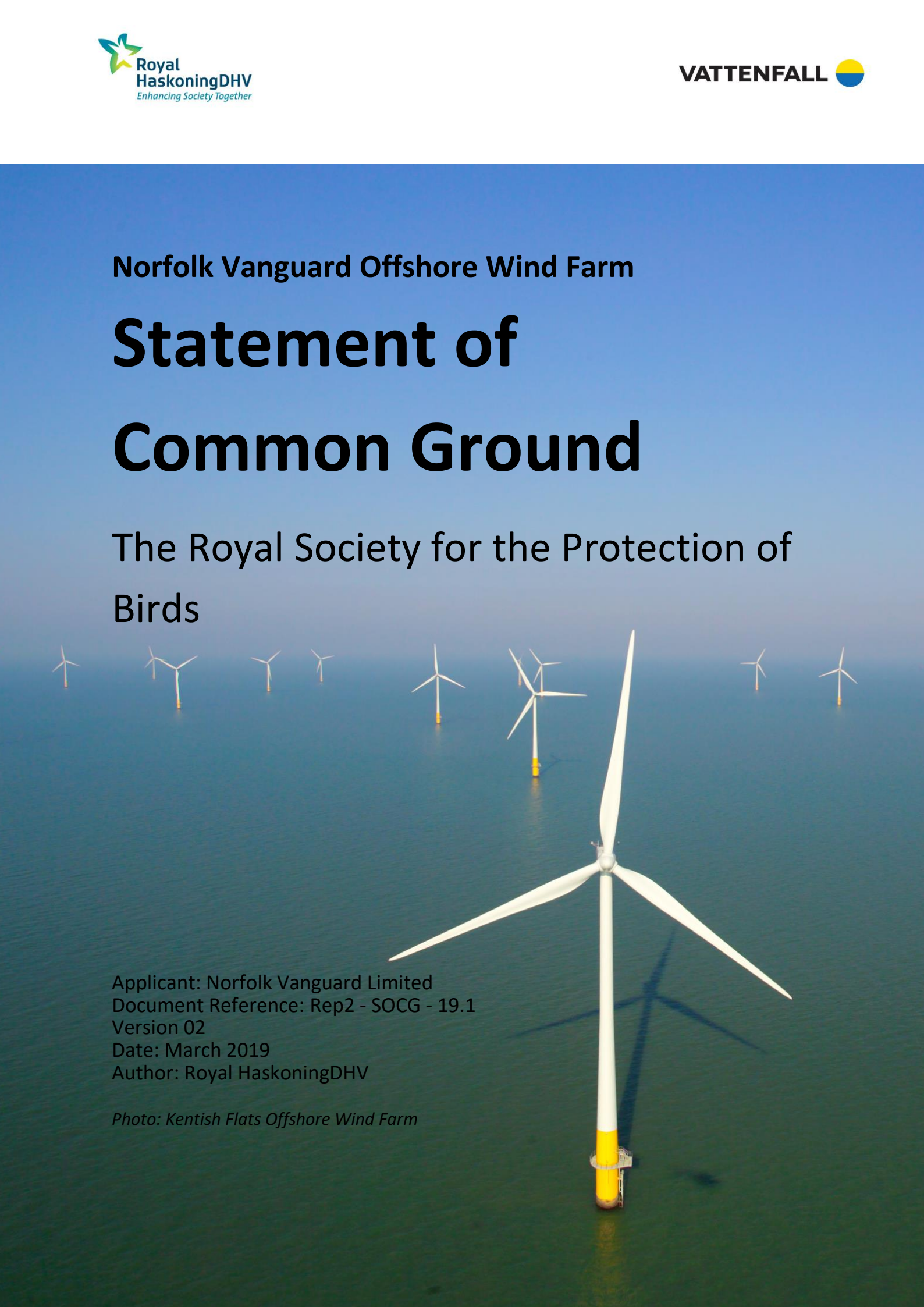


Norfolk Vanguard Offshore Wind Farm

Statement of Common Ground

The Royal Society for the Protection of
Birds



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Glossary

DCO	Development Consent Order
ES	Environmental Statement
ETG	Expert Topic Group
HRA	Habitats Regulations Assessment
HDD	Horizontal Directional Drilling
LiDAR	Light Detection and Ranging
MMO	Marine Management Organisation
OWF	Offshore Wind Farm
PEIR	Preliminary Environmental Information Report
pSPA	Proposed Special Protection Area
RSPB	Royal Society for the Protection of Birds
SPA	Special Protection Area
SoCG	Statement of Common Ground

