From:	Gemma Keenan
To:	Tracey Williams
Cc:	[redacted]
Subject:	Norfolk Vanguard - Email 16 of 18 Deadline 1 Submissions
Date:	16 January 2019 14:59:07
Attachments:	ExA;WQApp20.2;10.D1.3 Norfolk Vangard WQ Appendix 20.2 Topographic Survey.pdf ExA;WQApp20.3;10.D1.3 Norfolk Vanguard WQ Appendix 20.3 MM RR responses.pdf ExA;WQApp22.1;10.D1.3 Norfolk Vanguard WQ Appendix 22.1 Annex A.pdf ExA;WQApp22.2;10.D1.3 Norfolk Vangard WQ Appendix 22.2 Annual Report-Financial Statement.pdf ExA;WQApp23.1;10.D1.3 Norfolk Vanguard WQ Appendix 23.1 Integrity Matrices.pdf

Dear Tracey

This is email 16 of 18 of the Applicant's submission for Norfolk Vanguard Examination Deadline 1.

We enclose the following documents:

Appendices to Written Questions:

1. Appendix 20.2 Topographic Survey: Onshore substation and National Grid substation extension
2. Appendix 20.3 Response to marine mammal RR comments
3. Appendix 22.1 Annex A
4. Appendix 22.2 Signed annual report and financial Statement
5. Appendix 23.1 HRA Integrity matrices

Please could you kindly confirm receipt.

Best Regards

Gemma Keenan BSc, MIEMA, CEnv
Senior Environmental Consultant

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Norfolk Vanguard Offshore Wind Farm

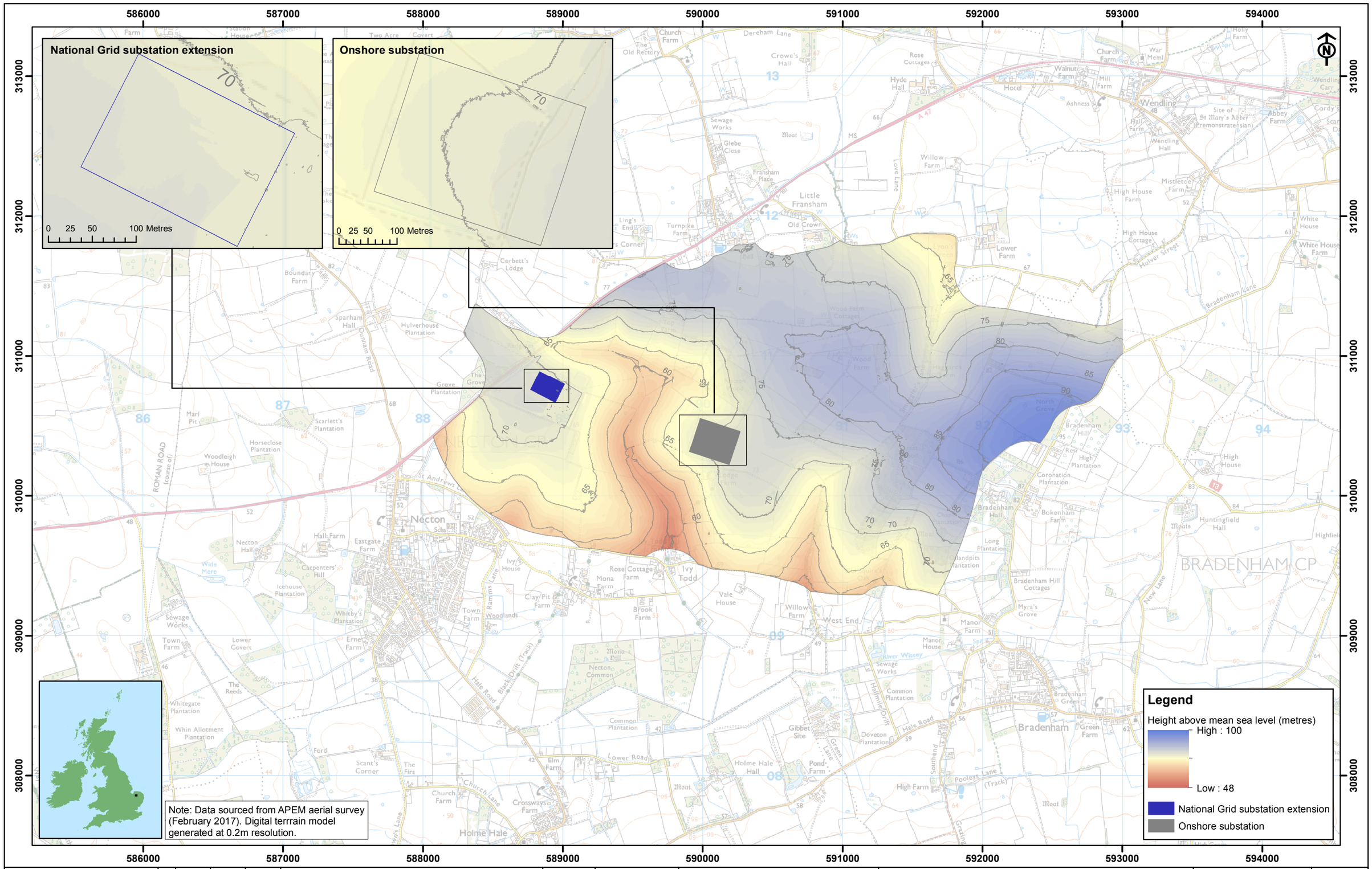
The Applicant Responses to First Written Questions

Appendix 20.2 – Topographic Survey: Onshore substation and National Grid substation extension(Q20.25)

Applicant: Norfolk Vanguard Limited
Document Reference: ExA;WQApp20.2;10.D1.3
Deadline 1

Date: January 2019

Photo: Kentish Flats Offshore Wind Farm



This drawing/map has been produced to the latest known information at the time of issue. Please consult with the Vattenfall GIS team to ensure the content is still current before using the information contained on this map.

VATTENFALL

Vattenfall Wind Power Ltd, St Andrews House, Haugh Lane, Hexham, England. NE46 3QQ. Tel +44 (0) 1434 611300

Rev	Date	Drawn By	Checked By	Comment
A	04/01/19	LICO	LHOP	First issue

Datum	OSGB 1936
Projection	British National Grid
Plot	A3
Scale	1:25,000

0 0.5 1 km

NORFOLK VANGUARD WIND FARM

Topographic survey: Onshore substation and National Grid substation extension

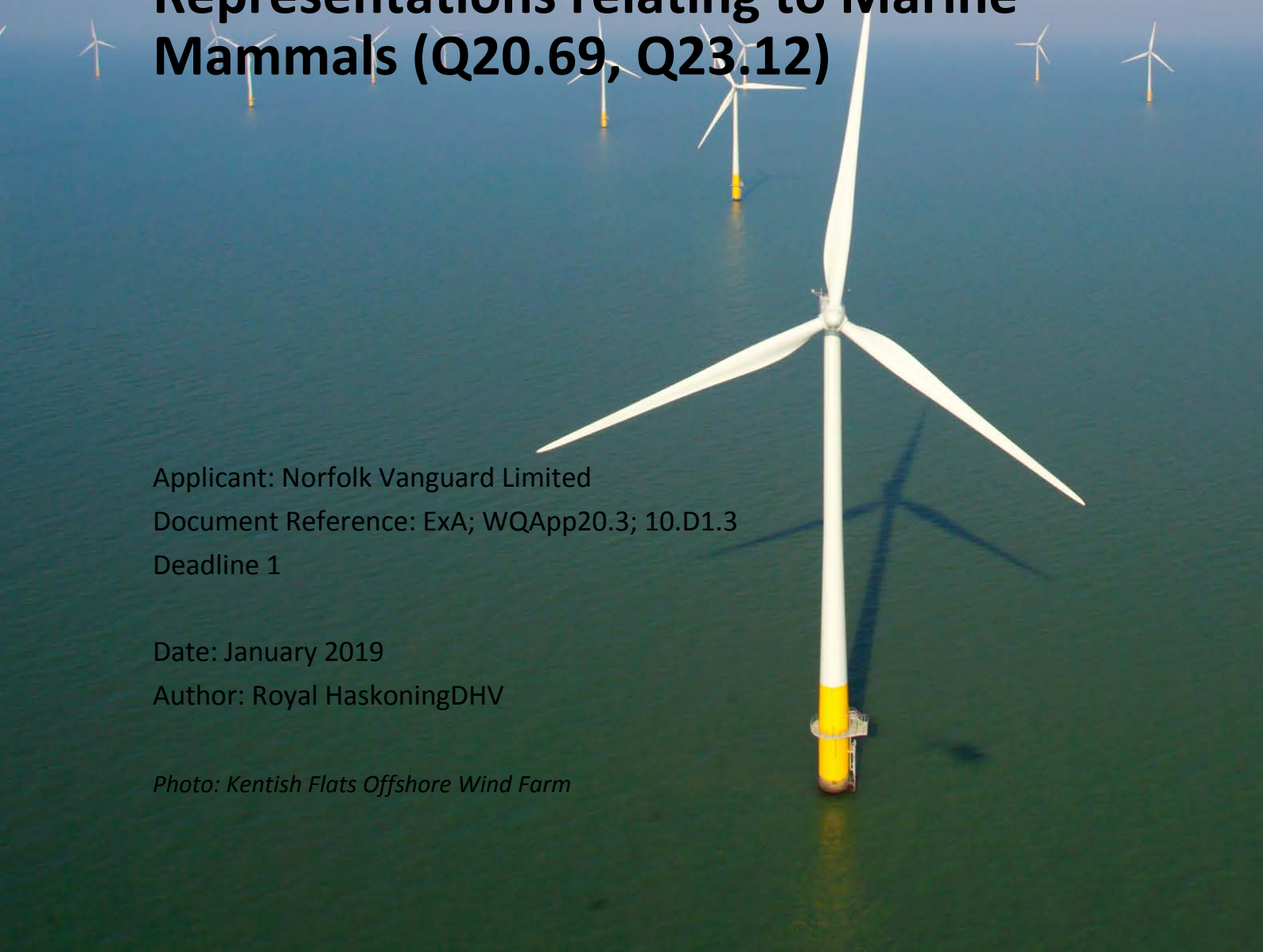
Confidentiality Class	C2 - Medium
Drg No	UNV-1AG-700-011
Rev	A
Layout	n/a

Ref files: UNV_OINF_SUB_PN_v01_181016lico27700, UNV_DTMr_Sstn_2017_0_2m_27700, UNV_EVHT_HeightLn_v01_190104lico27700

Norfolk Vanguard Offshore Wind Farm

The Applicant Responses to First Written Questions

Appendix 20.3 - Relevant Representations relating to Marine Mammals (Q20.69, Q23.12)



Applicant: Norfolk Vanguard Limited

Document Reference: ExA; WQApp20.3; 10.D1.3

Deadline 1

Date: January 2019

Author: Royal HaskoningDHV

Photo: Kentish Flats Offshore Wind Farm

Date	Issue No.	Remarks / Reason for Issue	Author	Checked	Approved
07/01/19	01D	First draft for Norfolk Vanguard Ltd review	JL/GK	GK	GK
11/01/19	02D	Second draft for Norfolk Vanguard Ltd review	GK	GK	GK
13/01/19	03D	Final	GK	GK	GK

Table of Contents

1 INTRODUCTION

1. This document provides the Applicant's response to the Relevant Representation comments referred to in the following First Written Questions:

- Q20.69 "*Comment on the relevant representations of 03 August 2018 from Whale and Dolphin Conservation [RR-013], and in particular each of its key recommendations, explaining what consideration has been given to such matters, where they are included within the dDCO, and, where the Applicant considers it appropriate, how the dDCO could be amended to secure the recommendations or otherwise justifying their non-inclusion*."
  - See Section 2 of this document for the Applicant's response to each of Whale and Dolphin Conservation (WDC)'s comments in RR-103.
- Q23.12 "*Please respond to the comments made by NE and the MMO regarding in-combination impacts on the Southern North Sea cSAC".*
  - See Sections 3 and 4 of this document for the Applicant's response to comments from Natural England and the MMO relating to the Southern North Sea candidate Special Area of Conservation (cSAC)/Site of Community Importance (SCI).

2 WHALE AND DOLPHIN CONSERVATION SOCIETY'S RELEVANT REPRESENTATION (RR-013)

Question	Response
WDC are particularly concerned that the construction of Norfolk Vanguard offshore wind farm has the potential to negatively impact cetaceans, in particular harbour porpoises and the integrity of the Southern North Sea SCI, for which harbour porpoise (*Phocoena phocoena*) are the qualifying feature. As Norfolk Vanguard offshore windfarm lies directly within the SCI, in both summer and winter habitat for harbour porpoises, our concern is that the windfarm construction will impact the SCI both alone and in-combination. WDC have concerns regarding the effectiveness of some noise mitigation methods and the SNCB guidance on noise management within mobile species marine protected areas (MPAs). The planned installation of all windfarms, as well as other activities within and adjacent to the SCI, have the potential to disturb the harbour porpoise population of the SCI and so should be taken into consideration.	This has been taken into account in the Information to Support HRA report (document reference 5.3).
Our primary concern for Norfolk Vanguard Offshore Windfarm development surrounds the intense noise pollution resulting from pile driving for all cetacean species in the region. Should consent be granted, our key recommendations for this development are: • That pile driving is not used at all during construction;	Section 5.4.3 of ES Chapter 5 Project Description presents the possible foundation types currently available or under design and which have been considered in the Norfolk Vanguard envelope. Based on current technology and market availability, a monopile solution is likely to be the most economical solution available for the size of wind turbines proposed and water depths within the Norfolk Vanguard offshore wind farm sites. Removing piled foundations from the consent envelope for Norfolk Vanguard would therefore increase the cost of energy to the consumer and significantly affect the commercial viability of the project.
• That strict limits be placed on noise levels during construction, including cumulative noise;	The Site Integrity Plan (SIP), required under Development Consent Order (DCO) Schedules 9 and 10 Part 4 condition 14(m) and Schedules 11 and 12 Part 4 condition 9(l), in accordance with the In-Principle SIP (document reference 8.17), provides the framework for agreeing mitigation measures with the Marine Management Organisation (MMO) prior to construction. The SIP will be based on the best available information and guidance at that time.
• That proven mitigation methods are in place around the source to mitigate the impacts of radiated noise levels;	Reduction of noise at source is included as a potential mitigation measure in the In-

Question	Response
	Principle Site Integrity Plan (SIP) (document reference 8.17).
• That a robust impact monitoring strategy (Marine Mammal Monitoring Plan (MMMP)) is developed for the range of species that can reasonably be expected to be impacted;	DCO, Schedules 9 and 10 Part 4 Condition 14(f) and Schedules 11 and 12 Part 4 condition 9(f), requires a MMMP, based on the draft MMMP (document reference 8.13) to be agreed with the MMO prior to construction. This provides the framework to identify appropriate marine mammal mitigation based on the best available information at that time.
• That WDC is included as a consultee of the MMMP and that we are included in the discussions for the design of the MMMP as we have concerns regarding effectiveness of some mitigation methods;	In relation to the discharge of Conditions in the DMLs, the MMO will be the relevant authority and it is considered that the MMO would consult relevant nature conservation bodies where appropriate.
• A robust MMMP should include: shut-down when marine mammals approach within a specified distance of operations (mitigation zone);	The current JNCC guidance for minimising the risk of injury to marine mammals from piling noise (2010) states: *"When piling at full power, there is no requirement to cease piling or reduce the power if a marine mammal is detected in the mitigation zone."* The MMMP provides the framework to identify appropriate marine mammal mitigation based on the best available information and guidance prior to construction.
• That the monitoring strategy is appropriate to consider cumulative impacts of all developments in the region;	The In Principle Monitoring Plan (IPMP) (document 8.12) provides an appropriate framework to agree monitoring requirements with the MMO prior to construction. Section 4.5.2 of the IPMP acknowledges that there may be little purpose or advantage in site specific monitoring and a strategic approach may be more appropriate in providing answers to specific questions where significant environmental impacts have been identified at a cumulative/in-combination level.
• Ground-truthing of modelled noise assessment data should be undertaken;	Noise monitoring would be undertaken as stated in Condition 19(1) of the Deemed Marine Licence (DML). Section 4.6 of the IPMP outlines the proposals for construction noise monitoring (if pile driving is required) of the first four piled foundations of each foundation type to be installed. If required, underwater data will be recorded that allows a comparison with the assessed underwater noise modelling

Question	Response
	with analysis using un-weighted metrics, such as peak sound pressure level, sound exposure level and peak to peak pressure level.
• Should any incident that results in mortality occur during construction, activities should be halted immediately until an investigation can be completed;	No mortalities of marine mammals are expected as a result of Norfolk Vanguard. In the unlikely event that a post mortem showed Norfolk Vanguard to be the cause of death, the MMO would have the power to issue a stop notice under Section 102 of the Marine and Coastal Access Act, should they determine that this represents serious harm to the environment.
• An assessment report is publicly available within a reasonable timeframe of construction completion.	Reporting of monitoring results will be submitted to the MMO at a timeframe agreed through the Construction Programme and Monitoring Plan (as required under DCO Schedules 9 and 10 Part 4 Condition 14(1)(b) and Schedules 11 and 12 Part 4 Condition 9(1)(b).

