included in the OCoCP (Document reference 8.1), detailing best practice during construction to protect the soil resource.
Brown and Co	PEIR December 2017	What methods will be used to ensure the subsoil is not damaged during installation? • Will also soils be tested prior to works starting? • What methods will be deployed in the event of inundation with rainwater? • Will there be appropriate means to deal with large volumes of surface water ponding?	The principles of a SMP are included in the OCoCP (Document reference 8.1), detailing best practice during construction to protect the soil

Consultee	Date /Document	Comment	Response / where addressed in the PEI
		• Will there be appropriate means to manage large volumes of water borne soil runoff? • What provisions will be made to source additional topsoil that is a close match to the destination land?	resource.
Brown and Co	PEIR December 2017	Biosecurity during works period is very important for farmers with clean farms and those who have high value crop contracts o How will biosecurity be managed during the works process? • How will biosecurity be managed if the event of soil import • Will full pre-works surveys be carried out to establish disease status of land?	The principles of a SMP are included in the OCoCP (Document reference 8.1), detailing best practice during construction to protect the soil resource.
Brown and Co	PEIR December 2017	Installation works will severely disrupt soil profiles with potential long-term impact o Will full soil profile surveys be carried out before works are undertaken? • What is the proposed specification of soil surveys?	The principles of a SMP are included in the OCoCP (Document reference 8.1), detailing best practice during construction to protect the soil resource.
Brown and Co	PEIR December 2017	Installation of cables will potentially disrupt in field drainage schemes. o Please confirm that full pre-scheme drainage investigations will take place? • Landowners will in many cases wish to use their 'normal' drainage contractor to advise on and carry out remedial works. Please confirm that this will be acceptable?	Table 21.14, Table 21.15 and section 21.7.5.1 provide information on drainage mitigation measures.
Brown and Co	PEIR December 2017	Many fields have services underground including water and electricity supplied o Will full pre-works surveys be carried out to establish the infrastructure that is in place? • Can it be confirmed that any interruption to services and any associated losses incurred, if any, will be compensated at the time?	Potential impacts to utilities are assessed in section 21.7.5.6, section 21.7.6.4 and are shown on Figure 21.6. A utilities search will be commissioned pre-construction to identify any utilities that may potentially be impacted by the project.
Brown and Co	PEIR December	Where land is cut off and not viable to farm all lost crops or cropping opportunity must	Private agreements will be sought between Norfolk

Consultee	Date /Document	Comment	Response / where addressed in the PEI
	2017	be compensated. Please confirm this?	Vanguard Limited and relevant landowners/occupiers regarding any measures required in relation to crop loss incurred as a direct consequence of the construction phase of the project.
Brown and Co	PEIR December 2017	It is important that Vattenfall carry out full soil surveys prior to entry to enable proper restoration to take place. Such tests should assess (as a minimum): i. Mineral and Nutrient content ii. Soil composition iii. Pathogen content	Mitigation in relation to soils and proposed pre-construction works is detailed in section 21.7.1.