Terminology

Array cables	Cables which link the wind turbines and the offshore electrical platform.
Landfall	Where the offshore cables come ashore at Happisburgh South.
Mobilisation area	Areas approx. 100 x 100 m used as access points to the running track for duct installation. Required to store equipment and provide welfare facilities. Located adjacent to the onshore cable route, accessible from local highways network suitable for the delivery of heavy and oversized materials and equipment.
National Grid overhead line modifications	The works to be undertaken to complete the necessary modification to the existing 400kV overhead lines.
Necton National Grid substation	The existing 400 kV substation at Necton, which will be the grid connection location for Norfolk Vanguard.
Offshore accommodation platform	A fixed structure (if required) providing accommodation for offshore personnel. An accommodation vessel may be used instead.
Offshore cable corridor	The area where the offshore export cables would be located.
Offshore electrical platform	A fixed structure located within the wind farm area, containing electrical equipment to aggregate the power from the wind turbines and convert it into a more suitable form for export to shore.
Offshore export cables	The cables which bring electricity from the offshore electrical platform to the landfall.
Onshore cable route	The 45 m easement which will contain the buried export cables as well as the temporary running track, topsoil storage and excavated material during construction.
Onshore project substation	A compound containing electrical equipment to enable connection to the National Grid. The substation will convert the exported power from HVDC to HVAC, to 400kV (grid voltage). This also contains equipment to help maintain stable grid voltage.

The OWF sites	The two distinct offshore wind farm areas, Norfolk Vanguard East and Norfolk Vanguard West.
Trenchless crossing zone (e.g. HDD)	Temporary areas required for trenchless crossing works.

1 INTRODUCTION

1. This Statement of Common Ground (SoCG) has been prepared with the Royal Society for the Protection of Birds (the RSPB) and Norfolk Vanguard Limited (hereafter 'the Applicant') to set out the areas of agreement and disagreement in relation to the Development Consent Order (DCO) application for the Norfolk Vanguard Offshore Wind Farm (hereafter 'the project'). This SoCG comprises an agreement log which has been structured to reflect topics of interest to the RSPB on the Norfolk Vanguard DCO application (hereafter 'the Application'). Topic specific matters agreed, not agreed and actions to resolve between the RSPB and the Applicant are included.
2. Points that are not agreed will be the subject of ongoing discussion wherever possible to resolve, or refine, the extent of disagreement between the parties.

1.1 The Development

3. The Application is for the development of the Norfolk Vanguard Offshore Wind Farm (OWF) and associated infrastructure. The OWF comprises two distinct areas, Norfolk Vanguard (NV) East and NV West ('the OWF sites'), which are located in the southern North Sea, approximately 70 km and 47 km from the nearest point of the Norfolk coast respectively. The location of the OWF sites is shown in Chapter 5 Project Description Figure 5.1 of the Application. The OWF would be connected to the shore by offshore export cables installed within the offshore cable corridor from the OWF sites to a landfall point at Happisburgh South, Norfolk. From there, onshore cables would transport power over approximately 60 km to the onshore project substation and grid connection point near Necton, Norfolk.
4. Once built, Norfolk Vanguard would have an export capacity of up to 1800 MW, with the offshore components comprising:
 - Wind turbines;
 - Offshore electrical platforms;
 - Accommodation platforms;
 - Met masts;
 - Measuring equipment (LiDAR and wave buoys);
 - Array cables;
 - Interconnector cables; and
 - Export cables.
5. The key onshore components of the project are as follows:
 - Landfall;
 - Onshore cable route, accesses, trenchless crossing technique (e.g. Horizontal Directional Drilling (HDD)) zones and mobilisation areas;

- Onshore project substation; and
- Extension to the existing Necton National Grid substation and overhead line modifications.

1.2 Consultation with the RSPB

6. This section briefly summarises the consultation that the Applicant has had with the RSPB. For further information on the consultation process please see the Consultation Report (document reference 5.1 of the Application).

1.2.1 Pre-Application

7. The Applicant has engaged with the RSPB on the project during the pre-Application process, both in terms of informal non-statutory engagement and formal consultation carried out pursuant to Section 42 of the Planning Act 2008.
8. During formal (Section 42) consultation, the RSPB provided comments on the Preliminary Environmental Information Report (PEIR) by way of a letter dated 11th December 2017.
9. Further to the statutory Section 42 consultation, several meetings were held with the RSPB through the Evidence Plan Process.
10. Table 1 provides an overview of meetings and correspondence undertaken with the RSPB. Minutes of the meetings are provided in Appendices 9.15 – 9.26 (pre-Section 42) and Appendices 25.1 – 25.9 (post-Section 42) of the Consultation Report (document reference 5.1 of the Application).

1.2.2 Post-Application

11. As part of the pre-examination process, the RSPB submitted a Relevant Representation to the Planning Inspectorate on the 14th September 2018.
12. Further submissions were submitted by the RSPB at Deadline 1^{1,2}, Deadline 2³ and at Deadline 4⁴.

¹ Written Representations for the Royal Society for the Protection of Birds Submitted for Deadline 1 16 January 2019 Planning Act 2008 (as amended) In the matter of: Application by Norfolk Vanguard Limited for an Order Granting Development Consent for the Norfolk Vanguard Offshore Wind Farm Planning Inspectorate Ref: EN010079 Registration Identification Ref: 20012785

² RSPB Response Submitted for Deadline 1: 16th January 2019 Response to the Examining Authority's First Written Questions

³ RSPB Response Submitted for Deadline 2: 30th January 2019 Comments on Applicant's Response to Written Questions

⁴ RSPB Response Submitted for Deadline 4: 13th March 2019 Response to the Examining Authority's Second Written Questions

13. This SoCG represents the position of the parties as they currently stand. It is intended for it to be a live document throughout the examination process as the Applicant and the RSPB work to resolve outstanding issues. However, this process is not of unlimited duration and will conclude with final positions of agreement and disagreement as appropriate.