3 NATURAL ENGLAND'S RELEVANT REPRESENTATION (RR-106) - COMMENTS SPECIFIC TO THE SOUTHERN NORTH SEA CSAC/SCI

Table 1 Natural England's Relevant Representation (RR 106) comments relating to the Southern North Sea cSAC/SCI

Ref	Question	Response
4.4.1	As a result of the in-combination effect of underwater noise during the construction period at the project (from piling and UXO clearance), the Information to Support the HRA indicates that there is potential for Likely Significant Effect (LSE). Natural England advises that without the Site Integrity Plan and a mechanism to control subsea noise from multiple sources, there could be the potential for an adverse effect on the integrity of the Southern North Sea cSAC because of potential impacts on harbour porpoise. This is not an issue unique to the project and work will need to be undertaken to reduce the noise levels of multiple wind farms potentially constructing at the same time. This has been reflected in the Environmental Statement.	The SIP (as required in DCO Schedules 9 and 10 Part 4 Condition 14(1)(m) and Schedules 11 and 12 Part 4 Condition 9(1)(l), in accordance with the In Principle Site Integrity Plan (application document 8.17) provides an appropriate framework to agree mitigation measures for effects on the Southern North Sea cSAC/SCI prior to construction. This has been agreed with Natural England, as shown in the Statement of Common Ground (SoCG) (document reference Rep1-SOCG-13.1).
4.4.5	Natural England notes the forthcoming Review of Consents (RoC) regarding the Southern North Sea cSAC, required under regulation 33 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. Natural England has advised that as part of the RoC process the SNCB advice on acceptability of disturbance using the Thresholds Approach needs to be applied (subjected to no other suitable alternative approach/s being presented) for those projects that are already consented.	The Applicant has applied the threshold approach advised by the Statutory Nature Conservation Bodies (SNCBs) in the Information to Support HRA Report (document reference 5.3).
4.4.6	The SNCBs are aware from our work with the developers and review of the environmental statements for consented projects that certain Round 3 OWF projects have the ability to exceed the 20% disturbance threshold, especially if piling occurs simultaneously. Therefore, as part of the RoC process a mechanism needs to be identified and implemented to control the number of piling events to ensure that thresholds are not exceeded. It is Natural England advice that until that happens an AEoI cannot be excluded for consented projects.	The In Principle SIP (application document 8.17) provides an outline of potential mitigation measures, including the option of Scheduling of Piling (Section 6.1.3 of the In Principle Site Integrity Plan). The DCO (Schedules 9 and 10 Part 4 Condition 14(1)(m) and Schedules 11 and 12 Part 4 Condition 9(1)(l)) states: *In the event that driven or part-driven pile foundations are proposed to be used, the licenced activities, or any phase of those activities must not commence until a site integrity plan which accords with the principles set out in the in principle Norfolk Vanguard Southern North Sea candidate*

Ref	Question	Response
		Special Area of Conservation Site Integrity Plan has been submitted to the MMO and the MMO is satisfied that the plan, provides such mitigation as is necessary to avoid adversely affecting the integrity (within the meaning of the 2017 Regulations) of a relevant site, to the extent that harbour porpoise are a protected feature of that site. The Applicant therefore proposes that the Appropriate Assessment can conclude no adverse effect on integrity as piling cannot commence until the MMO is satisfied that there would be no adverse effect on integrity.
4.4.7	It is Natural England's view that the assessment of any future plan or project, such as Norfolk Vanguard, is unable to fully complete any in-combination assessment and Habitat Regulation Assessments until: - a) The RoC consent process has concluded and the predicted level of disturbance to the SNS cSAC from the consented projects is agreed; and b) A mechanism is in place to ensure that disturbance can be limited to an acceptable level. NB: The provision of a Marine Mammal Mitigation Plan is designed to protect a marine mammal from the risk of physical injury and relates to at source protection. And whilst those mitigation measures for physical injury may also help reduce the overall scale of disturbance it doesn't remove the risk.	The draft HRA for the Review of Consents was published on 2 November 2018. This concludes no Adverse Effect on Site Integrity for the consented offshore wind farms, including in-combination effects. As discussed above, the SIP (DCO Schedules 9 and 10 Part 4 Condition 14(1)(m) and Schedules 11 and 12 Part 4 Condition 9(1)(l))) provides the framework to agree appropriate mitigation measures based on the latest guidance and provides the mechanism for the MMO to ensure that disturbance can be limited to an acceptable level, as piling cannot commence until the MMO is satisfied that there would be no adverse effect on integrity. As outlined in the In Principle SIP (Table 2.1 of document 5.3), it is proposed that the SIP would be updated to capture all relevant assessments and mitigation measures. This will include updating the in-combination assessment, taking into account the conclusions of the RoC process.
4.4.8	Natural England therefore advises that adopting a condition that says that a particular project will not or cannot pile if 20% of the SAC is at risk of disturbance is not sufficient to be Habitats Regulations compliant. This is because there is currently no way of determining and controlling the real time risk that proposed management thresholds will be exceeded.	As discussed above, the SIP (DCO Schedules 9 and 10 Part 4 Condition 14(1)(m) and Schedules 11 and 12 Part 4 Condition 9(1)(l))) provides the framework to agree appropriate mitigation measures based on the latest guidance and provides the mechanism for the MMO to control the risk, as piling cannot commence until the MMO is satisfied that there would be no adverse effect on integrity.
4.4.9	Effectively the Worst Case Scenario (WCS) presented in the HRA will be that all consented projects and those in the planning system will undertake 'noisy' pre-construction site preparation and construction	As discussed above, the In Principle SIP (document reference 8.17) provides an outline of potential mitigation measures, including the option of Scheduling of Piling (Section 6.1.3 of the In Principle SIP). The SIP (DCO

Ref	Question	Response
	activities at the same time which will almost certainly result in an Adverse Effect on Integrity (AEoI). We recognise that this is an unrealistic WCS because for no other reason it is not technically feasible. However, it does remain probable that two, or more, projects will wish to undertake noisy activities at the same time and depending on the combination of projects there remains a high risk of an AEoI.	Schedules 9 and 10 Part 4 Condition 14(1)(m) and Schedules 11 and 12 Part 4 Condition 9(1)(l))) provides the framework to agree appropriate mitigation measures based on the latest guidance and provides the mechanism for the MMO to control the risk, as piling cannot commence until the MMO is satisfied that there would be no adverse effect on integrity.
4.4.10	Therefore, going forwards for all future projects and those projects currently in the planning system, we advise that there will be a requirement to provide '*a revised site integrity plan based on final project design including adoption of possible mitigation measures which confirms the proposed timeframes of both site preparation and construction activities which pose a disturbance risk to marine mammals*' to the MMO 6 months prior to construction. Furthermore before permission can be granted for works to commence, the MMO in consultation with the relevant SNCBs will determine the acceptability of the both the proposals and the timings to ensure there will be no adverse effect on integrity.	The Applicant agrees with the requirement for a SIP, which the Applicant has committed to in DCO Schedules 9 and 10 Part 4 Condition 14(1)(m) and Schedules 11 and 12 Part 4 Condition 9(1)(l). Table 2.1 of the In Principle SIP (document 8.17), outlines an indicative programme for development of the SIP, in consultation with relevant stakeholders. The final SIP would be submitted for sign off at least four months prior to commencement of piling. The Applicant considers the four month time frame conditioned within the DMLs is appropriate and proportionate to allow the MMO sufficient time, given the consultation that is proposed in advance of the final submission. The four month time period is also contained in a number of other offshore wind farm DCOs.
4.4.11	As set out above in order to determine the acceptability of the timings there needs to be a mechanism in place to manage noisy activities. There also needs to be contingency measures identified for potential slips in programme. NE envisages this requiring the developers/industry and the regulators working much closer together to manage real time complex working agreements e.g. one project piling whilst another collects further foundations and vice versa.	As discussed above, the In Principle SIP (document reference 8.17) provides an outline of potential mitigation measures, including the option of Scheduling of Piling (Section 6.1.3 of the In Principle Site Integrity Plan). The SIP (DCO Schedules 9 and 10 Part 4 Condition 14(1)(m) and Schedules 11 and 12 Part 4 Condition 9(1)(l))) provides the framework to agree appropriate mitigation measures based on the latest guidance and provides the mechanism for the MMO to control the risk, as piling cannot commence until the MMO is satisfied that there would be no adverse effect on integrity.
5.3.2	The proposed development site lies within the Southern North Sea cSAC designated for the Annex II species harbour porpoise. The conservation objective for the site is to ensure the integrity of the site is maintained and that it makes an appropriate contribution to maintaining Favourable Conservation Status for harbour porpoise. Porpoise feed mainly on small	ES Chapter 11 Fish and Shellfish Ecology concludes minor impacts of the project on fish and shellfish and therefore the resultant effect on harbour porpoise due to changes in prey resources is assessed as negligible to minor (ES Chapter 12 Marine Mammals). It is therefore proposed that no monitoring of fish and shellfish ecology is required. However, it is agreed

Ref	Question	Response
	shoaling fishes from both demersal and pelagic habitats. It will therefore be essential to demonstrate that the fish assemblage has not been effected by the proposed development. Sandeels and herring play an important functional role in the food web, supporting many species including harbour porpoise.	with Natural England, as shown in the SOCG (reference Rep1-SOCG-13.1), that the In Principle Monitoring Plan (document reference 8.12) provides an appropriate framework to agree monitoring requirements post consent.

3.1 Natural England's Relevant Representation – Appendix 3

Table 2 Natural England's Relevant Representations (Appendix 3 of RR 106) specific to the Southern North Sea cSAC/SCI

Ref	Question	Response
Appendix 3 Comment 1.	The SNCBs are aware from our work with the developers and review of the environmental statements for consented projects that certain Round 3 OWF projects have the ability to exceed the 20% disturbance threshold, especially if piling occurs simultaneously. Therefore, as part of the RoC process a mechanism needs to be identified and implemented to control the number of piling events to ensure that thresholds are not exceeded. It is Natural England advice that until that happens an AEoI cannot be excluded for consented projects.	See response to comment 4.4.6 in Table 1 above.
Appendix 3 Comment 2.	It can therefore be rationalised/inferred that the assessment of any future plan or project, such as Norfolk Vanguard, is unable to fully complete any in-combination assessment and Habitat Regulation Assessments until: - a) The RoC consent process has concluded and the predicted level of disturbance to the SNS cSAC from the consented projects is agreed; and b) A mechanism is in place to ensure that disturbance can be limited to an acceptable level. NB: The provision of a Marine Mammal Mitigation Plan is designed to protect a marine mammal from the risk of physical injury and relates to at source protection. And whilst those mitigation measures for physical injury may also help reduce the overall scale of disturbance it doesn't remove the risk.	See response to comment 4.4.7 in Table 1 above.
Appendix 3 Comment 3.	Natural England therefore advises that simply adopting a condition that says that a particular project won't/can't pile if 20% of the SAC is at risk of disturbance is not sufficient to be Habitats Regulations compliant. This is because there is currently no way of determining and controlling the real time risk that proposed management thresholds will be exceeded.	See response to comment 4.4.8 in Table 1 above.

Ref	Question	Response
Appendix 3 Comment 4.	Effectively the Worst Case Scenario (WCS) presented in the HRA will be that all consented projects and those in the planning system will undertake 'noisy' pre-construction site preparation and construction activities at the same time which will almost certainly result in an Adverse Effect on Integrity (AEoI). We recognise that this is an unrealistic WCS because for no other reason it is not technically feasible. However, it does remain probable that two, or more, projects will wish to undertake noisy activities at the same time and depending on the combination of projects there remains a high risk of an AEoI.	See response to comment 4.4.9 in Table 1 above.
Appendix 3 Comment 5.	Therefore, going forwards for all future projects and those projects currently in the planning system, we advise that there will be a requirement to provide '*a revised site integrity plan based on final project design including adoption of possible mitigation measures which confirms the proposed timeframes of both site preparation and construction activities which pose a disturbance risk to marine mammals*' to the MMO 6 months prior to construction. Furthermore before permission can be granted for works to commence, the MMO in consultation with the relevant SNCBs will determine the acceptability of the both the proposals and the timings to ensure there will be no adverse effect on integrity.	See response to comment 4.4.10 in Table 1 above.
Appendix 3 Comment 6.	As set out above in order to determine the acceptability of the timings there needs to be a mechanism in place to manage noisy activities. There also needs to be contingency measures identified for potential slips in programme. NE envisages this requiring the developers/industry and the regulators working much closer together to manage real time complex working agreements e.g. one project piling whilst another collects further foundations and vice versa.	See response to comment 4.4.11 in Table 1 above.

Table 3 Natural England's Relevant Representations - Detailed Comments specific to the Southern North Sea cSAC/SCI

Ref	Question	Response
Detailed Comments no. 15.	The applicant commits to a final detailed SIP being produced at least four months prior to the commencement of pile driving. Whilst NE appreciates that the final, realistic assessment of in combination effects can only be completed once construction schedules for this and other projects are confirmed, we do not believe that 4 months is sufficient time to allow consideration of significant mitigation measures to be built into the project design. There is an onus on the applicant therefore to ensure that they submit as much detailed information as possible 12 months prior to construction starting (as detailed in Table 2.1)	Table 2.1 of the In Principle SIP (document 8.17), outlines an indicative programme for development of the SIP, in consultation with relevant stakeholders. The final SIP would be submitted for sign off at least four months prior to commencement of piling. The Applicant considers the four month time frame conditioned within the DMLs is appropriate and proportionate to allow the MMO sufficient time, given the consultation that is proposed in advance of the final submission. The four month time period is also contained in a number of other offshore wind farm DCOs.

Ref	Question	Response
Detailed Comments no. 16.	Natural England agrees that there would be no potential for an adverse effect on the integrity of the SNS cSAC in relation to the Conservation Objectives for harbour porpoise from Norfolk Vanguard alone (Table 5.3).	N/A, Agreement from Natural England
Detailed Comments no. 17.	Natural England agrees that only mitigation or management measures in relation to disturbance from UXO clearance and pile driving noise at Norfolk Vanguard require consideration in the SIP as these are the potential noise sources that could result in the significant disturbance of harbour porpoise in combination with other underwater noise sources during the construction period at Norfolk Vanguard.	N/A, Agreement from Natural England
Detailed Comments no. 18.	Natural England notes that In combination: 12,253 -15,091 harbour porpoise (4-4.4% of NS MU) Average overlap with summer SNS cSAC area = 5,887- 8,335km^2 (22-31%) Average overlap with winter SNS cSAC area = 3,481-5,929km^2 (26-44%) This will need to be checked with the figures for other projects when completing the AA	N/A, the Applicant understands this comment is directed at the Competent Authority.

4 MMO'S RELEVANT REPRESENTATIONS

The following MMO Relevant Representation (RR-186) comments relate specifically to the Southern North Sea cSAC/SCI:

- 1.13
- 4.8.1
- 4.8.2
- 4.8.3
- 4.8.4
- 4.8.5
- 4.8.6
- 4.8.7

The latest position of the Applicant and the MMO on each of these comments is provided in Appendix 1 of the Statement of Common Ground with the MMO (document reference Rep 1 -SOCG-11.1-App1).

Royal HaskoningDHV
Enhancing Society Together

VATTENFALL

Norfolk Vanguard Offshore Wind Farm

The Applicant Responses to First Written Questions

Annex A – List of all objections to the granting of compulsory acquisition powers (Q22.6)

Applicant: Norfolk Vanguard Limited
Document Reference: ExA;WQApp22.1;10.D1.3
Deadline 1

Date: January 2019
Author: Ardent Management Limited

Photo: Kentish Flats Offshore Wind Farm

Date	Issue No.	Remarks / Reason for Issue	Author	Checked	Approved
21.12.18	01D	First draft for Norfolk Vanguard Ltd review	JB	PG	RS
11.01.19	02D	Final	PG	PG	RS

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1 INTRODUCTION

1.1 Response to Question 22.6

1. Please see proceeding table which lists all relevant representations which refer to the objection to the use of Compulsory Purchase powers over their land.

2. A number of land interests have submitted a standard representation as drafted by the NFU. This has either been submitted by the landowner for themselves or submitted by a Land Agent on behalf of their client.

3. The NFU representation states the following: *'The NFU and the land agents LIG believe that no meaningful negotiations have taken place in regard to the site for the converter substation and the access routes. Therefore a compelling case as yet cannot be made'.*

4. The owner of the land on which it is proposed to site the converter station has not submitted a representation and therefore the reference to this within the standard NFU representation text is not taken account of for all parties submitting this representation wording.

5. The reference to the 'access routes' the Applicant understands refers to the land shown shaded green on the Land Plans (document reference 4.3). Therefore any landowner who has submitted this standard form of representation and who does not have rights of permanent access sought on their land, have been excluded from this table.

6. Therefore the parties that have been included in this table are those who have submitted the standard NFU representation and who own or tenant land where there are sought rights of permanent access sought, shown shaded green on the Land Plans.

7. There are two other representations which have been submitted referring to objections to the Compulsory Acquisition of their land. These are Network Rail Infrastructure limited and the National Trust. These two parties are also included in the table.