2 STATEMENT OF COMMON GROUND

14. Within the sections and tables below, the different topics and areas of agreement and disagreement between the RSPB and the Applicant are set out.

2.1 Offshore Ornithology

15. The project has the potential to impact upon Offshore Ornithology. Chapter 13 of the Norfolk Vanguard Environmental Statement (ES) (document reference 6.1 of the Application) provides an assessment of the significance of these impacts.

16. Table 1 provides an overview of meetings and correspondence undertaken with the RSPB regarding Offshore Ornithology.

17. Table 2 provides areas of agreement (common ground) and disagreement regarding Offshore Ornithology.

18. Minutes of Evidence Plan meetings can be found in Appendix 9.17 and Appendix 25.8 of the Consultation Report (document reference 5.1 of the Application).

Table 1 Summary of Consultation with the RSPB in relation to Offshore Ornithology

Date	Contact Type	Topic
Pre-Application		
11 th March 2016	Letter from the Applicant	Formal launch of Norfolk Vanguard.
16 th March 2016	Project Introduction meeting	Introduction to strategy for northern half of zone; data sources; approach to assessment; potential mitigation.
3 rd February 2017	Email from the Applicant	Provision of the Offshore Ornithology Method Statement (Appendix 9.14 of the Consultation Report).
15 th February 2017	ETG meeting	Discussion on the approach to EIA
21 st March 2017	Email from the RSPB	RSPB feedback on Offshore Ornithology Method Statement and provision of information.
26 th June 2017	Email from the Applicant	Offshore HRA Screening (Appendix 5.1 of the HRA (document 5.3)) provided for information.
7 th September 2017	Email from the Applicant	Provision of draft offshore ornithology PEIR Chapter 13.
6 th October 2017	ETG meeting	Discussion of comments on the draft PEIR chapter
11 th December 2017	PEIR response from the RSPB	Comments on the PEIR chapter

Date	Contact Type	Topic
22 nd February 2018	Email from the Applicant	Provision of draft Norfolk Vanguard Information to Support Habitats Regulations Assessment (HRA) (document 5.3).
23 rd March 2018	Email from the RSPB	RSPB's comments on the HRA.
26 th March 2018	Offshore Ornithology HRA Conference Call	Project update and comments on HRA for Offshore Ornithology
Post-Application		
14 th September 2018	Relevant Representation	RSPB's initial feedback on the DCO application.
11 th December 2018	Email from the RSPB	RSPB comments on the draft SoCG
10 th January 2019	Email from the RSPB	RSPB comments on the draft SoCG
16 th January 2019	Written submission to PINS	RSPB Written Representation RSPB Responses to Examiners First Written Questions
30 th January 2019	Written submission to PINS	RSPB Comments on the Applicant's Responses to Written Questions
13 th March 2019	Written submission to PINS	RSPB Response to the Examining Authority's Second Written Questions

Table 2 Offshore ornithology

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
Consultation			
Consultation	The RSPB has been adequately consulted regarding Offshore ornithology to date.	Agreed	Agreed
Environmental Impact Assessment			
Existing Environment	Survey data collected for Norfolk Vanguard (and East Anglia FOUR, now NV East) for the characterisation of offshore ornithology are suitable for the assessment. Survey times were submitted at Deadline 4 (ExA; Further WQApp3.1; 10.D4.6).	Agreed	Agreed
	The methods and techniques used to analyse offshore ornithological data are appropriate for characterising bird distributions and estimating populations.	Agreed	Agreed
	The method used to determine flight heights is appropriate. Generic flight height data (Johnston et al. 2014, with corrigendum) will be used due to data reliability concerns raised by aerial surveyor.	Agreed	Agreed.
	The method used to assign unidentified birds to species is appropriate.	Agreed	Agreed
	The use of migration-free breeding months to define seabird seasons is appropriate. Following further discussion with Natural England and the RSPB, additional assessment will be presented for gannet, kittiwake and lesser black-backed gull using the extended breeding seasons.	Agreed for all species (apart from gannet, kittiwake and lesser black-backed gull which are under discussion).	Agreed for all species (apart from gannet, kittiwake and lesser black-backed gull which are under discussion).
		Under discussion: full breeding season as defined by Furness (2015) supported by colony-specific data should be used for gannet and kittiwake from Flamborough and Filey Coast Special Protection Area (SPA) and lesser black-backed gull from Alde Ore Estuary SPA.	Under discussion

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
Assessment methodology			
General	Appropriate legislation, planning policy and guidance relevant to offshore ornithology has been used.	Agreed	Agreed
	The list of potential impacts on offshore ornithology assessed is appropriate	Agreed	Agreed
	The methods for determining impact significance on offshore ornithological receptors is appropriate.	Agreed	Agreed
	The worst case scenarios used in the assessment for offshore ornithology are appropriate.	Agreed	Agreed
	Differences between single and two phased approaches to construction are trivial in terms of ornithology impacts.	Agreed	Agreed
	The characterisation of receptor sensitivity is appropriate.	Agreed	Agreed
Construction impact methods	The lists of potential construction impacts and ornithology receptors assessed are appropriate.	Agreed	Agreed
	<p>The methods used to estimate impacts during construction, including cable laying operations, based on mean density estimates and using evidence based percentages of displacement and mortality are appropriate.</p> <p>However, following requests from Natural England and the RSPB, an updated assessment was submitted for Deadline 2 (Appendix 3.1, document reference ExA; WQ App 3.1; 10.D1.3) which included a range of displacement and mortality rates, these included the precautionary rates preferred by Natural England and the RSPB as well as rates identified by the Applicant's review of evidence as being more appropriate for assessing displacement.</p>	Not agreed. We welcome the Applicant's presentation at Deadline 2 of the displacement assessment outputs based on the buffer size, and displacement and mortality rates recommended by Natural England and consider that these should form the basis of the assessment. We do not support the use of the Applicant's preferred displacement and mortality rates.	Not agreed
	The sources of operational impact assessed are appropriate.	Agreed	Agreed

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
Operation impact methods	The lists of ornithology receptors assessed for each impact are appropriate.	Agreed	Agreed
	Methods for assessing operational displacement are appropriate, based on use of mean densities and evidence based percentages of displacement and mortality. However, following requests from Natural England and the RSPB, an updated assessment was submitted at Deadline 2 (Appendix 3.1, document reference ExA; WQApp3.1; 10.D1.3 and Appendix 3.3, document reference ExA; WQApp3.3; 10.D1.3) which included a range of displacement and mortality rates these included the precautionary rates preferred by Natural England and the RSPB as well as rates identified by the Applicant's review of evidence as being more appropriate for assessing displacement.	Not agreed. We welcome the Applicant's presentation at Deadline 2 of the displacement assessment outputs based on the buffer size, and displacement and mortality rates recommended by Natural England and consider that these should form the basis of the assessment. We do not support the use of the Applicant's preferred displacement and mortality rates.	Not agreed
	Methods for assessing population scale collision impacts are appropriate: use of Band collision risk model (CRM) options 1 and 2, implemented as stochastic simulations using the R programming language in order to permit incorporation of uncertainty in all the parameters for which NE requested upper and lower predictions. These included nocturnal activity rates, proportions at collision height, avoidance rates and seabird densities However, following requests from Natural England and the RSPB, an updated assessment was submitted at Deadline 2 (Appendix 3.2, document reference ExA; WQApp3.2; 10.D1.3). This provided clarification and responses to points raised regarding appropriate seabird density input values and a comparison of the results obtained using the Applicant's implementation of the Band model with the Band (2012) Excel version and the Marine Scotland Science stochastic CRM (used in a deterministic manner to permit direct comparison of the calculations with the Band model and the Applicant's model), which demonstrated the equivalence of each version of the model. In addition, the note presented the collision results obtained for specified upper and lower parameter values (for seabird density, avoidance rates, flight heights and nocturnal activity rates).	Agreed with respect to use of Band model options 1 and 2	Agreed.
		Not agreed with respect to other methods used – see below.	Not agreed
		Not agreed. The RSPB recommends that the Marine Scotland implementation of the stochastic CRM is used in place of the Applicant's with outputs presented for both mean and median bird densities. We do not agree that the Applicant's Collision	Not agreed

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
	<p>This note concluded there would be no significant impacts from the project alone or cumulatively with other projects. Nonetheless the Applicant will continue to seek to address any outstanding concerns raised with respect to the assessment. Natural England reviewed this note and undertook their own calculations, following which they reached the same conclusion that the project alone would have no significant effects due to collision risk. As a consequence, the Applicant does not consider any further refinements to the project envelope are required.</p> <p>Natural England and the RSPB have requested that the Marine Scotland model be used in preference to the Applicant's. The Applicant has made several attempts to undertake this (in a fully stochastic mode), but on each occasion to date has encountered errors in the Marine Scotland model which have prevented its use (these errors only came to light when a full comparison was attempted, which had not been previously undertaken). On each occasion the Applicant has communicated these issues to the developer of the Marine Scotland Model and a revision has been made available. This has prevented the Applicant from presenting full stochastic results for the Marine Scotland model to date. Due to these delays, the Applicant does not consider that the Marine Scotland model will be appropriate for use within the time frame of the project examination.</p> <p>Following discussions on this topic with Natural England (during a call on the 8th March), the Applicant has committed to provide Band (2012) outputs using Natural England's preferred input parameter values, alongside the evidence based rates the Applicant considers to be appropriate.</p> <p>However, the above notwithstanding, It should also be noted that, as a result of further refinement to the project design envelope, the option to use a 9MW turbine (the smallest and most numerous turbine option) has been removed. This will be included by the Applicant in a revised DCO to be submitted at Deadline 4. Revised collision risks for the Project, using parameters for the 10MW turbine (which will now be the worst case for collision risk), estimated using the Band (2012) model and using Natural England's preferred input parameter values will be provided for a future deadline (including the mean densities). The revision will also include collisions estimated using evidence based input parameter values. Updated cumulative and in-combination collisions will also be presented.</p>	Risk Model is equivalent to either the Band (2012) version or the MSS sCRM implementation as sufficient detail is not presented to validate this comparison.	
		Not agreed. The RSPB recommends that mean seabird densities should be used instead of medians.	Not agreed
		Not agreed. The RSPB recommends that nocturnal activity rates should be those previously recommended (in the absence of evidence regarding survey timings).	Not agreed
		Not agreed. The RSPB recommends that the gannet avoidance rate should be 98% in the breeding season.	Not agreed
		Not agreed. The RSPB does not agree with the use of PBR and density dependent PVA outputs in	Not agreed