2 LIST OF ALL OBJECTIONS TO THE GRANTING OF COMPULSORY ACQUISITION POWERS

Obj No	Name / Organisation	IP / AP Ref No	RR Ref No	WR Ref No	Other Doc Ref No	Interest	Permanent / Temporary	Plot(s)	CA?	Status of objection
01	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of A W Ditch and Son		146	N/A	N/A	Part 1	Permanent / Temporary	09/12, 09/16, 10/02, 10/05, 10/14, 10/16, 09/13, 09/14, 10/07, 10/09, 10/03, 10/06, 10/10, 10/12, 10/13	Yes	HoTs Agreed
02	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Albanwise		147	N/A	N/A	Part 1	Permanent / Temporary	24/07, 24/13, 24/15, 24/17, 24/18, 25/01, 25/03, 25/05, 24/08, 24/11, 24/19, 25/02, 25/06, 24/09, 24/12	Yes	Outstanding
03	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Bradenham Hall Farms		149	N/A	N/A	Part 1	Permanent	37/22, 38/01, 38/04, 39/13, 40/01, 40/04, 40/11, 40/12, 38/02, 38/05, 38/08, 39/15, 39/16, 40/02, 40/03, 38/09, 38/11, 38/12, 39/01, 39/02, 39/04, 39/05, 39/06, 39/07,	Yes	HoTs Agreed

Obj No	Name / Organisation	IP / AP Ref No	RR Ref No	WR Ref No	Other Doc Ref No	Interest	Permanent / Temporary	Plot(s)	CA?	Status of objection
								39/09, 39/10, 39/12		
04	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Church Farm (Gimingham) Ltd		150	N/A	N/A	Part 1	Permanent	02/14, 02/23, 03/01, 02/15	Yes	HoTs Agreed
05	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of G F de Feyter and Partners		152	N/A	N/A	Part 1	Permanent / Temporary	06/11, 06/13, 07/02, 06/12, 06/14, 07/01	Yes	HoTs Agreed
06	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of G T Cubitt		153	N/A	N/A	Part 1	Permanent	04/12, 05/01, 05/02	Yes	HoTs Agreed
07	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Mr P Bunting		161	N/A	N/A	Part 1	Permanent	32/06, 32/07	Yes	HoTs Agreed
08	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Mrs P Carrick		165	N/A	N/A	Part 1	Permanent / Temporary	28/08, 29/02, 28/09, 28/10, 29/01, 29/03, 29/04, 29/05	Yes	HoTs Agreed
09	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Trustees of Stinton Hall Trust being Sir David Chapman, Grant Picher, Micheal Dewing and William Edwards		173	N/A	N/A	Part 1	Permanent / Temporary	21/10, 21/11, 21/17, 21/12, 21/13, 22/01, 22/04	Yes	Outstanding
10	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of C Siely		176	N/A	N/A	Part 1	Permanent	01/09, 02/12, 01/14, 01/16, 02/06, 02/07,	Yes	HoTs Agreed

Obj No	Name / Organisation	IP / AP Ref No	RR Ref No	WR Ref No	Other Doc Ref No	Interest	Permanent / Temporary	Plot(s)	CA?	Status of objection
								02/08		
11	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of G Hales and Mrs P Riches		181	N/A	N/A	Part 1	Permanent	02/09, 02/10	Yes	HoTs Agreed
12	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of L Padulli		185	N/A	N/A	Part 1	Permanent	10/17, 11/01, 11/05, 11/04	Yes	Outstanding
13	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Mr and Mrs M Jones		189	N/A	N/A	Part 1	Permanent / Temporary	29/06, 29/07, 29/09, 29/12, 30/02, 29/08, 29/13, 30/01	Yes	HoTs Agreed
14	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Mrs P Hinton		190	N/A	N/A	Part 1	Permanent	02/14, 02/23, 03/01, 02/15	Yes	HoTs Agreed
15	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of National Trust		191	N/A	N/A	Part 1	Permanent / Temporary	15/06, 15/09, 15/07, 15/13, 15/15, 16/03, 16/05, 16/08, 16/09, 16/10, 16/13, 17/01 17/02, 17/04, 17/07, 18/01, 15/08, 15/10, 15/12, 15/14, 16/02, 16/04, 16/07, 16/11, 16/14, 17/06	Yes	Outstanding
16	Addleshaw Goddard LLP on behalf of		192	N/A	N/A	Part 1	Permanent	10/04	Yes	Outstanding.

Obj No	Name / Organisation	IP / AP Ref No	RR Ref No	WR Ref No	Other Doc Ref No	Interest	Permanent / Temporary	Plot(s)	CA?	Status of objection
	Network Rail Infrastructure Limited									SOCG being sought.
17	NFU		193	N/A	N/A	N/A	N/A	N/A	N/A	Outstanding. SOCG being sought.
18	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of P Mutimer		195	N/A	N/A	Part 1	Permanent	11/14, 12/02, 11/15, 12/01	Yes	HoTs Agreed
19	The National Trust		202	N/A	N/A	Part 1	Permanent / Temporary	15/06, 15/09, 15/07, 15/13, 15/15, 16/03, 16/05, 16/08, 16/09, 16/10, 16/13, 17/01 17/02, 17/04, 17/07, 18/01, 15/08, 15/10, 15/12, 15/14, 16/02, 16/04, 16/07, 16/11, 16/14, 17/06	Yes	Outstanding
20	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Trustees of Salle Park Trust being Sir David Chapman, Grant Pilcher, Michael Dewing and William		203	N/A	N/A	Part 1	Permanent / Temporary	20/17, 20/19, 20/20, 21/01, 21/08, 20/18, 21/04, 21/07, 21/09, 20/21, 21/02, 21/06	Yes	HoTs Agreed

Obj No	Name / Organisation	IP / AP Ref No	RR Ref No	WR Ref No	Other Doc Ref No	Interest	Permanent / Temporary	Plot(s)	CA?	Status of objection
	Edwards									
21	Brown & Co on behalf of Bawdeswell Farms Ltd		225	N/A	N/A	Part 1	Permanent / Temporary	26/04, 26/06, 26/11, 26/13, 27/04, 26/12, 26/14, 26/15, 27/01, 25/07, 26/01, 26/03, 26/09, 27/07, 27/09, 27/11, 26/02, 26/05, 26/10, 27/03, 27/12	Yes	Outstanding
22	Brown & Co on behalf of David Hampson		230	N/A	N/A	Part 1	Permanent	36/15, 36/16, 36/17, 36/18	Yes	Outstanding
23	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Dillington Hall Estate		233	N/A	N/A	Part 1	Permanent / Temporary	33/16, 34/01, 34/07, 34/12, 35/07, 33/17, 34/02, 34/12, 35/02, 34/03, 34/04, 34/09, 34/10, 34/11, 34/13	Yes	Outstanding
24	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Farnham Farms Limited		236	N/A	N/A	Part 1	Permanent / Temporary	37/03, 37/04, 37/06, 37/10, 37/12, 37/15, 37/05, 37/13, 37/02, 37/07, 37/09, 37/16,	Yes	HoTs Agreed

Obj No	Name / Organisation	IP / AP Ref No	RR Ref No	WR Ref No	Other Doc Ref No	Interest	Permanent / Temporary	Plot(s)	CA?	Status of objection
								37/18		
25	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Lucy Keane and Matthew Keane		246	N/A	N/A	Part 1	Permanent	36/10, 36/21	Yes	HoTs Agreed
26	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Mark, Dorothy, Marilyn and David Howell		248	N/A	N/A	Part 1	Permanent	36/21, 36/06, 36/08, 36/11, 36/04, 36/05	Yes	HoTs Agreed
27	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Mills & Reeve Trust Corporation and Alexander Gavin Angell Lane		250	N/A	N/A	Part 1	Permanent	19/08, 20/08, 20/11, 20/07, 20/10	Yes	Outstanding
28	Brown & Co on behalf of Trustees of the Bawdeswell Settlement being David Gurney, David Brown, Kate Paul, William Barr		265	N/A	N/A	Part 1	Permanent / Temporary	26/04, 26/06, 26/11, 26/13, 27/04, 26/12, 26/14, 26/15, 27/01, 25/07, 26/01, 26/03, 26/09, 27/07, 27/09, 27/11, 26/02, 26/05, 26/10, 27/03, 27/12	Yes	Outstanding
29	Brown & Co on behalf of Trustees of the Gurloque Settlement		266	N/A	N/A	Part 1	Permanent / Temporary	26/04, 26/06, 26/11, 26/13, 27/04, 26/12, 26/14, 26/15, 27/01, 25/07,	Yes	Outstanding

Obj No	Name / Organisation	IP / AP Ref No	RR Ref No	WR Ref No	Other Doc Ref No	Interest	Permanent / Temporary	Plot(s)	CA?	Status of objection
								26/01, 26/03, 26/09, 27/07, 27/09, 27/11, 26/02, 26/05, 26/10, 27/03, 27/12		
30	Savills (UK)Ltd (Savills (UK)Ltd) on behalf of Mes A Green		158	N/A	N/A	Part 1	Permanent	02/20, 02/21	Yes	Outstanding
31	Savills (UK) Ltd (Savills (UK) Ltd) on behalf of Mrs A Jones		163	N/A	N/A	Part 1	Permanent / Temporary	27/16, 28/01, 28/03, 28/05, 28/06, 28/07	Yes	HoTs Agreed
32	Bidwells on behalf of Christopher S Wright		177	N/A	N/A	Part 1	Permanent / temporary	12/04, 12/06, 12/07, 12/08	Yes	Outstanding
33	Brown & Co on behalf of Mr Robert Clabon		252	N/A	N/A	Part 1	Permanent / temporary	08/11, 08/14, 08/16, 08/18, 08/22, 08/24, 09/01, 09/02, 09/04, 08/12, 08/13, 08/17, 08/20, 08/23, 09/03	Yes	Outstanding

Norfolk Vanguard Offshore Wind Farm

The Applicant Responses to First Written Questions

Appendix 22.2 – Annual Report and Financial Statement (Q 22.24)

Applicant: Norfolk Vanguard Limited
Document Reference: ExA;WQApp22.2;10.D1.3
Deadline 1

Date: January 2019

Photo: Kentish Flats Offshore Wind Farm

Registered number: 06205750

VATTENFALL WIND POWER LTD

ANNUAL REPORT AND FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31 DECEMBER 2017

VATTENFALL WIND POWER LTD

COMPANY INFORMATION

Directors	Gunnar Groebler Piers Guy Robert Zurawski Jonas Van Mansfeld
Company secretary	Sandra Leece
Registered number	06205750
Registered office	First Floor 1 Tudor Street London EC4Y 0AH
Independent auditors	Ernst & Young LLP 1 More London Place London SE1 2AF

VATTENFALL WIND POWER LTD

CONTENTS

VATTENFALL WIND POWER LTD

STRATEGIC REPORT
FOR THE YEAR ENDED 31 DECEMBER 2017

Introduction

This report provides an overview of the current year performance, position and main issues that have been considered by the directors.

Business review

During the year the further structuring of the UK business for Vattenfall has evolved. In relation to the transfers done in 2016 for the East Anglia Offshore Wind (EAOW) development areas and joint venture assets, the Company purchased the entity Eclipse Energy Company Limited from the other Vattenfall Group entity Eclipse Energy UK Limited (now Vattenfall UK Sales Limited) at its book value of £100. It renamed this entity to Norfolk Boreas Limited with the purpose of developing that part of the East Anglia zone in that entity. The other entity established for that purpose is Norfolk Vanguard Limited.

In this restructuring Norfolk Vanguard Limited has issued shares for £25 million to fund the assets acquired. In line with internal policies regarding the point of cost capitalisation for development projects in Norfolk Vanguard Limited the asset was written down to its expected recoverable amount as at 31 December 2017 and, therefore, the corresponding investment was also written off in the Company.

Furthermore, other business areas of Vattenfall group are pursuing business in the UK actively. For that purpose the Company has sold three of its undertakings to Vattenfall AB (the Vattenfall Group holding). BW OPS Limited (now Vattenfall Heat UK Limited), Border Wind Farms Limited (now Vattenfall Networks Ltd) and Border Wind Limited (now Vattenfall Network Solutions Ltd) have transferred the shareholding at their book values of £2, £2 and £450 respectively.

During the year the Company took into operation its onshore wind farm called Ray Wind Farm in England within the United Kingdom. By mid 2017 the wind farm had all turbines producing power and the Company took over from its suppliers in the third quarter of 2017. The Company has the intention to transfer the assets and related liabilities of this wind farm to its 100% subsidiary undertaking, Ray Wind Farm Limited, in 2018.

During the year the Company has issued new shares for a value of £105 million to fund the further growth of the asset portfolio, mainly through its undertakings.

On 1 January 2016, the Company sold 49% of their shares in Ormonde Energy Limited, a subsidiary undertaking, to AMF Pensionsförsäkring AB.

In March 2016 a 5MW solar panel park has begun operation next to Vattenfall's Welsh wind farm, Pendine. With this park, Vattenfall shows its ambition to further develop its strategy into the solar panel market.

The ultimate parent undertaking is Vattenfall AB. One of the key focus areas of Vattenfall's strategy is building a more sustainable energy portfolio. Vattenfall has a committed and ambitious strategy for growth in renewable generation and plans to invest around 50 billion Swedish Krona in new wind farms over the next five years.

In the financial year 2017, Vattenfall Group operated more than 1,100 wind turbines. As part of its strategy, Vattenfall is also further developing and constructing additional wind farms. Two additional wind farms were commissioned in 2017 and four additional wind farms were under construction at 31 December 2017. Of those four under construction, two are expected to commence operations in 2018 and two are expected to commence operations around 2022.

The Company made a profit before taxation for the year ended 31 December 2017 of £284 thousand (2016: profit of £79,480 thousand) based on turnover of £47,984 thousand (2016: £32,026 thousand).

STRATEGIC REPORT (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2017

Key performance indicators ("KPIs")

The principle KPI for the Company is project milestones, where budget, schedule, quality and safety are measured individually.

Principal risks and uncertainties

The Company is exposed to financial risk through its financial assets and liabilities. The key financial risk is that the proceeds from financial assets are not sufficient to fund the obligations arising from liabilities as they fall due. The most important components of financial risk are credit risk, liquidity risk and cash flow risk. Due to the nature of the Company's business and the assets and liabilities contained within the Company's Balance Sheet, the only financial risks the directors consider relevant to the Company are credit risk and liquidity risk. These risks are mitigated first with the Company being fully equity funded and, second, by the nature of the balances owed, with these due to other Vattenfall group companies. Credit exposure represents the extent of credit-related losses that the Company may be subject to on amounts to be received from financial assets. The Company, while exposed to credit-related losses in the event of non-performance by counterparties does not expect any counterparties to fail to meet their obligations given their high credit quality.

Operational risks are mitigated by having contractual arrangements in place and performing project management which results in adequate and timely construction services being delivered.

This report was approved by the board and signed on its behalf.

[redacted]

Jonas Van Mansfeld
Director

Date: 21-06-2018

VATTENFALL WIND POWER LTD

DIRECTORS' REPORT
FOR THE YEAR ENDED 31 DECEMBER 2017

The directors present their report and the financial statements for the year ended 31 December 2017.

Directors' responsibilities statement

The directors are responsible for preparing the Strategic report, the Directors' report and the financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare financial statements for each financial year. Under that law the directors have elected to prepare the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice), including Financial Reporting Standard 101 'Reduced Disclosure Framework'. Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Company and of the profit or loss of the Company for that period.

In preparing these financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- make judgments and accounting estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and to enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Principal activity

The Company's principal activities consist of the development, construction and operation of wind energy projects in the United Kingdom. The Company is a private limited company, domiciled in the United Kingdom and incorporated in England and Wales. During the year the Company's immediate parent undertaking was Vattenfall Vindkraft AB, a company registered in Sweden. The ultimate parent undertaking of the Company is Vattenfall AB, the Swedish based international utility company.

Going concern

The Company's cash flows are largely driven by its direct and intermediate parent companies and, as a consequence, the Company depends, in large parts, on the ability of these Vattenfall companies to continue as a going concern. The directors have considered the Company's funding and operational relationships with its direct and intermediate parents to date and have considered available relevant information relating to Vattenfall's ability to continue as a going concern. In addition, the directors have no reason to believe that the respective Vattenfall companies will not continue to fund the Company, should it become necessary, to enable it to continue in operational existence.

On the basis of these considerations, the directors have a reasonable expectation that the Company will be able to continue in operational existence for the foreseeable future. Therefore, they continue to adopt the going concern basis of accounting when preparing the financial statements.

DIRECTORS' REPORT (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2017

Results and dividends

The loss for the year, after taxation, amounted to £980 thousand (2016 - profit £81,990 thousand).

Dividend paid in the year is £nil (2016: £nil).

Directors

The directors who served during the year were:

Ole Bigum Nielsen (resigned 30 April 2017)
Carl Martin Reinholdsson (resigned 1 July 2017)
Peter Tornberg (resigned 1 July 2017)
Anthony James Wort (resigned 1 July 2017)
Gunnar Groebler
Piers Guy
Robert Zurawski
Jonas Van Mansfeld

Political and charitable contributions

During the year the Company made charitable contributions for educational purposes totalling £nil (2016: £200).