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
		assessing collision risk. Density independent PVA outputs in the form of counterfactuals of population size should be used.	
	Methods for assessing barrier impacts are appropriate.	Agreed	Agreed
	Methods for assessing indirect impacts are appropriate.	Agreed	Agreed
Impact assessment findings – project alone			
Construction impacts	The magnitude of impacts and conclusions on significance resulting from the construction phase are correctly identified and predicted. No impacts of greater than minor significance are predicted.	Agreed (for EIA, subject to use of recommended displacement/mortality rates)	Agreed (subject to noted caveat)
	The ES considers construction, operation and decommissioning impacts in accordance with the requirements of the EIA Regulations and the approach to assessment was agreed as part of the Evidence Plan Process. Construction and decommissioning impacts are distinct from operational impacts so it is not appropriate to combine impacts in the way suggested by the RSPB. In any event, construction and decommissioning impacts are generally minor and short term, so the combined impact would not increase the significance assessed for operation alone. Note, this position also applies in subsequent rows where the RSPB have repeated this position.	Note that the RSPB considers that conclusions on significance for each receptor should consider the full range of impacts from the project as a whole during all stages of the project (i.e. construction, operation and decommissioning) Terminology regarding impact significance should be clear as to whether it relates to EIA or HRA procedures.	
Operation impacts	<p>The magnitude of impacts and conclusions on significance resulting from displacement during operation are correctly identified and predicted. No impacts of greater than minor significance are predicted.</p> <p>However, as requested by Natural England the RSPB, an updated assessment was submitted at Deadline 2 (Appendix 3.1, document reference ExA; WQApp3.1; 10.D1.3 and Appendix 3.3, document reference ExA; WQApp3.3; 10.D1.3) which included a range of displacement and</p>	Agree impact significance subject to use of recommended displacement/mortality rates (and subject to the caveat below). We do not agree that the NE/RSPB preferred	Agree impact significance (subject to noted caveat), but not that NE rates are

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
	<p>mortality rates as requested. This note concluded that using the Applicant's evidence based rates of displacement and mortality there would be no significant impacts from the project alone. If the highly precautionary rates preferred by Natural England and the RSPB are used then a moderate significant impact was predicted for red-throated diver for Norfolk Vanguard West and the combination of Norfolk Vanguard East and West.</p>	<p>parameters are "highly precautionary"; they are precautionary, but proportionate to the level of uncertainty involved..</p> <p>Conclusions on the significance for each receptor should consider the full range of impacts from the project as a whole during all stages of the project (i.e. construction, operation and decommissioning).</p> <p>Terminology regarding impact significance should be clear as to whether it relates to EIA or HRA procedures.</p>	<p>"highly precautionary"</p>
	<p>The magnitude of impacts and conclusions on significance resulting from collision during operation are correctly identified and predicted. No impacts of greater than minor significance are predicted.</p> <p>However, following requests from Natural England and the RSPB, an updated assessment was submitted at Deadline 2 (Appendix 3.2, document reference ExA; WQApp3.2; 10.D1.3). This provided clarification and responses to points raised regarding appropriate seabird density input values and a comparison of the results obtained using the Applicant's implementation of the Band model with the Band (2012) Excel version and the Marine Scotland Science stochastic CRM (used in a deterministic manner to permit direct comparison of the calculations with the Band model and the Applicant's model), which demonstrated the equivalence of each version of the model. In addition, the note presented the collision results obtained for specified upper and lower parameter values (for seabird density, avoidance rates, flight heights and nocturnal activity rates). This note concluded there would be no significant impacts from the project alone or cumulatively with other projects.</p>	<p>Not agreed due to the stochastic CRM version used, and methodological concerns including assignment of months to breeding season, nocturnal activity rates and use of median seabird densities.</p> <p>Note that the conclusions on significance for each receptor should consider the full range of impacts from the project as a whole during all stages of the project (i.e. construction, operation and decommissioning).</p> <p>Terminology regarding</p>	<p>Not agreed.</p>

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
	<p>Natural England reviewed this note and undertook their own calculations, following which they reached the same conclusion that the project alone would have no significant effects due to collision risk. As a consequence, the Applicant does not consider any further refinements to the project envelope are required. Nonetheless the Applicant will continue to seek to address any outstanding concerns raised with respect to the assessment.</p> <p>However, the above notwithstanding, it should also be noted that, as a result of further refinement to the project design envelope, the option to use a 9MW turbine (the smallest and most numerous turbine option) has been removed. This will be included by the Applicant in a revised DCO to be submitted at Deadline 4. Revised collision risks for the project, using parameters for the 10MW turbine (which will now be the worst case for collision risk), estimated using the Band (2012) model and using Natural England's preferred input parameter values will be provided for a future deadline. The revision will also include collisions estimated using evidence based input parameter values. Updated cumulative and in-combination collisions will also be presented.</p> <p>Natural England and the RSPB have requested that the Marine Scotland model be used in preference to the Applicant's. The Applicant has made several attempts to undertake this (in a fully stochastic mode), but on each occasion to date has encountered errors in the Marine Scotland model which have prevented its use (these errors only came to light when a full comparison was attempted, which had not been previously undertaken). On each occasion the Applicant has communicated these issues to the developer of the Marine Scotland Model and a revision has been made available. This has prevented the Applicant from presenting full stochastic results for the Marine Scotland model to date. Due to these delays, the Applicant does not consider that the Marine Scotland model will be appropriate for use within the time frame of the project examination.</p> <p>Following discussions on this topic with Natural England, the Applicant has committed to provide Band (2012) outputs using Natural England's preferred input parameter values, alongside the evidence based rates the Applicant considers to be appropriate.</p>	<p>impact significance should be clear as to whether it relates to EIA or HRA procedures.</p> <p>The RSPB recommends that the Marine Scotland implementation of the stochastic CRM is used in place of the Applicant's with outputs presented for both mean and median bird densities. We do not agree that the Applicant's Collision Risk Model is equivalent to either the Band (2012) version or the MSS sCRM implementation as sufficient detail is not presented to validate this comparison.</p> <p>The RSPB welcomes the reduction in the WCS predicted impacts as a result of the project refinement and consider that exploration of further opportunities to raise draught height would be beneficial. However, we are likely to have concerns with the 'evidence based input parameter values' although we cannot reach a position until these values are presented.</p>	

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
	The magnitude of impacts and conclusions on significance resulting from barrier impacts during operation are correctly identified and predicted. No impacts of greater than minor significance are predicted.	<p>Agreed (subject to the caveat below).</p> <p>Conclusions on the significance for each receptor should consider the full range of impacts from the project as a whole during all stages of the project (i.e. construction, operation and decommissioning). Terminology regarding impact significance should be clear as to whether it relates to EIA or HRA procedures.</p>	Agreed (subject to noted caveat)
	The magnitude of impacts and conclusions on significance resulting from indirect impacts during operation are correctly identified and predicted. No impacts of greater than minor significance are predicted.	<p>Agreed (subject to the caveat below)</p> <p>Conclusions on the significance for each receptor should consider the full range of impacts from the project as a whole during all stages of the project (i.e. construction, operation and decommissioning). Terminology regarding impact significance should be clear as to whether it relates to EIA or HRA procedures.</p>	Agreed

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
Decommissioning impacts	The magnitude of impacts and conclusions on significance resulting from decommissioning are correctly identified and predicted. No impacts of greater than minor significance are predicted.	Agreed. (subject to the caveat below) Conclusions on the significance for each receptor should consider the full range of impacts from the project as a whole during all stages of the project (i.e. construction, operation and decommissioning). Terminology regarding impact significance should be clear as to whether it relates to EIA or HRA procedures.	Agreed
Cumulative impact assessment			
Cumulative construction assessment	The plans and projects considered within the CIA are appropriate.	Agreed	Agreed
	The magnitude of impacts and conclusions on significance resulting from cumulative impacts during construction are correctly identified and predicted. No impacts of greater than minor significance are predicted.	Agreed.	Agreed.
Cumulative operation assessment	The plans and projects considered within the CIA are appropriate.	Agreed, with relevance to sites and species of concern to RSPB.	Agreed
	The magnitude of impact and conclusions on significance resulting from cumulative displacement impacts during operation for all species assessed (guillemot, razorbill, puffin and red-throated diver) are correctly identified and predicted. No impacts of greater than minor significance are predicted. However, as requested by Natural England and the RSPB, an updated assessment was submitted at Deadline 2 (Appendix 3.1, document reference ExA; WQApp3.1; 10.D1.3 and Appendix 3.3, document reference ExA; WQApp3.3; 10.D1.3) which included a range of displacement and	Not agreed. Based on the updated assessment provided at Deadline 2, we consider that these impacts are of moderate significance using the Natural England recommended displacement and mortality rates. We do	Not agreed