Future developments

The Company is continuously reviewing its business to stay responsive to the challenging energy market conditions and current low energy prices. Management has sourced its operation & maintenance with a service provider which allows for cost management and stability of cash flow. It is our policy to refrain from making any specific statements about expected future results. However, on the basis of risk analysis and adequate operational processes, we have faith that we will be able to tackle the challenges ahead and to stay on top of our operations.

Qualifying third party indemnity provisions

Certain directors benefited from qualifying third party indemnity provisions in place during the financial period and at the date of this report.

Disclosure of information to auditors

Each of the persons who are directors at the time when this Directors' report is approved has confirmed that:

- so far as the director is aware, there is no relevant audit information of which the Company's auditors are unaware, and
- the director has taken all the steps that ought to have been taken as a director in order to be aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

DIRECTORS' REPORT (CONTINUED)
FOR THE YEAR ENDED 31 DECEMBER 2017

Post balance sheet events

The Company has the plan to transfer the assets of the Ray Wind Farm and related liabilities to its 100% undertaking Ray Wind Farm Limited. This transfer is done in line with the majority of all of the Company's other assets which are separated in asset NPV's.

As a next step in the further structuring of the UK business of Vattenfall Group, the other Wind entities held by Vattenfall's 100% Dutch undertaking NV Nuon Energy will be transferred to the Company during 2018. This transfer will be executed as an intercompany transaction in which Vattenfall Group ownership shares are not changing and therefore will be executed at cost.

Auditors

The auditors, Ernst & Young LLP, will be proposed for reappointment in accordance with section 485 of the Companies Act 2006.

This report was approved by the board and signed on its behalf.

[redacted]

Jonas van Mansfeld
Director

Date: 21-06-2018

INDEPENDENT AUDITORS' REPORT TO THE SHAREHOLDERS OF VATTENFALL WIND POWER LTD

Opinion

We have audited the financial statements of Vattenfall Wind Power Ltd (the 'Company') for the year ended 31 December 2017, which comprise the Statement of Comprehensive Income, the Balance Sheet, the Statement of Changes in Equity and the related notes 1 to 24, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 101 "Reduced Disclosure Framework" (United Kingdom Generally Accepted Accounting Practice).

In our opinion the financial statements:

- give a true and fair view of the state of the Company's affairs as at 31 December 2017 and of its loss for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report below. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the United Kingdom, including the Financial Reporting Council's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the directors' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the Company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

Other information

The directors are responsible for the other information. The other information comprises the information included in the Annual Report, other than the financial statements and our Auditors' report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Opinion on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Strategic report and the Directors' report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic report and the Directors' report have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In the light of the knowledge and understanding of the Company and its environment obtained in the course of the audit, we have not identified material misstatements in the Strategic report or the Directors' report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

Responsibilities of directors

As explained more fully in the Directors' responsibilities statement on page 3, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Company or to cease operations, or have no realistic alternative but to do so.

Auditors' responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an Auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our Auditors' report.

Use of our report

This report is made solely to the Company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an Auditor's Report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

[redacted]

Stuart Darrington (Senior Statutory Auditor)

for and on behalf of
Ernst & Young LLP

London

Date: 25 June 2018.

VATTENFALL WIND POWER LTD

STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER 2017

	Note	2017 £000	2016 £000
Turnover	4	**47,984**	32,026
Cost of sales		**(56,615)**	(47,843)
Gross loss		**(8,631)**	(15,817)
Administrative expenses		**(32,882)**	(24,736)
Other operating income	5	**33,674**	29,678
Operating loss	6	**(7,839)**	(10,875)
Income from fixed assets investments	9	**15,593**	9,551
Write down of fixed asset investments	14	**(21,301)**	-
Profit on disposal of investments	14	**-**	75,140
Interest receivable and similar income	10	**15,003**	12,776
Interest payable and expenses	11	**(1,172)**	(7,112)
Profit before tax		**284**	79,480
Tax on profit	12	**(1,264)**	2,510
(Loss)/profit for the financial year		**(980)**	81,990
Total comprehensive income for the year		**(980)**	81,990

There were no recognised gains and losses for 2017 or 2016 other than those included in the Statement of Comprehensive Income. All amounts relate to continuing operations.

The notes on pages 13 to 31 form part of these financial statements.

VATTENFALL WIND POWER LTD
REGISTERED NUMBER:06205750

BALANCE SHEET
AS AT 31 DECEMBER 2017

	Note		2017 £000		2016 £000
Tangible assets	13		267,472		270,162
Investments	14		268,794		267,095
			536,266		537,257
Current assets					
Stocks	15	4,983		3,890	
Debtors due within 1 year	16	439,178		621,141	
Financial instruments	19	246		1,126	
Cash at bank and in hand	17	18,278		-	
		462,685		626,157	
Creditors: amounts falling due within 1 year	18	(80,695)		(349,987)	
Net current assets			381,990		276,170
Total assets less current liabilities			918,256		813,427
Provisions for liabilities					
Deferred taxation	20	(7,698)		(6,145)	
Other provisions	21	(11,592)		(12,336)	
			(19,290)		(18,481)
Net assets			898,966		794,946
Capital and reserves					
Called up share capital	22		787,000		682,000
Retained earnings			111,966		112,946
Total equity			898,966		794,946

The financial statements were approved and authorised for issue by the board and were signed on its behalf by:

[redacted]

Director

Date: 21-06-2018

The notes on pages 13 to 31 form part of these financial statements.

VATTENFALL WIND POWER LTD

STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 2017

	Called up share capital	Retained earnings	Total equity
	£000	£000	£000
At 1 January 2017	682,000	112,946	794,946
Comprehensive income for the year			
Loss for the year	-	(980)	(980)
Total comprehensive income for the year	-	(980)	(980)
Shares issued during the year	105,000	-	105,000
At 31 December 2017	787,000	111,966	898,966

VATTENFALL WIND POWER LTD

STATEMENT OF CHANGES IN EQUITY
FOR THE YEAR ENDED 31 DECEMBER 2016

	Called up share capital	Retained earnings	Total equity
	£000	£000	£000
At 1 January 2016	682,000	30,956	712,956
Comprehensive income for the year			
Profit for the year	-	81,990	81,990
Total comprehensive income for the year	-	81,990	81,990
At 31 December 2016	682,000	112,946	794,946

The notes on pages 13 to 31 form part of these financial statements.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2017

1. Authorisation of financial statements

The financial statements of Vattenfall Wind Power Ltd (the "Company") for the year ended 31 December 2017 were approved by the board and authorised for issue on 21 June 2018 and the Balance Sheet was signed on the board's behalf by Jonas Van Mansfeld. Vattenfall Wind Power Ltd is incorporated and domiciled in England and Wales.

2. Accounting policies

2.1 Basis of preparation of financial statements

The financial statements have been prepared under the historical cost convention and in accordance with Financial Reporting Standard 101 'Reduced Disclosure Framework' and the Companies Act 2006.

The financial statements are prepared using rounding to the nearest thousand of the functional and presentational currency, GBP.

The preparation of financial statements in compliance with FRS 101 requires the use of certain critical accounting estimates. It also requires management to exercise judgment in applying the Company's accounting policies (see note 3).

The following principal accounting policies have been applied:

2.2 Financial reporting standard 101 - reduced disclosure exemptions

The Company has taken advantage of the following disclosure exemptions under FRS 101:

- the requirements of IFRS 7 Financial Instruments: Disclosures
- the requirements of paragraphs 91-99 of IFRS 13 Fair Value Measurement
- the requirement in paragraph 38 of IAS 1 'Presentation of Financial Statements' to present comparative information in respect of:
  - paragraph 79(a)(iv) of IAS 1;
  - paragraph 73(e) of IAS 16 Property, Plant and Equipment;
- the requirements of IAS 7 Statement of Cash Flows
- the requirements of paragraphs 30 and 31 of IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors
- the requirements of paragraph 17 and 18A of IAS 24 Related Party Disclosures
- the requirements in IAS 24 Related Party Disclosures to disclose related party transactions entered into between two or more members of a group, provided that any subsidiary which is a party to the transaction is wholly owned by such a member

2. Accounting policies (continued)

2.3 Change in accounting policy and disclosures

Unless otherwise stated, the accounting policies and method of computation adopted in the preparation of the financial statements are consistent with those of the previous year.

There are no new and amended IFRS and IFRIC interpretations mandatory as of 1 January 2017 which have a material impact on the Company.

New standards and interpretations not yet effective:

The Company has elected not to early adopt the following revised and amended standards, which are not yet mandatory in the EU.

The list below includes only standards and interpretations that could have an impact on the financial statements of the Company.

- IFRS 9 Financial instruments (effective in the EU 1 January 2018)
- IFRS 15 Revenue from contracts with customers (effective in the EU 1 January 2018)
- IFRIC Interpretation 22 Foreign currency transactions and advance consideration (effective in the EU 1 January 2018)
- IFRS 16 Leases (effective in the EU 1 January 2019)
- IFRIC Interpretation 23 Uncertainty over income tax treatments (effective in the EU 1 January 2019)
- AIP IAS 23 Borrowing costs - Borrowing costs eligible for capitalisation (effective in the EU 1 January 2019)

IFRS 9 Financial instruments

IFRS 9 introduces new requirements for classifying, measuring and impairing financial instruments and hedge accounting. Under IFRS 9, loans and trade receivables may be measured at fair value through other comprehensive income or amortised cost depending on the characteristics of the contractual cash flows.

Under IFRS 9, the Company should also record expected credit losses on all of its debt securities, loans and trade receivables on a 12 month or lifetime basis.

The directors do not anticipate that adoption of these standards and interpretations will have a material impact on the financial statements in the period of initial application.

IFRS 15 Revenue from Contracts

The directors do not anticipate that adoption of these standards and interpretations will have a material impact on the financial statements in the period of initial application.

2.4 Revenue

Revenue is recognised to the extent that it is probable that the economic benefits will flow to the Company and the revenue can be reliably measured.

Revenue represents income earned from the sale of electricity, and separate sale of environmental credits, and excludes value added tax. Revenue is recognised or accrued at the time of supply. All revenue originates in the United Kingdom.

2. Accounting policies (continued)

2.5 Development expenditure

Development expenditure is capitalised and held as assets under construction when the Company obtains planning consent and the project is expected to become technically and commercially viable such that the project is expected to generate sufficient net cash flow to allow recovery of such expenditure. Otherwise, development expenditure for new wind farm projects is expensed as incurred. On disposal of a project, previously capitalised development expenditure will be transferred to the Statement of Comprehensive Income in the same period in which revenue is recognised.

2.6 Tangible fixed assets

All tangible fixed assets under the cost model are stated at historical cost less accumulated depreciation and any accumulated impairment losses. Historical cost includes expenditure that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

At each reporting date the Company assesses whether there is any indication of impairment. If such indication exists, the recoverable amount of the asset is determined which is the higher of its fair value less costs to sell and its value in use. An impairment loss is recognised where the carrying amount exceeds the recoverable amount.

The Company adds to the carrying amount of an item of fixed assets the cost of replacing part of such an item when that cost is incurred, if the replacement part is expected to provide incremental future benefits to the Company. The carrying amount of the replaced part is derecognised. Repairs and maintenance are charged to the Statement of Comprehensive Income during the period in which they are incurred.

Assets under construction are capitalised as separate component of property, plant and equipment. On completion, the cost of construction is transferred to the appropriate category. Assets under construction are not depreciated.

Borrowing costs directly attributable to assets under construction and which meet the recognition criteria in IAS 23 are capitalised as part of the cost of that asset.

Depreciation is charged so as to allocate the cost of assets less their residual value over their estimated useful lives, using the straight-line method.

The estimated useful lives range as follows:

Freehold property	-	20 years
Wind farm - gearboxes and generators	-	10 years
Solar farm	-	20 years
Fixtures, fittings & equipment	-	5 years
Wind farm - decommissioning asset	-	20 years
Wind farm - tower, blades, foundations etc	-	20 years

2. Accounting policies (continued)

2.7 Leasing

Rentals paid under operating leases are charged to the Statement of Comprehensive Income on a straight line basis over the lease term.

2.8 Impairment of fixed assets

Assets that are subject to depreciation are assessed at each Balance Sheet date to determine whether there is any indication that the assets are impaired. Where there is any indication that an asset may be impaired, the carrying value of the asset is tested for impairment. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. Non-financial assets that have been previously impaired are reviewed at each Balance Sheet date to assess whether there is any indication that the impairment losses recognised in prior periods may no longer exist or may have decreased.

2.9 Investments

Investments in subsidiaries and joint ventures are measured at cost less accumulated impairment. Where merger relief is applicable, the cost of the investment in a subsidiary undertaking is measured at the nominal value of the shares issued together with the fair value of any additional consideration paid.

The Company assesses investments for impairment whenever events or changes in circumstances indicate that the carrying value of an investment may not be recoverable. If any such indication of impairment exists, the Company makes an estimate of its recoverable amount. Where the carrying amount of an investment exceeds its recoverable amount, the investment is considered impaired and is written down to its recoverable amount.

Investments in unlisted company shares, whose market value can be reliably determined, are remeasured to market value at each Balance Sheet date. Gains and losses on remeasurement are recognised in the Statement of Comprehensive Income for the period. Where market value cannot be reliably determined, such investments are stated at historic cost less impairment.

2.10 Stocks

Stocks are stated at the lower of cost and net realisable value. Cost is based on the cost of purchase on a weighted average basis. Work in progress and finished goods include labour and attributable overheads.

At each Balance Sheet date, stocks are assessed for impairment. If stock is impaired, the carrying amount is reduced to its selling price less costs to complete and sell. The impairment loss is recognised immediately in the Statement of Comprehensive Income.

2.11 Debtors

Short term debtors are measured at transaction price, less any impairment. Loans receivable are measured initially at fair value, net of transaction costs, and are measured subsequently at amortised cost using the effective interest method, less any impairment.

2. **Accounting policies (continued)**

2.12 Cash and cash equivalents

Cash is represented by cash in hand and deposits with financial institutions repayable without penalty on notice of not more than 24 hours. Cash equivalents are highly liquid investments that mature in no more than three months from the date of acquisition and that are readily convertible to known amounts of cash with insignificant risk of change in value.

2.13 Borrowing costs

Where material to the Company, general and specific borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalisation.

All other borrowing costs are recognised in profit or loss in the period in which they are incurred.

2.14 Financial instruments

The Company recognises financial instruments when it becomes a party to the contractual arrangements of the instrument. Financial instruments are de-recognised when they are discharged or when the contractual terms expire. The Company's accounting policies in respect of financial instruments transactions are explained below:

Financial assets

The Company recognises its financial assets into one of the categories discussed below, depending on the purpose for which the asset was acquired.

Other than the financial assets in a qualifying hedging relationship, the Company's accounting policy for each category is as follows:

Fair value through profit or loss
Financial assets at fair value through profit and loss are carried in the Balance Sheet at fair value with changes in fair value recognised in finance revenue or finance expense in the Statement of Comprehensive Income.

Loans and receivables
Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise principally through the provision of goods and services to customers (e.g. trade receivables), but also incorporate other types of contractual monetary asset. They are initially recognised at fair value plus transaction costs that are directly attributable to their acquisition or issue, and are subsequently carried at amortised cost using the effective interest rate method, less any provision for impairment.

Impairment provisions are recognised when there is objective evidence (such as significant financial difficulties on the part of the counterparty or default or significant delay in payment) that the Company will be unable to collect all of the amounts due under the terms receivable, the amount of such a provision being the difference between the net carrying amount and the present value of the future expected cash flows associated with the impaired receivable. For trade receivables, which are reported net, such provisions are recorded in a separate allowance account with the loss being

2. Accounting policies (continued)

2.14 Financial instruments (continued)

recognised within administrative expenses in the Statement of Comprehensive Income. On confirmation that the trade receivable will not be collected, the gross carrying value of the asset is written off against the associated provision.

Financial liabilities

The Company classifies all of its financial liabilities as liabilities at amortised cost.

At amortised cost
Financial liabilities at amortised cost including bank borrowings are initially recognised at fair value net of any transaction costs directly attributable to the issue of the instrument. Such interest bearing liabilities are subsequently measured at amortised cost using the effective interest rate method, which ensures that any interest expense over the period to repayment is at a constant rate on the balance of the liability carried into the Balance Sheet.

2.15 Creditors

Creditors are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers.

Creditors are recognised initially at fair value and subsequently measured at amortised cost using the effective interest method.

2.16 Foreign currency translation

Functional and presentation currency

The Company's functional and presentational currency is GBP.

Transactions and balances

Foreign currency transactions are translated into the functional currency using the spot exchange rates at the dates of the transactions.

At each period end foreign currency monetary items are translated using the closing rate. Non-monetary items measured at historical cost are translated using the exchange rate at the date of the transaction and non-monetary items measured at fair value are measured using the exchange rate when fair value was determined.

Foreign exchange gains and losses resulting from the settlement of transactions and from the translation at period-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the Statement of Comprehensive Income except when deferred in other comprehensive income as qualifying cash flow hedges.

Foreign exchange gains and losses are presented in the Statement of Comprehensive Income within 'interest receivable and similar income' for gains or 'interest payable and expenses' for losses.