Topic	Norfolk Vanguard Limited position	RSPB position	Final position
	mortality rates as requested. Using the evidence-based rates identified by the Applicant's reviews (included in the above notes), this note concluded there would be no significant impacts from the project cumulatively with other projects. If the highly precautionary rates preferred by Natural England and the RSPB are used, then a moderate significant impact was predicted for cumulative red-throated diver displacement.	not agree that the NE/RSPB preferred parameters are "highly precautionary"; they are precautionary, but proportionate to the level of uncertainty involved.	
	<p>The magnitude of impacts and conclusions on significance resulting from cumulative collisions during operation are correctly identified and predicted. No impacts of greater than minor significance are predicted.</p> <p>However, following requests from Natural England and the RSPB, an updated assessment was submitted at Deadline 2 (Appendix 3.2, document reference ExA; WQApp3.2; 10.D1.3). This provided clarification and responses to points raised regarding appropriate seabird density input values and a comparison of the results obtained using the Applicant's implementation of the Band model with the Band (2012) Excel version and the Marine Scotland Science stochastic CRM (used in a deterministic manner to permit direct comparison of the calculations with the Band model and the Applicant's model), which demonstrated the equivalence of each version of the model. In addition, the note presented the collision results obtained for specified upper and lower parameter values (for seabird density, avoidance rates, flight heights and nocturnal activity rates). This note concluded there would be no significant impacts from the project cumulatively with other projects.</p> <p>Nonetheless the Applicant will continue to seek to address any outstanding concerns raised with respect to the assessment.</p> <p>Natural England and the RSPB have requested that the Marine Scotland model be used in preference to the Applicant's. The Applicant has made several attempts to undertake this (in a fully stochastic mode), but on each occasion to date has encountered errors in the Marine Scotland model which have prevented its use (these errors only came to light when a full comparison was attempted, which had not been previously undertaken). On each occasion the Applicant has communicated these issues to the developer of the Marine Scotland Model and a revision has been made available. This has prevented the Applicant from presenting full stochastic results for the Marine Scotland model to date. Due to these delays, the Applicant does not</p>	<p>Not agreed due to concerns about the input parameters and methods used to estimate collision risks (as noted above). Insufficient evidence to rule out cumulative effects for kittiwake and great black-backed gull.</p> <p>The RSPB recommends that the Marine Scotland implementation of the stochastic CRM is used in place of the Applicant's with outputs presented for both mean and median bird densities. We do not agree that the Applicant's Collision Risk Model is equivalent to either the Band (2012) version or the MSS sCRM implementation as sufficient detail is not presented to validate this comparison.</p> <p>The RSPB welcomes the reduction in the WCS predicted impacts as a result</p>	Not agreed


Topic	Norfolk Vanguard Limited position	RSPB position	Final position
	<p>consider that the Marine Scotland model will be appropriate for use within the time frame of the project examination.</p> <p>Following discussions on this topic with Natural England, the Applicant has committed to provide Band (2012) outputs using Natural England's preferred input parameter values, alongside the evidence based rates the Applicant considers to be appropriate.</p> <p>It should also be noted that, as a result of further refinement to the project design envelope, the option to use a 9MW turbine (the smallest and most numerous turbine option) has been removed. This will be included by the Applicant in a revised DCO to be submitted at Deadline 4. Revised collision risks for the project, using parameters for the 10MW turbine (which will now be the worst case for collision risk), estimated using the Band (2012) model and using Natural England's preferred input parameter values will be provided for a future deadline. The revision will also include collisions estimated using evidence based input parameter values. Updated cumulative and in-combination collisions will also be presented.</p>	<p>of the project refinement and consider that exploration of further opportunities to raise draught height would be beneficial. However, we are likely to have concerns with the 'evidence based input parameter values' although we cannot reach a position until these values are presented.</p>	
Habitats Regulations Assessment (HRA)			
Screening of LSE	The Approach to HRA Screening is appropriate.	Agreed	Agreed
	<p>The following sites and species should be screened in for further assessment:</p> <ul style="list-style-type: none"> • Alde-Ore Estuary SPA (lesser black-backed gull); • Flamborough and Filey Coast SPA (gannet and kittiwake); • Flamborough Head and Bempton Cliffs SPA (kittiwake); and • Greater Wash SPA (red-throated diver and little gull). <p>The Applicant has sought to clarify the impact assessment predictions for the project before re-visiting the HRA screening. These aspects will be addressed for future deadlines.</p>	Agreed.	Agreed.
Assessment	<p>The approach to the determination of Adverse Effect on Integrity (AEoI) is appropriate.</p> <p>The Applicant has sought to clarify the impact assessment predictions for the project before re-visiting the methods for determining which (if any) species require additional consideration of the potential population consequences (e.g. through additional population modelling).</p> <p>It should be noted that while the Applicant made reference to the results of potential biological removal (PBR) presented for past applications, where these were considered relevant and informative, there is no intention to produce updated PBR. If any additional population modelling is required, it will be in the form of Population Viability Analysis (PVA).</p>	Under discussion. PBR should not be used to support these conclusions, but we welcome the commitment to provide new modelling in the form of PVA as required.	Under discussion