2. Accounting policies (continued)

2.17 Interest expenses

Interest expenses are charged to the Statement of Comprehensive Income over the term of the debt using the effective interest method so that the amount charged is at a constant rate on the carrying amount. Issue costs are initially recognised as a reduction in the proceeds of the associated capital instrument.

2.18 Pensions

Defined contribution pension plan

The Company operates a defined contribution plan for its employees. A defined contribution plan is a pension plan under which the Company pays fixed contributions into a separate entity. Once the contributions have been paid the Company has no further payments obligations.

The contributions are recognised as an expense in the Statement of Comprehensive Income when they fall due. Amounts not paid are shown in accruals as a liability in the Balance Sheet. The assets of the plan are held separately from the Company in independently administered funds.

2.19 Interest income

Interest income is recognised in the Statement of Comprehensive Income using the effective interest method.

2.20 Decommissioning provision

The Company has provided for the present value of estimated decommissioning costs from the time that the Company has an obligation to dismantle and remove a facility and restore the site on which it is located, and when a reasonable estimate of that provision can be made. The amount recognised is the present value of the estimated future expenditure determined in accordance with the local conditions and requirements. A corresponding tangible fixed asset of an amount equivalent to the provision is also created. This is subsequently depreciated as part of tangible assets.

Each year the decommissioning provision is subject to an unwinding of the discounted value in order to bring the provision up to the latest present value. The charge is included within interest payable in the Statement of Comprehensive Income.

Any change in the present value of the estimated expenditure is reflected as an adjustment to the provision and the fixed asset.

2.21 Provisions for liabilities

Provisions are made where an event has taken place that gives the Company a legal or constructive obligation that probably requires settlement by a transfer of economic benefit, and a reliable estimate can be made of the amount of the obligation.

Provisions are charged as an expense to the Statement of Comprehensive Income in the year that the Company becomes aware of the obligation, and are measured at the best estimate at the Balance Sheet date of the expenditure required to settle the obligation, taking into account relevant risks and uncertainties.

When payments are eventually made, they are charged to the provision carried in the Balance Sheet.

2. Accounting policies (continued)

2.22 Current and deferred taxation

The tax expense for the year comprises current and deferred tax. Tax is recognised in the Statement of Comprehensive Income, except that a change attributable to an item of income and expense recognised as other comprehensive income or to an item recognised directly in equity is also recognised in other comprehensive income or directly in equity respectively.

The current income tax charge is calculated on the basis of tax rates and laws that have been enacted or substantively enacted by the Balance Sheet date in the countries where the Company operates and generates income.

Deferred balances are recognised in respect of all temporary differences that have originated but not reversed by the Balance Sheet date, except that:

- The recognition of deferred tax assets is limited to the extent that it is probable that they will be recovered against the reversal of deferred tax liabilities or other future taxable profits; and
- Any deferred tax balances are reversed if and when all conditions for retaining associated tax allowances have been met.

Deferred tax balances are not recognised in respect of permanent differences except in respect of business combinations, when deferred tax is recognised on the differences between the fair values of assets acquired and the future tax deductions available for them and the differences between the fair values of liabilities acquired and the amount that will be assessed for tax. Deferred tax is determined using tax rates and laws that have been enacted or substantively enacted by the Balance Sheet date.

3. Judgments in applying accounting policies and key sources of estimation uncertainty

The preparation of financial statements requires management to make judgments, estimates and assumptions that affect the amounts reported for assets and liabilities as at the Balance Sheet date as well as revenues and expenses reported during the year.

The following estimates are dependent upon assumptions which could change in the next financial year and have a material effect on the carrying amounts of assets and liabilities recognised at the Balance Sheet date:

Decommissioning
Significant estimates and assumptions are made in determining this provision as there are numerous factors that will affect the ultimate liability payable. These factors include estimates of the extent and costs of rehabilitation activities, regulatory changes, cost increases and changes in discount rates. Those uncertainties may result in future actual expenditure differing from the amounts currently accounted for. The provision at the Balance Sheet date represents management's best estimate of the present value of the future closure costs required.

Renewable Obligation certificate (ROC)
The Company estimated the value of its entitlement to the ROC (Renewable Obligation Certificate) Buyout Fund in relation to the 2017/2018 administrative year. In estimating the value of its entitlement, the Company estimates the value of the Ofgem Buyout Funds for the appropriate years and the number of ROCs that will be presented for the respective years. In the Company's Balance Sheet, amounts owed by group undertakings include £2,081 thousand (2016: £NIL) of accrued income in respect of the Company's share of the Ofgem Buyout Funds.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2017

4. Turnover

The total turnover of the Company has been derived from its principal activity.

All turnover arose within the United Kingdom. All turnover has been derived from group undertakings.

5. Other operating income

	2017 £000	2016 £000
Other operating income	**33,674**	29,678

Other operating income relates to costs recharged to other group undertakings.

6. Operating loss

The operating loss is stated after charging:

	2017 £000	2016 £000
Depreciation of tangible fixed assets	**17,035**	14,269
Impairment of tangible fixed assets	**29**	61
Exchange differences	**(1,392)**	4,815
Defined contribution pension cost	**1,221**	1,043
Operating leases and equipment hire	**3,336**	2,444

7. Auditors' remuneration

The Company paid the following amounts to its auditors in respect of the audit of the financial statements. No other services are provided to the Company.

	2017 £000	2016 £000
Fees for audit services	**45**	51

8. Employees

Staff costs were as follows:

	2017 £000	2016 £000
Wages and salaries	**13,658**	12,106
Social security costs	**1,593**	1,394
Cost of defined contribution scheme	**1,221**	1,043
	16,472	14,543

Directors remuneration

The directors of the Company are also directors of the holding company and fellow subsidiaries. The directors remuneration for the year, apportioned to the Company based on the estimated individual director representation for the Company, amounts to £164 thousand (2016: £198 thousand). All of the remuneration was paid by another Vattenfall Group company.

The average monthly number of employees, including the directors, during the year was as follows:

	2017 No.	2016 *No.*
Employees, of which 6 (2016: 7) are directors	**226**	221

9. Income from investments

	2017 £000	2016 £000
Dividends received	**15,593**	9,551

10. Interest receivable and similar income

	2017 £000	2016 £000
Gain on foreign exchange transactions	**-**	6,003
Fair Value Movement on currency derivatives	**-**	321
Interest receivable from group companies	**15,003**	6,452
	15,003	12,776

11. Interest payable and expenses

	2017 £000	2016 £000
Interest payable on loans from group undertakings	30	234
Fair Value Movement on currency derivatives	926	6,758
Unwinding of discount on decommissioning provision	216	120
	1,172	7,112

12. Taxation

	2017 £000	2016 £000
Group taxation relief		
Current year	(2)	(3,747)
Adjustments in respect of previous periods	(287)	(427)
Total current tax	(289)	(4,174)
Deferred tax		
Origination and reversal of timing differences	1,329	2,753
Changes to tax rates	(23)	(1,324)
Adjustments in respect of previous periods	247	235
Total deferred tax	1,553	1,664
Taxation on profit/(loss) on ordinary activities	1,264	(2,510)

12. Taxation (continued)

Factors affecting tax charge for the year

The tax assessed for the year is higher than (2016 - lower than) the standard rate of corporation tax in the UK of 19.25% (2016 - 20%). The differences are explained below:

	2017 £000	2016 £000
Profit on ordinary activities before tax	284	79,480
Profit on ordinary activities multiplied by standard rate of corporation tax in the UK of 19.25% (2016 - 20%)	55	15,896
Effects of:		
Expenses not deductible for tax purposes	173	48
Impact of changes in tax laws and rates	(23)	(1,324)
Adjustments to tax charge in respect of prior periods	(39)	(192)
Dividends from UK companies	(3,002)	(1,910)
Gain on disposal of investments	-	(15,028)
Write down of investment in subsidiary	4,100	-
Total tax charge/(credit) for the year	1,264	(2,510)

Factors that may affect future tax charges

In the Budget 2016 the UK Government announced that the main rate of corporation tax would be reduced to 19% with effect from 1 April 2017 and to 17% with effect from 1 April 2020. These rates were substantively enacted before the Balance Sheet date and therefore the closing net deferred tax liability has been calculated at the rate applicable for the period in which the underlying temporary difference is expected to unwind.

Dividend income of £15,593 thousand (2016: £9,551 thousand) received from a subsidiary company, Ormonde Energy Limited, was treated as non-taxable due to the application of the UK dividend exemption.

13. Tangible fixed assets

	Freehold property £000	Wind farm £000	Solar farm £000	Fixtures, fittings & equipment £000	Wind farm decommissioning asset £000	Assets under construction £000	Total £000
Cost or valuation							
At 1 January 2017	2,137	205,286	4,653	3,949	11,818	86,843	314,686
Additions	-	-	-	99	-	15,236	15,335
Transfers between classes	-	85,978	-	28	-	(86,006)	-
Adjustment to asset	-	-	-	-	(960)	-	(960)
At 31 December 2017	2,137	291,264	4,653	4,076	10,858	16,073	329,061
Depreciation							
At 1 January 2017	99	39,466	232	2,837	695	1,195	44,524
Charge for the year on owned assets	137	15,916	232	450	301	-	17,036
Impairment charge	-	29	-	-	-	-	29
At 31 December 2017	236	55,411	464	3,287	996	1,195	61,589
Net book value							
At 31 December 2017	1,901	235,853	4,189	789	9,862	14,878	267,472
At 31 December 2016	2,038	165,820	4,421	1,112	11,123	85,648	270,162

Tangible fixed assets (continued)

The decommissioning asset increased based on updates made to the calculation of the decommissioning provision. The opposite effect is shown in the decommissioning provision (see Note 21).

14. Investments

	Investments in subsidiary companies £000
Cost or valuation	
At 1 January 2017	**267,095**
Additions	**25,000**
Disposals	**(2,000)**
Amounts written off	**(21,301)**
At 31 December 2017	**268,794**
Net book value	
At 31 December 2017	**268,794**
At 31 December 2016	267,095

Additions

During the year the Company subscribed for 25,000,000 Ordinary shares of £1 each in Norfolk Vanguard Limited for total consideration of £25,000 thousand.

Disposals

During the year the Company disposed of 2,000,000 Ordinary shares of £1 each in East Anglia Offshore Wind Limited for total consideration of £nil.

The profit on disposals for the year totalled £nil (2016: £75,140 thousand).

Amounts written off

During the year the Company wrote down the investment in Norfolk Vanguard Limited by £21,301 thousand to its expected recoverable amount as at 31 December 2017.

14. Investments (continued)

Subsidiary undertakings

The following were subsidiary undertakings of the Company:

Name	Class of shares	Holding	Principal activity
Ormonde Energy Limited	Ordinary	51 %	Power generation
Clashindarroch Wind Farm Limited	Ordinary	100 %	Power generation
Aberdeen Offshore Wind Farm Limited	Ordinary	100 %	Wind farm development
East Anglia Offshore Wind Limited (Joint venture)	Ordinary	50 %	Wind farm development
Aberdeen Wind Deployment Centre Limited	Ordinary	100 %	Dormant
Ourack Wind Farm One Limited	Ordinary	100 %	Dormant
Ourack Wind Farm Two Limited	Ordinary	100 %	Dormant
Ray Wind Farm Limited	Ordinary	100 %	Dormant
Norfolk Vanguard Limited	Ordinary	100 %	Wind farm development

The aggregate of the share capital and reserves as at 31 December 2017 and of the profit or loss for the year ended on that date for the subsidiary undertakings were as follows:

	Aggregate of share capital and reserves £000	Profit/(loss) £000
Ormonde Energy Limited	266,592	2,205
Clashindarroch Wind Farm Limited	17,896	1,839
Aberdeen Offshore Wind Farm Limited	80,585	(4,656)
East Anglia Offshore Wind Limited (Joint venture)	7,900	-
Norfolk Vanguard Limited	(3,841)	(3,447)

15. Stocks

	2017 £000	2016 £000
Spare parts	4,983	3,890

16. Debtors

	2017 £000	2016 £000
Trade debtors	600	281
Amounts owed by group companies	410,998	286,031
Other debtors	2,888	3,686
Prepayments and accrued income	24,692	331,143
	439,178	621,141

17. Cash at bank and in hand

	2017 £000	2016 £000
Cash at bank and in hand	18,278	-

18. Creditors: amounts falling due within one year

	2017 £000	2016 £000
Trade creditors	7,028	14,559
Amounts owed to group companies	46,823	322,389
Taxation and social security	2,290	1,578
Other creditors	3,631	5,576
Accruals and deferred income	20,923	5,885
	80,695	349,987

19. Financial instruments

	2017 £000	2016 £000
Financial assets		
Financial assets measured at fair value through profit or loss	**18,523**	1,126
Financial assets that are debt instruments measured at amortised cost	**439,140**	619,275
	457,663	620,401
Financial liabilities		
Financial liabilities measured at amortised cost	**(59,020)**	(344,093)
	(59,020)	(344,093)

Financial assets measured at fair value through profit or loss comprise bank balances and forward foreign currency derivative contracts.

Financial assets measured at amortised cost comprise loans and receivables, the majority of which are made up of amounts owed by group companies and accrued income.

Financial liabilities measured at amortised cost comprise mostly of amounts owed to group companies.

20. Deferred taxation

	2017 £000
At beginning of year	**(6,145)**
Charged to the Statement of Comprehensive Income	**(1,553)**
At end of year	**(7,698)**

The provision for deferred taxation is made up as follows:

	2017 £000	2016 £000
Accelerated capital allowances	**(10,993)**	(9,336)
Tax losses carried forward	**2,451**	2,374
Short term timing differences	**845**	817
	(7,697)	(6,145)

21. Other provisions

	Decommissioning provision £000
At 1 January 2017	12,336
Effect of change in estimate	(960)
Unwinding of discount	216
At 31 December 2017	11,592

Decommissioning provision

Provision has been made for estimated decommissioning costs which are calculated as the present value of estimated decommissioning costs using an average discount rate of 1.69% (2016: 1.73%).

22. Share capital

	2017 £000	2016 £000
Allotted, called up and fully paid		
787,000,001 (2016 - 682,000,001) Ordinary shares of £1 each	**787,000**	682,000

During the year the Company issued £105,000 thousand Ordinary shares of £1 each.

23. Commitments under operating leases

At 31 December 2017 the Company had future minimum lease payments under non-cancellable operating leases as follows:

	2017 £000	2016 £000
Not later than 1 year	**318**	318
Later than 1 year and not later than 5 years	**806**	169
	1,124	487

The operating lease commitments disclosed above relate entirely to the rental of office premises on Tudor Street, London, the registered office of the Company.

In August 2008 the Company entered into a 25 year lease of an area of land where it operates. The operating lease rental charge is based on MWh generation. As such the commitment for the following year cannot be established in advance. The rental cost for the year ended 31 December 2017 was £619 thousand (2016: £527 thousand).

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2017

24. Ultimate parent undertaking and controlling party

At 31 December 2017, the immediate parent undertaking is Vattenfall Vindkraft AB, a company registered in Sweden. The Directors regard Vattenfall AB, a company registered in S-162 87 Stockholm, Sweden as the Company's controlling party and ultimate parent undertaking.

The results of Vattenfall Wind Power Ltd are included in the consolidated financial statements of Vattenfall AB which are available from the Vattenfall website, http://corporate.vattenfall.com.

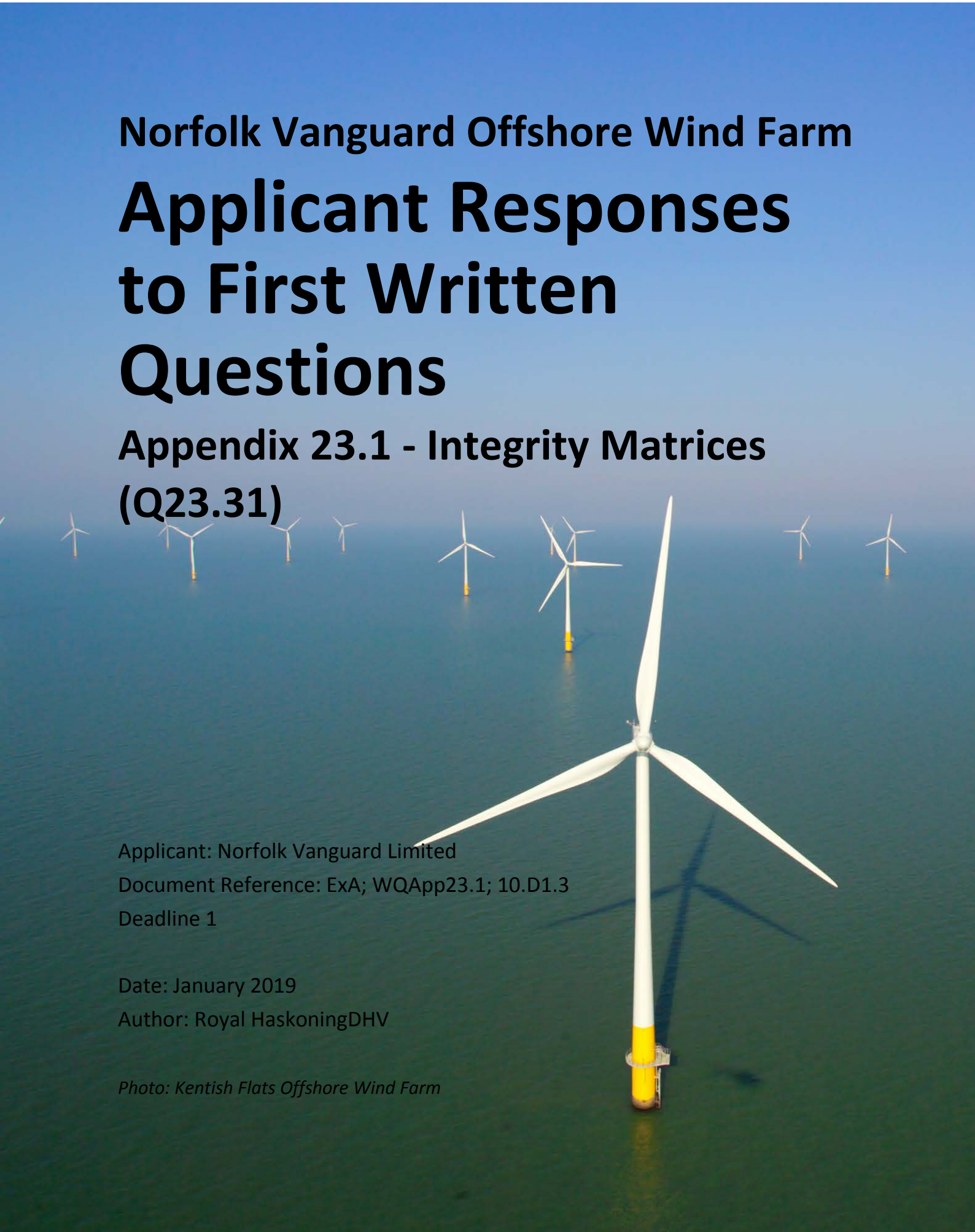
Royal HaskoningDHV
Enhancing Society Together

VATTENFALL

Norfolk Vanguard Offshore Wind Farm

Applicant Responses to First Written Questions

Appendix 23.1 - Integrity Matrices (Q23.31)



Applicant: Norfolk Vanguard Limited

Document Reference: ExA; WQApp23.1; 10.D1.3

Deadline 1

Date: January 2019

Author: Royal HaskoningDHV

Photo: Kentish Flats Offshore Wind Farm

Date	Issue No.	Remarks / Reason for Issue	Author	Checked	Approved
03/01/19	01D	First draft for Norfolk Vanguard Ltd review	GK/MT/GC	GK	GK
11/01/19	02D	Final	GK/MT/GC	GK	GK

Table of Contents

1 INTRODUCTION

1.1 Purpose of this Document

1. In response to The Examining Authority's first written questions, question 23.31, this document provides an update to the Norfolk Vanguard Habitats Regulations Assessment (HRA) Integrity Matrices, previously provided in The Applicant's Response to Section 51 Advice from The Planning Inspectorate (document reference PB4476-008-001).

1.2 European designated sites and qualifying features screened in for the Appropriate Assessment

2. Following screening of potential impacts of Norfolk Vanguard on European designated sites (provided in Appendix 5.1 and 5.2 of the Information to Support Habitats Regulations Assessment (HRA) report (document reference 5.3), the following features of European Sites were assessed to determine if there was a risk of Adverse Effects on the Integrity (AEOI) of their qualifying features in the Information for Habitats Regulations Report.

Table 2.1European designated sites and qualifying features screened in

Site	Qualifying feature
Alde-Ore Estuary Special Protected Area (SPA) and Ramsar	• Breeding lesser black-backed gull *Larus fuscus*
Flamborough and Filey Coast SPA	• Breeding kittiwake *Rissa tridactyla* • Breeding gannet *Morus bassanus*
Flamborough Head and Bempton Cliffs SPA	• Breeding kittiwake *No longer applicable as now encompassed within the Flamborough and Filey Coast SPA. This is not discussed further.
Greater Wash SPA	• Non-breeding red-throated diver *Gavia stellata* • Non-breeding little gull *Hydrocoloeus minutus*
Haisborough Hammond and Winterton Special Area of Conservation (SAC)	• Reef • Sandbanks slightly covered by seawater all the time
Southern North Sea candidate SAC (cSAC)/ Site of Community Importance (SCI)	• Harbour porpoise *Phocoena phocoena*
Humber Estuary SAC	• Grey seal *Halichoerus grypus*
The Wash and North Norfolk SAC	• Harbour seal *Phoca vitulina*
River Wensum SAC	• Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation • Desmoulin's whorl snail *Vertigo moulinsiana*
Paston Great Barn SAC	• Barbastelle bat *Barbastella barbastellus*
Norfolk Valley Fens SAC	• Alkaline fens

Site	Qualifying feature
	• Alluvial forests with Alnus glutinosa and Fraxinus excelsior • Calcareous fens *Cladium mariscus* and species of the *Caricion davallianae* • European dry heaths • Molinia meadows on calcareous peaty or clayey-silt-laden soils • Northern Atlantic wet heaths with *Erica tetralix*
The Broads SAC	• Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp. • Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation • Transition mires and quaking bogs • Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* • Alkaline fens • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) • Desmoulin's whorl snail • Fen orchid *Liparis loeselii* • Ramshorn snail *Anisus vorticulus* • Otter *Lutra lutra*

2 INTEGRITY MATRICES

3. The following tables provide the Integrity Matrix for each European site listed in Table 2.1. A summary of the evidence presented in the determination of the risk of AEOI on the relevant qualifying features is detailed within the footnotes of each integrity matrix below with cross references to the Information to Support HRA report (document reference 5.3).

4. The following abbreviations are used within the integrity matrices:

- Y – AEOI **cannot** be excluded beyond reasonable scientific doubt
- N - AEOI **can** be excluded beyond reasonable scientific doubt
- C = construction
- O = operation
- D = decommissioning

5. Where effects are not applicable to a particular feature they are greyed out.

2.1 Alde-Ore Estuary SPA and Ramsar

Name of European Site: Alde-Ore Estuary SPA and Ramsar Distance to Norfolk Vanguard Site: 92km									
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard								
	Collision mortality (in-combination)			Displacement/Disturbance			Barrier Effect		
	C	O	D	C	O	D	C	O	D
Breeding lesser black-backed gulls		**N (a)**							

a) Band model predictions of collision mortality suggest between 9 and 27 collisions per year for lesser black-backed gulls (the lower value represents all turbines in NV East, and the higher value represents all turbines in NV West). During the breeding season the estimated total population size (including urban populations) within foraging range (141km) of the Norfolk Vanguard Offshore Wind Farm was estimated to be approximately 26,000, of which birds (of all ages) associated with Alde-Ore Estuary SPA would represent approximately 25% (Information to Support HRA report, paragraphs 172-181). During the autumn and spring migration periods birds from Alde-Ore Estuary SPA make up 3.3% of the Biologically Defined Minimum Population Scales (BDMPS) population, and in winter these birds make up 5% of the BDMPS(Information to Support HRA report, paragraphs 183-184). Applying these percentages to the higher of the total collision predictions indicates a maximum Alde-Ore Estuary SPA mortality of 3 (or 6 if the extended breeding season is used, Information to Support HRA report paragraphs 187-188). These represent increases of 0.3% to 0.6% on natural mortality which are below detection limits (taken as 1%) and so are considered negligible (Information to Support HRA report, paragraph 189). Consequently, there will be no adverse effect on the integrity of the Alde-Ore Estuary SPA as a result of lesser black-backed gull collisions at the proposed Norfolk Vanguard project alone (Information to Support HRA report, paragraph 190).

In-combination assessment suggests mortality of 33 birds attributable to the Alde-Ore SPA population of lesser black-backed gulls (calculated on the basis of the Alde-Ore proportion of the wider population of lesser black-backed gulls, Information to Support HRA report, paragraph 194). Compared with estimated natural mortality of about 940 birds per year, the additional in-combination mortality would increase the mortality rate from 14.10% to 14.6%, an increase of 3.5%. However, this mortality rate falls to 20, equating to an increase in mortality of 2% if as-built wind farm designs are used in place of consented designs (Information to Support HRA report, paragraph 197). Previous work has found that an additional mortality of 25 would reduce the growth rate of the population by 0.3% (GWF 2011, Information to Support HRA report, paragraph 198). It is informative to consider the status of this population in relation to the predicted collision mortality in order to place this potential impact in context. The breeding success, and hence the population trend, of lesser black-backed gulls in the Alde-Ore SPA population appears to be mainly determined by the amount of predation, disturbance and flooding occurring at this site (Department of Energy and Climate Change 2013a, Thaxter *et al*. 2015, Information to Support HRA report, paragraph 201). Increased predation and disturbance by foxes has been considered the main factor causing reductions in breeding numbers. Management measures to reduce access by foxes has resulted in some recovery of numbers of gulls. The main driver of gull numbers in this SPA therefore appears to be suitable management at the colonies to protect gulls from predators (Department of Energy and Climate Change 2013a). This aspect, taken together with the degree of

precaution in reported collision assessments for other offshore wind farms, including the use of the much higher mortality predictions estimated for consented wind farm designs rather than for the as built wind farm designs, means the likelihood of an adverse effect on the integrity of the SPA due to in-combination collisions of lesser black-backed gulls is considered sufficiently small that it can be ruled out (Information to Support HRA report, paragraph 200).

2.2 Flamborough & Filey Coast SPA

Name of European Site: Flamborough & Filey Coast SPA **Distance to Norfolk Vanguard Site: 205km**									
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard								
	Collision mortality (in-combination)			Displacement/Disturbance			Barrier Effect		
	C	O	D	C	O	D	C	O	D
Breeding kittiwake		**N (a)**							
Breeding gannet		**N (b)**							

a) Collision mortality of kittiwakes at the Norfolk Vanguard site was estimated at between 59 and 158 birds per year (the higher value represents all turbines in NV East, the lower value represents all turbines in NV West). Based on a precautionary assessment, the number of kittiwakes apportioned to the Flamborough & Filey Coast SPA population was 12.4 (Information to Support HRA report, paragraph 240). From a population of approximately 141,000 this represents a negligible addition to natural mortality (note this this population count is likely an underestimate, since it is based on 37,618 pairs, while the 2017 population was estimated to be 51,000 pairs, 35% larger). Kittiwake collision mortality due to Norfolk Vanguard alone will therefore have no adverse effect on the integrity of this SPA (Information to Support HRA report, paragraph 244). The in-combination assessment suggests a collision mortality of between 351 and 358 birds from Flamborough & Filey Coast SPA population per year (this includes final submission estimates for the Hornsea Project Three and Thanet Extension Offshore Wind Farms). At the average mortality rate of 0.156, the natural mortality of the population is 22,000. An addition of up to 358 to this would increase the mortality rate by 1.6% (Information to Support HRA report, paragraph 247). Precautionary, density independent population modelling has found that this level of mortality would reduce the median population growth rate by a maximum of 0.5% (note the reduction in growth rate is 0.43% for an alternative set of demographic rates and 0.1% with the inclusion of density dependence, Information to Support HRA report, paragraph 248). These reductions represent a very small risk to the population's conservation status. Although Natural England no longer advocate the use of potential biological removal (PBR) for assessing impacts, it is of note that the number of predicted in-combination kittiwake collisions attributed to the Flamborough & Filey Coast SPA remains below the previously determined sustainable levels estimated using this method, and furthermore this level of mortality is not predicted to trigger a risk of population decline based on precautionary population modelling and despite the precautionary nature of collision risk assessments (e.g. including impacts for consented designs rather than as-built ones). Therefore, it can be concluded that there will be no adverse effect on the integrity of Flamborough & Filey Coast SPA from impacts on kittiwake due to Norfolk Vanguard in-combination with other projects (Information to Support HRA report, paragraph 254).

Name of European Site: Flamborough & Filey Coast SPA Distance to Norfolk Vanguard Site: 205km
b) Collision mortality of gannets at the Norfolk Vanguard site was estimated at between 45 and 111 birds per year (the higher value with all turbines in NV East, the lower with all turbines in NV West), 60% of which was predicted in the autumn. Apportioning of the higher estimate to the Flamborough and Filey Coast pSPA population gives an annual mortality of 23 individuals, from a population of approximately 49,000 birds (Information to Support HRA report, paragraphs 206 - 207). At an average natural mortality rate of 0.191, the baseline mortality is approximately 9,300. An addition of 23 to this increases the mortality rate by 0.24%, which is less than the threshold for detectability (1%). It is therefore reasonable to conclude that there will be no adverse effect on the integrity of Flamborough and Filey Coast pSPA as a result of gannet collisions from Norfolk Vanguard alone (Information to Support HRA report, paragraph 210). The in-combination assessment suggests a maximum collision mortality of 200 birds from Flamborough & Filey Coast pSPA population per year (this includes final submission estimates for the Hornsea Project Three and Thanet Extension Offshore Wind Farms). This additional mortality would increase the mortality rate by 2.1% (Information to Support HRA report, paragraph 212). Precautionary, density independent population modelling has found that this level of mortality would reduce the median population growth rate by a maximum of 1%, which compares with the actual annual growth rate of this population over the last 25 years of 10% (Information to Support HRA report, paragraph 213). This indicates that this level of in-combination mortality represents a negligible risk to this population's status. The number of predicted in-combination gannet collisions attributed to the Flamborough & Filey Coast pSPA is not at a level which would trigger a risk of population decline, and population modelling in fact indicates that the in-combination mortality predicted would only slow, rather than halt, the population increase currently seen at this colony. Therefore, it can be concluded that there will be no adverse effect on the integrity of Flamborough & Filey Coast pSPA from impacts on gannet due to Norfolk Vanguard in-combination with other projects (Information to Support HRA report, paragraphs 219-221).

2.3 Greater Wash SPA

Name of European Site: Greater Wash SPA **Distance to Norfolk Vanguard Site: 36km (a)**									
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard								
	Collision mortality			Displacement/Disturbance			Barrier Effect		
	C	O	D	C	O	D	C	O	D
Nonbreeding red-throated divers				**N (b)**					
Nonbreeding little gull		**N (c)**							

a) Note that this distance refers to the offshore wind farm itself. The export cable will pass through the SPA.

b) Cable laying operations during construction will disturb birds from the immediate vicinity of (up to two) cable-laying vessels (Information to Support HRA report, paragraph 265). Assessment indicates that between 34 and 85 red-throated divers could be displaced at any one time during cable laying, but only if both vessels are operating within the SPA at the same time (Information to Support HRA report, paragraph 267). This would lead to a 0.7% increase in diver density in other parts of the SPA on the basis of a highly precautionary maximum mortality rate associated with the displacement of red-throated diver by vessels in the wintering period of 5% (i.e. 5% of displaced individuals suffer mortality as a direct consequence). This leads to a highly precautionary assumption that a single instance of displacement is equivalent to nearly half the total annual adult mortality rate. At this level of additional mortality, a maximum of between 2 and 4 birds would be expected to die across the entire winter period (September to April) as a result of any potential displacement effects from the offshore cable installation activities (Information to Support HRA report, paragraph 268). However, owing to the Rochdale envelope approach and the nature of the calculations employed, this almost certainly over-estimates the duration of cable laying by a factor of around 7, since even travelling at the minimum speed of 30m per hour, if a working day lasts for 12 hours the vessel would traverse the SPA in approximately 40 days (assuming the cable route through the SPA is around 15km). Baseline average mortality is 0.228, therefore the estimated natural mortality for the SPA population (1,407), would be 321. The addition of a maximum of 2 to 4 to this total during a single year would increase the mortality rate in that year by approximately 0.6% to 1.2% (Information to Support HRA report, paragraph 269). However, as this is based on highly precautionary assumptions about the magnitude and impact of displacement and would only be expected to apply during a single nonbreeding season (and only then if cable laying by two vessels occurs simultaneously within the SPA during the nonbreeding period), it is reasonable to conclude that there will be no adverse effect on the integrity of the Greater Wash SPA as a result of red-throated diver displacement due to cable laying for Norfolk Vanguard alone (Information to Support HRA report, paragraph 269). Shipping already affects the distribution of red-throated divers within the SPA and this represents a background situation following many decades of shipping activity in the area. While any increase in shipping activity will constitute an in-combination impact on divers, the low level of project alone risk and the absence of other developments in the vicinity of the Norfolk Vanguard offshore cable route indicate that the likelihood of an in-combination disturbance effect is negligible (Information to Support HRA report, paragraph 271). The Greater Wash SPA contains several constructed or consented offshore wind farms. Red-throated divers show strong avoidance of offshore wind farms and so the construction or operation of further offshore wind farms would also represent an in-combination impact on divers through foraging habitat loss. However, it is

considered unlikely that any future developments would be sited close enough to the coast to directly impact the SPA during the same (short) time frame during which cables will be installed for Norfolk Vanguard. Therefore, it can be concluded that there will be no adverse effect on the integrity of the Greater Wash SPA from impacts on red-throated diver due to Norfolk Vanguard in-combination with other projects (Information to Support HRA report, paragraph 272).

c) Collision mortality of little gull at the Norfolk Vanguard site was estimated to be 2 individuals (Information to Support HRA report, paragraph 257). The estimated regional population of little gull is approximately 10,000 to 20,000, of which the Greater Wash SPA population of 1,255 represents 6.3% to 12.6%. Collisions at Norfolk Vanguard would therefore affect between 0.13 and 0.25 individuals from the Greater Wash SPA (Information to Support HRA report, paragraph 258). This level of additional mortality due to collisions at Norfolk Vanguard alone will have an undetectable effect on the population and would not result in an adverse effect on the integrity of the Greater Wash SPA (Information to Support HRA report, paragraph 259). Given the extremely low level of impacts at the Norfolk Vanguard site, it is considered that the project will not contribute to an in-combination impact (Information to Support HRA report, paragraph 261). Thus, the likelihood of an adverse effect on the integrity of the Greater Wash SPA population of little gull can be ruled out for Norfolk Vanguard in-combination with other projects.

2.4 Haisborough Hammond and Winterton SAC

Name of European Site: Haisborough Hammond and Winterton SAC **Distance to Norfolk Vanguard: 0km (cable route intersects the SAC)**															
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard														
	Temporary physical disturbance			Habitat loss			New substrate			Increased suspended sediment and smothering			In combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Annex I Sandbank slightly covered by seawater all the time	**N (a)**	**N (b)**	**N (h)**		**N (c)**			**N (c)**					**N (d)**	**N (d)**	**N (h)**
Annex I Reef (*Sabellaria spinulosa* reefs)	**N (e)**	**N (e)**	**N (h)**					**N (f)**		**N (g)**		**N (h)**	**N (a)**	**N (a)**	**N (h)**

a) The maximum area of temporary physical disturbance (9.5km^2) due to cable laying operations equates to 1.4% of the sandbanks and 0.6% of the total area of the SAC (Information to Support HRA report, paragraph 353). A Sandwave study by ABPmer (Appendix 7.1 of the Information to Support HRA report) concluded that as the cable corridor is oriented in most cases transverse to the sand wave crests which require levelling, only a small width of each sand wave would be disturbed with the sand wave continuing to evolve and migrate along most of its length. As a result, the overall form and function of any particular sand wave, or the SAC sandbank system as a whole, would not be disrupted. The cable corridor is in an active and highly dynamic environment, governed by current flow speeds, water depth and sediment supply, all of which are conducive for the development and maintenance of sandbanks. As sediment will remain within the boundaries of the SAC within the natural limits there will be no significant change to sandbank extent, topography and sediment composition. Once re-deposited on the seabed, the sediment will immediately re-join the local and regional sediment transport system, and will not affect the form or function of the sandbanks or the sandbank communities which are adapted to natural disturbance and are therefore likely to be able to recover within a few tidal cycles. As a result, there would be no adverse effect on site integrity.

b) The maximum disturbance area for cable reburial activities within the SAC has been estimated as 0.4km^2 over the life of the project (0.03% of the total area of the SAC or 0.06% of the sandbank area). This is estimated from 4km per cable pair within the SAC, with a disturbance width of 10m. However, if reburial is required, it is likely that this would be for shorter sections (e.g. 1km) at any one time (Information to Support HRA report, paragraph 375). Due to the short term, temporary nature and small scale of any maintenance works (if required) there would be no effect on the form or function of the sandbank systems or on the sandbank communities and therefore no adverse effect on site integrity.

c) In terms of permanent habitat loss and introduction of new substrate, the worst case total area of cable protection installed within the SAC could be 0.05km^2 which includes cable protection required for crossing existing cables as well as a contingency in the unlikely event that cable burial is not possible (Information to Support HRA

Name of European Site: Haisborough Hammond and Winterton SAC Distance to Norfolk Vanguard: 0km (cable route intersects the SAC)															
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard														
	Temporary physical disturbance			Habitat loss			New substrate			Increased suspended sediment and smothering			In combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D

report, paragraph 380). Analysis of geophysical data has shown that the substrate along the entire offshore cable corridor is expected to be suitable for cable burial. In the unlikely event that cable burial is not possible, this would be a result of encountering areas of the SAC that are hard substrate i.e. not Annex 1 Sandbank (Information to Support HRA report, paragraph 381). The total footprint of cable protection at crossings equates to less than 0.001% of the total area of the SAC (1,468km^2) and 0.002% of the area of sandbanks within the SAC (678km^2) (Information to Support HRA report, paragraph 382). Due to the very small extent of potential permanent loss of sandbank within the SAC, there would be no change to the physical processes associated with the sandbank form and function and no significant loss of the low abundance and low diversity sandbank communities. As a result, there would be no adverse effect on site integrity.

d) Chapter 8 Marine Geology, Oceanography and Physical Processes of the Norfolk Vanguard ES (DCO document reference 6.1) states that theoretical bed level changes of up to 2mm are estimated as a result of cumulative effects of Norfolk Vanguard cable installation and dredging at nearby aggregate sites. This level of effect has no potential to affect the SAC and therefore the only project screened in to the in-combination assessment is Norfolk Boreas (Information to Support HRA report, paragraph 391). As Norfolk Vanguard and Norfolk Boreas share an offshore cable corridor there is potential for in-combination effects associated with construction, operation and maintenance, and decommissioning of the projects (Information to Support HRA report, paragraph 392). It is likely that installation of the Norfolk Boreas export cables will follow the Norfolk Vanguard export cables with no temporal overlap. The spatial footprint of installation works for both Norfolk Vanguard and Norfolk Boreas is likely to be double that of Norfolk Vanguard alone as a worst case scenario; although some elements of the seabed preparation may overlap and will therefore reduce the overall combined footprint (Information to Support HRA report, paragraph 393). The extent of potential habitat loss is very small in comparison to the total area available within the SAC and therefore there will be no change to the physical processes associated with the sandbank form and function or the sandbank communities.

e) Due to the width available for micrositing to avoid *S. spinulosa* reef where identified during pre-construction surveys, it is likely that no physical disturbance will occur in the offshore cable corridor (Information to Support HRA report, paragraph 409-410). In the unlikely event of disturbance, *S. spinulosa* shows good recoverability to disturbance, depending on the degree of impact and local conditions. Due to the existing presence of *S. spinulosa* reef, local environmental conditions in the area are known to be suitable for *S. spinulosa* growth and therefore recovery (Information to Support HRA report, paragraph 411, 416-423). Mitigation for micrositing cables is secured through DCO, Schedules 9 and 10 Part 4 condition 14(g) and Schedules 11 and 12 Part 4 condition 9(g). In particular, Schedules 11 and 12 Part 4 condition 9(g) (which secures matters in respect of the transmission assets) states that a cable specification, installation and monitoring plan, must be agreed with the MMO. This includes a detailed cable laying plan which gives the MMO and their advisors the opportunity to input to the cable laying plan, including the cable route and potential for micrositing.

Name of European Site: Haisborough Hammond and Winterton SAC **Distance to Norfolk Vanguard: 0km (cable route intersects the SAC)**															
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard														
	Temporary physical disturbance			Habitat loss			New substrate			Increased suspended sediment and smothering			In combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
f) Any new substrata created by cable protection may provide a larger area of suitable *S. spinulosa* substrate than was previously present. Therefore, there is no adverse effect on the integrity of the SAC in relation to the conservation objectives for Annex I *S. spinulosa* reefs due to introduction of a new substrate during operation. (Information to Support HRA report, paragraph 452) g) As part of the embedded mitigation, sediment would not be disposed of within 50m of *S. spinulosa* reef and therefore changes to the extent or structure of the reef due to increased suspended solids and smothering are not anticipated (Information to Support HRA report, paragraph 470). The buffer zone will be secured through the Cable Specification, Installation and Monitoring Plan, submitted to the MMO for approval pursuant to condition 14(1)(g) (Generation DML, Schedules 9-10) and condition 9(1)(g) (Transmission DML, Schedules 11-12). In particular, through requirement 9(1)(g)(ii) (which secures matters in respect of the transmission assets) which includes a detailed cable laying plan incorporating a burial risk assessment to ascertain suitable burial depths and cable laying techniques, including the appropriate cable protection. h) It is expected that the potential effects during decommissioning will be no worse than construction (Information to Support HRA report, paragraphs 453, 457, 478, and 480).														

2.5 Southern North Sea cSAC/SCI

Name of European Site: Southern North Sea cSAC/SCI Distance to Norfolk Vanguard 0km (the site is within the Southern North Sea cSAC/SCI)																					
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard																				
	Auditory injury			Disturbance from underwater noise			Disturbance from vessels			Collision risk			Changes to prey resource			Changes to water quality			In combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	**N(a)**	**N(a)**	**N(a)**	**N(b)**	**N(c)**	**N(d)**	**N(e)**	**N(c,e)**	**N(d,e)**	**N(f)**	**N(c)**	**N(d,f)**	**N(g)**	**N(c,g)**	**N(d,g)**	**N(h)**		**N(d,h)**	**N(i)**	**N(j)**	**N(d,i)**
	a) A Marine Mammal Mitigation Protocol (required under and Schedules 9 and 10 Part 4 condition 14(1)(f) and Schedules 11 and 12 Part 4 condition 9(1)(f)) will avoid potential for auditory injury (Information to Support HRA report, paragraph 645). b) Noise disturbance during piling and other construction activities is anticipated to be low, with a worst-case scenario of up to 10% overlap with the Southern North Sea (SNS) cSAC/SCI winter area or up to 9.4% overlap with the summer SNS cSAC/SCI area (Information to Support HRA report, Table 8.26) and a 3% seasonal average for the summer or winter areas ((Information to Support HRA report, Table 8.27). Therefore, temporary disturbance of harbour porpoise would be less than thresholds recommended by the Joint Nature Conservation Committee (JNCC) and Natural England of 20% of the seasonal component of the cSAC/SCI area at any one time and less than 10% of the average seasonal component of the cSAC/SCI area over the duration of that season. c) Operational and maintenance impacts are likely to be localised around the project infrastructure, and any maintenance impacts would be intermittent and temporary, therefore no AEOI would occur. (Information to Support HRA report, paragraphs 790; 792; 793; 798; 800; 801; 806; 808; 809; 830; 832; 833; 834) d) It expected that the activity levels and potential effects during decommissioning will be no worse than construction (with no pile driving). Information to Support HRA report, paragraphs 839; 840; 841; 842; 843) e) The NV West area (295km^2) is approximately 1% of the summer SNS cSAC/SCI area and the NV East area (297km^2) is also approximately 1% of the summer cSAC/SCI area. The total offshore cable corridor area (237km^2) is less than 1% of the summer cSAC/SCI area and less than 2% of the winter cSAC/SCI area. It is unlikely that vessels would cause disturbance from the whole project areas and therefore this provides a conservative assessment. Disturbance from vessels is likely to be localised to areas of activity, thus there would be no exceedance of the 20% seasonal component at any one time or 10% of the average seasonal component thresholds and therefore there will be no AEOI. (Information to Support HRA report, paragraphs 734; 739)																				

Name of European Site: Southern North Sea cSAC/SCI Distance to Norfolk Vanguard 0km (the site is within the Southern North Sea cSAC/SCI)																					
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard																				
	Auditory injury			Disturbance from underwater noise			Disturbance from vessels			Collision risk			Changes to prey resource			Changes to water quality			In combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
	f) Approximately 1,180 vessel movements are estimated over the two to four year indicative offshore construction window, an average of approximately two vessel movements per day (Information to Support HRA report, paragraphs 742; 743). It is expected that harbour porpoise would be able to detect the presence of vessels and, given that they are highly mobile, would be able to largely avoid vessel collision (Information to Support HRA report, paragraph 747), therefore there would be no AEOI. g) Potential effects on fish species include physical disturbance, loss or changes of habitat, increased suspended sediment concentrations, and underwater noise. It is anticipated that as a worst-case scenario effects from the NV West area (295km^2) would impact approximately 1% of the summer Southern North Sea cSAC/SCI area, and for the NV East area (297km^2), approximately 1% of the summer cSAC/SCI area, and/or for the total offshore cable corridor area (237km^2), less than 1% of the summer cSAC/SCI area and less than 2% of the winter cSAC/SCI area (Information to Support HRA report, paragraph 760). However, it is more likely that effects would be restricted to an area around the working sites, therefore no AEOI. h) The NV West area (295km^2) is approximately 1% of the summer Southern North Sea cSAC/SCI area, the NV East area (297km^2) is also approximately 1% of the summer cSAC area. The total offshore cable corridor area (237km^2) is less than 1% of the summer cSAC/SCI area and less than 2% of the winter cSAC/SCI area. It is highly unlikely that any changes in water quality (suspended sediment) could occur over the entire offshore development area during construction therefore this is a highly conservative assessment (Information to Support HRA report, paragraph 770). It is more likely that effects would be restricted to an area around the working sites, therefore there would be no exceedance of the 20% seasonal component at any one time or 10% of the average seasonal component thresholds and therefore there will be no AEOI. i) It is anticipated that through the Site Integrity Plan (SIP) (required under and Schedules 9 and 10 Part 4 condition 14(m) and Schedules 11 and 12 Part 4 condition 9(l)), impacts of underwater noise from construction and decommissioning will be mitigated. The Plan will set out the approach for Norfolk Vanguard Limited to deliver any project mitigation or management measures in relation to the SNS cSAC/SCI in agreement with the Marine Management Organisation (MMO) and relevant Statutory Nature Conservation Bodies (SNCBs) to an extent whereby no AEOI is expected. (Information to Support HRA report, paragraph 882) (j) Current data suggests that there is no lasting disturbance or exclusion of harbour porpoise around wind farm sites during operation and therefore there would be no AEOI.																				

2.6 Humber Estuary SAC

Name of European Site: Humber Estuary SAC **Distance to Norfolk Vanguard 112km**															
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard														
	Disturbance at haul out sites			Collision risk			Disturbance of seals foraging at sea			In combination at haul out sites			In combination at sea		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	**N (a)**	**N (a)**	**N (a)**	**N (b)**			**N (c)**	**N (c)**	**N (c)**	**N (a)**	**N (a)**	**N (a)**	**N (d)**	**N (e)**	**N (d)**

a) Vessels would be highly unlikely to be within 300m of the coast, in areas of close proximity to the seal haul-out sites within the Humber Estuary SAC, therefore there would be no potential for AEOI. (Information to Support HRA report, paragraph 985; 986)

b) Approximately 1,180 vessel movements are estimated over the two to four year indicative offshore construction window, an average of approximately two vessel movements per day. It is expected that seals would be able to detect the presence of vessels and, given that they are highly mobile, would be able to largely avoid vessel collision. (Information to Support HRA report, paragraph 989)

c) The maximum potential area of disturbance is based on a 26km range for piling and Unexploded Ordnance (UXO). The Humber Estuary SAC is located 150km from Norfolk Vanguard OWF sites and 112km from the offshore cable corridor (at closest point). It is highly unlikely, especially taking into account the movements of tagged seals, that all grey seal in the offshore development area are from the Humber Estuary SAC (Information to Support HRA report, paragraphs 999; 1000). Therefore, there is no anticipated AEOI of the Humber Estuary SAC in relation to the conservation objectives for grey seal.

d) Given the distance between the projects offshore and their distance from the coast, it is not anticipated that foraging grey seal would be significantly displaced from foraging areas or from moving between haul-out sites and foraging areas. (Information to Support HRA report, paragraph 1015)

e) Current data suggests that there is no lasting disturbance or exclusion of grey seal around wind farm sites during operation.

2.7 The Wash and North Norfolk SAC

Name of European Site: The Wash and North Norfolk SAC Distance to Norfolk Vanguard 33km															
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard														
	Disturbance at haul out sites			Collision risk			Disturbance of seals foraging at sea			In combination at haul out sites			In combination at sea		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	**N (a)**	**N (a)**	**N (a)**	**N (b)**			**N (c)**	**N (c)**	**N (c)**	**N (a)**	**N (a)**	**N (a)**	**N (d)**	**N (e)**	**N (d)**

a) Vessels would be highly unlikely to be within 300m of the coast, in areas of close proximity to the seal haul-out sites within the Wash and North Norfolk SAC, therefore there would be no potential for AEOI. (Information to Support HRA report, paragraph 1018)

b) Approximately 1,180 vessel movements are estimated over the two to four year indicative offshore construction window, an average of approximately two vessel movements per day. Therefore, the increase in vessel movements during construction would be relatively small compared to existing vessel traffic. It is expected that seals would be able to detect the presence of vessels and, given that they are highly mobile, would be able to largely avoid vessel collision.

c) The maximum potential area of disturbance is based on a 26km range for piling and UXO (Information to Support HRA report, paragraph 1030). The Wash and North Norfolk SAC is located 82km from Norfolk Vanguard OWF sites and 33km from the offshore cable corridor (at closest point) (Information to Support HRA report, paragraph 1031). It is highly unlikely, especially taking into account the movements of tagged seals, that all harbour seal in the offshore development area are from the Wash and North Norfolk SAC. Therefore, there is no anticipated AEOI of the Wash and North Norfolk SAC in relation to the conservation objectives for harbour seal.

d) Given the distance between the projects offshore and their distance from the coast, it is not anticipated that foraging harbour seal would be significantly displaced from foraging areas or from moving between haul-out sites and foraging areas. (Information to Support HRA report, paragraph 1045)

e) Current data suggests that there is no lasting disturbance or exclusion of harbour seal around wind farm sites during operation.

2.8 River Wensum SAC

Name of European Site: River Wensum SAC Distance to Norfolk Vanguard 0km (onshore cable route intersects the SAC)												
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard											
	Direct effects within ex-situ habitats of the SAC			Indirect effects within the SAC arising from geology / contamination and groundwater / hydrology effects			Indirect effects within ex-situ habitats of the SAC arising from geology / contamination and groundwater / hydrology effects			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**	**N (b)**	**N (b)**	**N (b)**	**N (c)**	**N (c)**	**N (c)**
Desmoulin's whorl snail	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**	**N (b)**	**N (b)**	**N (b)**	**N (c)**	**N (c)**	**N (c)**

a) Features are not present within the drains and ditches of the floodplain habitats of the River Wensum on the right-hand (southern) bank of the river (Information to Support HRA report, paragraph 1158; 1170). The drain on the left-hand (northern) bank of the river is located outside of the proposed trenchless crossing technique zone (Information to Support HRA report, paragraph 1159; 1171). Therefore, potential direct effects upon this habitat have been avoided at this location. Additionally, given the absence of these features from the other ex-situ habitats located within the onshore project area, it is considered unlikely that habitat is present within this drain.

b) There are no springs or seepages located within the floodplain habitats on the right-hand bank of the River Wensum (Information to Support HRA report, paragraph 1162). The floodplain on the left-hand bank will be avoided through the use of trenchless crossing techniques, however a narrow section of the floodplain below ground in this location will be affected by the trenchless crossing. A pre-construction survey on the left-hand floodplain habitat will be conducted to identify any springs or seepages and, if identified, these will be avoided through micro-siting (Information to Support HRA report, paragraph 1162)[1]. As such, works in this area will not result in direct changes to any springs directly connected to the River Wensum. Introduction of cable ducts is not anticipated to have any effect upon groundwater flows for the River Wensum (Information to Support HRA report, paragraph 1162). Furthermore, for a river

[1] As detailed in the Outline Landscape and Ecological Management Strategy (OLEMS) (Document Reference 8.7) and to be secured via the Ecological Management Plan (EMP) under Requirement 24 of the draft DCO (Document Reference 3.1).

Name of European Site: River Wensum SAC Distance to Norfolk Vanguard 0km (onshore cable route intersects the SAC)												
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard											
	Direct effects within ex-situ habitats of the SAC			Indirect effects within the SAC arising from geology / contamination and groundwater / hydrology effects			Indirect effects within ex-situ habitats of the SAC arising from geology / contamination and groundwater / hydrology effects			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

crossing, trenchless crossing ducts would be installed 5-15m below the floodplain, and at least 2m below the river bed. As a result, the buried ducts will have no effect upon surface water flows.

Mitigation measures (included in the Outline Code of Construction Practice, document 8.1 and secured through DCO Schedule 1 Part 3 Requirement 20) will be put in place to minimise the risk of sediment or pollutant release into the watercourses which are functionally connected to the River Wensum (Information to Support HRA report, paragraph 1164; 1165). These are considered suitable for minimising the risk of sediment / pollutant release into watercourses functionally connected with the River Wensum to a negligible level.

c) The in-combination assessment for the onshore elements of the assessment for potential for adverse effect upon site integrity has adopted the following principle: in order for Norfolk Vanguard to be considered to have the potential to contribute to in-combination effects, there must be sufficient cause to consider that a relevant habitat or species is sensitive to effects due to the project alone. If a potential for adverse effect upon site integrity is not determined with respect to a site due to Norfolk Vanguard alone, there is no real prospect of an in-combination effect occurring with another plan or project. Therefore, as there is no effect from Norfolk Vanguard alone, there is no potential for in-combination effects (Information to Support HRA report, paragraph 1177).

2.9 Paston Great Barn SAC

Name of European Site: Paston Great Barn SAC **Distance to Norfolk Vanguard 2.9km**									
Site Features	Adverse Effect on Integrity due to proposed Norfolk Vanguard project								
	Direct effects on barbastelle present in ex-situ habitats of the SAC (hedgerows / watercourses)			Indirect effects on barbastelle present within ex-situ habitats of the SAC (hedgerows / watercourses) arising from light and groundwater / hydrology effects			In-combination		
	C	O	D	C	O	D	C	O	D
Barbastelle bats	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**	**N (c)**	**N (c)**	**N (c)**

a) Hedgerows to be removed as part of pre-construction and construction works will be minimised by reducing the cable corridor working width at these locations to 20m (at perpendicular crossings with the cable) and a maximum of 25m (where the cable crosses at a diagonal) (Information to Support HRA report, paragraph 1184). The hedgerow will be removed in advance of construction phase works at each important barbastelle feature, and the land will remain open during the construction phase works at each location (for approximately one week, with the exception of Dilham Canal and land east of Dilham Canal, where works will take place over up to eight weeks due to trenchless drilling techniques at this location) (Information to Support HRA report, paragraph 1185). Hedgerows will be replanted following works at each location. To minimise the potential effect upon commuting and foraging barbastelle arising from this temporary loss of habitat, several mitigation measures (outlined in the Outline Landscape and Ecological Management Strategy, document 8.7 and secured through DCO Schedule 1 Part 3 Requirement 24) will be implemented and Norfolk Vanguard will seek to avoid mature trees within hedgerows through the micro-siting of individual cables where possible (Information to Support HRA report, paragraph 1186). Once replanted hedgerows have reached maturity (expected to be 3-7 years following planting on completion of construction), they will provide an improved commuting and foraging habitat for bats (Information to Support HRA report, paragraph 1185).

Across the five important barbastelle habitat features potentially present within the onshore project area, a total of approximately 11ha of habitat used by barbastelles of the Paston Great Barn maternity colony is anticipated to be isolated by hedgerow removal during the project construction phase. This represents approximately 0.6% of the home range of the Paston Great Barn maternity colony (Information to Support HRA report, paragraph 1192).

Following mitigation, these small-scale, temporary effects are not anticipated to result in any potential for adverse effect upon site integrity upon the qualifying habitats and species of the Paston Great Barn SAC.

b) The proposed works will involve ground excavation, and therefore will have a small, localised effect upon surface water flows. However, due to removal of hedgerows, commuting and foraging habitats will not be present in these locations during the construction phase, and therefore the habitat within this location

Name of European Site: Paston Great Barn SAC Distance to Norfolk Vanguard 2.9km									
Site Features	Adverse Effect on Integrity due to proposed Norfolk Vanguard project								
	Direct effects on barbastelle present in ex-situ habitats of the SAC (hedgerows / watercourses)			Indirect effects on barbastelle present within ex-situ habitats of the SAC (hedgerows / watercourses) arising from light and groundwater / hydrology effects			In-combination		
	C	O	D	C	O	D	C	O	D

will not be affected. Furthermore, a pre-construction drainage plan will also be developed and implemented to minimise water within the cable trench and ensure ongoing drainage of surrounding land (Information to Support HRA report, paragraph 1198).[2]

Construction phase lighting for cable duct installation will be used between 7am-7pm, only if required (i.e. in low light conditions). Lighting will not be used overnight, except at trenchless crossing locations. In these instances, lighting may be needed for eight weeks at Dilham Canal and land east of Dilham Canal. Any lighting used will be directional i.e. angled downwards and a cowl provided for the light to minimise light spill (Information to Support HRA report, paragraph1199).[3] There will be no lighting required during the operational phase of Norfolk Vanguard (Information to Support HRA report, paragraph 1201).

c) The in-combination assessment for the onshore elements of this assessment for potential for adverse effect upon site integrity has adopted the following principle: in order for Norfolk Vanguard to be considered to have the potential to contribute to in-combination effects, there must be sufficient cause to consider that a relevant habitat or species is sensitive to effects due to the project itself. If a potential for adverse effect upon site integrity was not determined with respect to a site due to Norfolk Vanguard, there is no real prospect of an in-combination effect occurring with another plan or project. Therefore, as there is no effect from Norfolk Vanguard alone, there is no potential for in-combination effects (Information to Support HRA report, paragraph 1209; 1210).

[2] As detailed in the outline Code of Construction Practice (CoCP) (Document Reference 8.1) and to be secured via the final CoCP under Requirement 20 of the draft DCO (Document Reference 3.1).

[3] As detailed in the Outline Landscape and Ecological Management Strategy (OLEMS) (Document Reference 8.7) and to be secured via the Ecological Management Plan (EMP) under Requirement 24 of the draft DCO (Document Reference 3.1).

2.10 Norfolk Valley Fens SAC

Name of European Site: Norfolk Valley Fens SAC **Distance to Norfolk Vanguard 0.6 – 5km (5 sites within 5km)**						
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard					
	Indirect effects on features present within ex-situ habitats of the SAC arising from air quality and groundwater / hydrology effects			In-combination		
	C	O	D	C	O	D
Alkaline fens	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**
Calcareous fens *Cladium mariscus* and species of the *Caricion davallianae*	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**
European dry heaths	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**
Molinia meadows on calcareous, peaty or clayey-silt-laden soils	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**
Northern Atlantic wet heaths with *Erica tetralix*	**N (a)**	**N (a)**	**N (a)**	**N (b)**	**N (b)**	**N (b)**

a) Out of the five component SSSIs, only one (Booton Common) has a functional connection to the onshore project area. Where the onshore cable route crosses two tributaries of the Blackwater Drain, trenched crossing techniques are proposed (Information to Support HRA report, paragraph 1221). Following construction at these locations, reinstatement of the trench would be conducted to the pre-construction depth of the watercourse and the dams removed. As water flow would be maintained, and given the distance of these sites from Booton Common, effects from trenching works at these locations upon the Blackwater Drain will be minimal (Information to Support HRA report, paragraph 1223; 1224).

An air quality impact assessment in line with IAQM guidance (IAQM, 2014) has been conducted for Norfolk Vanguard to understand the potential effects of dust and fine particle emissions. Booton Common is located approximately 1.4km south of the nearest access route for construction vehicles for the proposed

Name of European Site: Norfolk Valley Fens SAC Distance to Norfolk Vanguard 0.6 – 5km (5 sites within 5km)						
Site Features	Adverse Effect on Integrity due to Norfolk Vanguard					
	Indirect effects on features present within ex-situ habitats of the SAC arising from air quality and groundwater / hydrology effects			In-combination		
	C	O	D	C	O	D

project, and is located 600m from the onshore project area. As such, following IAQM guidance, it is considered to be outside the potential zone of influence of the project in terms of air quality emissions (Information to Support HRA report, paragraph 1226).

b) The in-combination assessment for the onshore elements of this assessment for potential for adverse effect upon site integrity has adopted the following principle: in order for Norfolk Vanguard to be considered to have the potential to contribute to in-combination effects, there must be sufficient cause to consider that a relevant habitat or species is sensitive to effects due to the project itself. If a potential for adverse effect upon site integrity was not determined with respect to a site due to Norfolk Vanguard, there is no real prospect of an in-combination effect occurring with another plan or project. Therefore, as there is no effect from Norfolk Vanguard alone, there is no potential for in-combination effects (Information to Support HRA report, paragraph 1228).

2.11 The Broads SAC

Name of European Site: The Broads SAC Distance to Norfolk Vanguard 3.6km												
Site Features	Adverse Effect on Integrity due to proposed Norfolk Vanguard project											
	Direct effects upon ex-situ habitats which may support the qualifying feature otter, due to suitable ex-situ habitats for this feature being present			Indirect effects upon habitats and species within the SAC boundary arising from changes in local groundwater / hydrology conditions			Indirect effects upon ex-situ habitats which may support the qualifying feature otter, arising from changes in groundwater / hydrology conditions			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Hard oligo-mesotrophic waters with benthic vegetation of *Chara spp.*				**N (a)**						**N (a)**		
Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation				**N (a)**						**N (a)**		
Transition mires and quaking bogs				**N (a)**						**N (a)**		
Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* [Priority feature]				**N (a)**						**N (a)**		

Name of European Site: The Broads SAC **Distance to Norfolk Vanguard 3.6km**												
Site Features	Adverse Effect on Integrity due to proposed Norfolk Vanguard project											
	Direct effects upon ex-situ habitats which may support the qualifying feature otter, due to suitable ex-situ habitats for this feature being present			Indirect effects upon habitats and species within the SAC boundary arising from changes in local groundwater / hydrology conditions			Indirect effects upon ex-situ habitats which may support the qualifying feature otter, arising from changes in groundwater / hydrology conditions			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Alkaline fens				**N (a)**						**N (a)**		
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [Priority feature]				**N (a)**						**N (a)**		
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)				**N (a)**						**N (a)**		
Desmoulin's whorl snail				**N (a)**						**N (a)**		
Fen orchid				**N (a)**						**N (a)**		
Ramshorn snail				**N (a)**						**N (a)**		

Name of European Site: The Broads SAC Distance to Norfolk Vanguard 3.6km												
Site Features	Adverse Effect on Integrity due to proposed Norfolk Vanguard project											
	Direct effects upon ex-situ habitats which may support the qualifying feature otter, due to suitable ex-situ habitats for this feature being present			Indirect effects upon habitats and species within the SAC boundary arising from changes in local groundwater / hydrology conditions			Indirect effects upon ex-situ habitats which may support the qualifying feature otter, arising from changes in groundwater / hydrology conditions			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Otter	**N (b)**	**N (b)**	**N (b)**				**N (b)**	**N (b)**	**N (b)**	**N (b)**		

a) As part of the project's embedded mitigation (listed as part of the detailed design and secured through DCO Schedule 1 Part 3 Requirement 16(17)(f)), the North Walsham and Dilham Canal will be crossed using a trenchless crossing technique (e.g. HDD). This means that the North Walsham and Dilham Canal will be avoided, and no works will take place within this watercourse (Information to Support HRA report, paragraph 1241). The East Ruston Stream is proposed to be crossed using a trenching methodology, however, given the distance to The Broads SAC (4.6km), the risk of groundwater pollution of The Broads SAC is low. Good practice pollution prevention measures will also be employed. For watercourses which are shallower than 1.5m, temporary damming and diverting of the watercourse may be employed during trenching works (Information to Support HRA report, paragraph 1243). The suitability of this method would be advised at detailed design. Several mitigation measures will be employed, and the trench would be reinstated to the pre-construction depth of the watercourse. Where culverts may be required, additional mitigation measures (captured within the Outline Code of Construction Practice, document 8.1 and secured through DCO Schedule 1 Part 3 Requirement 20) will be employed (Information to Support HRA report, paragraph 1245). In addition, no stage of the onshore transmission works involving the crossing, diversion and subsequent reinstatement of any designated main river or ordinary watercourse may commence until a scheme and programme for any such crossing, diversion and reinstatement in that stage has been submitted to and, approved by the relevant planning authority in consultation with Natural England as secured through DCO Schedule 1 Part 3 Requirement 25.

b) A review of the desk-based records obtained from Norfolk Biodiversity Information Service (NBIS) in July 2016 indicates that there are no records of otter on the Hundred Stream. There is one record of an otter spraint on the North Walsham and Dilham Canal, recorded in 2015 and located at TG28863183. This is located approximately 700m upstream of the onshore project area. The absence of records of otter on the Hundred Stream is not conclusive proof of the absence of this species from the watercourse (Information to Support HRA report, paragraph 1235). However, water depths are likely to be too shallow to form part of an otter's home range, especially given the superior habitat available downstream on other parts of the river network connected to The Broads SAC. In light of this it is considered unlikely that otter are present within the reaches of the Hundred Stream in which the onshore project area is located (Information to Support HRA report, paragraph 1235).

Name of European Site: The Broads SAC Distance to Norfolk Vanguard 3.6km												
Site Features	Adverse Effect on Integrity due to proposed Norfolk Vanguard project											
	Direct effects upon ex-situ habitats which may support the qualifying feature otter, due to suitable ex-situ habitats for this feature being present			Indirect effects upon habitats and species within the SAC boundary arising from changes in local groundwater / hydrology conditions			Indirect effects upon ex-situ habitats which may support the qualifying feature otter, arising from changes in groundwater / hydrology conditions			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
It is considered that otters may be commuting along the North Walsham and Dilham Canal within the onshore project area, but that they are not resting or making other use of bankside habitat in these locations (Information to Support HRA report, paragraph 1236). As part of the project's embedded mitigation, the North Walsham and Dilham Canal will be crossed using a trenchless crossing technique (e.g. HDD), to minimise impacts to the watercourse at this location. This means that the North Walsham and Dilham Canal and its immediate bankside habitat will be avoided, and no works will take place within these habitats (Information to Support HRA report, paragraph 1237). As a precaution, while works are taking place within 100m of North Walsham and Dilham Canal, all excavations will be either covered overnight of left with escape ramps to allow otters to escape if they enter, and all vehicles wheels / tracks will be checked in the morning for the presence of sleeping otter (Information to Support HRA report, paragraph 1239).[4]											

[4] As detailed in the Outline Landscape and Ecological Management Strategy (OLEMS) (Document Reference 8.7) and to be secured via the Ecological Management Plan (EMP) under Requirement 24 of the draft DCO (Document Reference 3.1).

3 REFERENCES

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