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	<p>Conclusion of no AEol for Alde-Ore Estuary is appropriate, on the basis of in-combination collisions in the context of the large non-SPA populations of lesser black-backed gull in Norfolk and Suffolk with potential for connectivity to NV, the outputs from PVA models and an understanding that predation at colony is a key driver of the population health.</p> <p>The Applicant provided additional information regarding derivation of lesser black-backed gull populations in their responses to the Examiners first written questions (Norfolk Vanguard Offshore Wind Farm Applicant Responses to the ExA's First Written Questions ExA_ WQ_ 10.D1.3_ Written Question Responses).</p> <p>As noted above, the Applicant has also undertaken additional collision risk modelling to address the queries raised by the RSPB and Natural England (Norfolk Vanguard Offshore Wind Farm Offshore Ornithology: Collision Risk Modelling: update and clarification (Appendix 3.2, document reference ExA; WQApp3.2; 10.D1.3)).</p> <p>The Applicant considers that sufficient evidence has been presented for this colony, with respect to drivers of the population's conservation status.</p> <p>If further population modelling is required this will take account of additional information which was not available when the Galloper PVA was produced, such as updated demographic rates.</p> <p>As noted above, the Applicant has undertaken additional assessment work, including collision risk modelling, in order to address the RSPB's and Natural England's concerns. Once final positions on these matters has been reached, the HRA will be updated as necessary.</p> <p>Further consideration will be given to the assignment of months to biological seasons.</p>	<p>Under discussion. The RSPB questions the estimation of the regional population size and likelihood of connectivity with the Norfolk Vanguard site and the collision modelling methods and the Galloper PVA 'medium scenario' used. Insufficient evidence on which to base assumptions about key colony drivers or to rule out in-combination effects.</p>	<p>Under discussion</p>
	<p>Conclusion of no AEol for gannet population at Flamborough and Filey Coast SPA is appropriate on the basis of in-combination collisions and the predicted consequences from PBR and PVA.</p> <p>As noted above, the Applicant has undertaken additional assessment work, including collision risk modelling, in order to address the RSPB's and Natural England's concerns. Once final positions on these matters has been reached, the HRA will be updated as necessary.</p> <p>Further consideration will be given to the assignment of months to biological seasons.</p>	<p>Not agreed. The RSPB does not agree with the collision modelling methods used, the use of PBR and the assignment of breeding season months. Insufficient evidence to rule out in-combination effects.</p>	<p>Not agreed</p>

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	<p>Conclusion of no AEol for kittiwake population at Flamborough and Filey Coast SPA is appropriate on the basis of in-combination collisions and the predicted consequences estimated from PVA.</p> <p>As noted above, the Applicant has undertaken additional assessment work, including collision risk modelling, in order to address the RSPB's and Natural England's concerns. Once final positions on these matters has been reached, the HRA will be updated as necessary.</p> <p>Further consideration will be given to the assignment of months to biological seasons.</p>	Not agreed. The RSPB does not agree with the collision modelling methods used, the method used to apportion collisions to the SPA, the use of PBR and the assignment of breeding season months. Insufficient evidence to rule out in-combination effects.	Not agreed
	<p>Conclusion of no AEol for kittiwake population at Flamborough Head and Bempton Cliffs SPA is appropriate on the basis of in-combination collision total and the predicted consequences estimated from PVA. Note that this feature is the same as that for the Flamborough and Filey Coast SPA and therefore covered by that assessment.</p>	Not agreed. Position as per that for the Flamborough and Filey Coast SPA assessment of this feature (see above).	Not agreed
	<p>Conclusion of no AEol for the red-throated diver population at the Greater Wash SPA is appropriate on the basis of in-combination construction displacement.</p> <p>As noted above, the Applicant has undertaken additional assessment work, including updating the displacement assessment, in order to address Natural England's queries. Once final positions on these matters has been reached, the HRA will be updated as necessary.</p>	Agreed	Agreed
	<p>Conclusion of no AEol for the little gull population at the Greater Wash SPA is appropriate on basis of in-combination collisions.</p> <p>Furthermore, the Applicant submitted an updated collision assessment, including use of deterministic Band model outputs submitted at Deadline 2 (Appendix 3.2, document reference ExA; WQApp3.2; 10.D1.3) which provide the additional information requested for this impact.</p>	Agreed	Agreed
Mitigation and Management			

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Mitigation and Management	<p>Given the impacts of the project, the proposed mitigation and monitoring (to be developed through the Ornithological Monitoring Plan, in accordance with the In Principle Monitoring Plan (Application document 8.12)) is adequate.</p> <p>With respect to the Alde-Ore Estuary SPA, the Applicant understands that Natural England has been developing a predator control management plan for this colony (however the Applicant has not yet seen a published version of this plan) which is intended to return the colony to a positive population trajectory and this is considered the best option for improving and maintaining the health of this population. However, it is important to note that, irrespective of the proposed Natural England led management action, the impact on the SPA population due to the Norfolk Vanguard wind farm is predicted to be negligible and therefore not significant.</p> <p>Furthermore, the Applicant would like to make it clear that irrespective of the expected positive outcome of management measures, such as those noted above and covered in detail in the Applicant's responses to the first written questions (Norfolk Vanguard Offshore Wind Farm Applicant Responses to the ExA's First Written Questions Document Reference: ExA; WQ; 10.D1.3) such management measures have never been identified as potential mitigation options by the Applicant and in this respect should not be considered as mitigation for the Norfolk Vanguard project.</p>	<p>Agreed (with exception of lesser black-backed gull, see below).</p> <p>The RSPB agrees that the proposed management measures for lesser black-backed gull at the Alde-Ore Estuary SPA should not be considered as mitigation.</p>	Agreed
	<p>The In-Principle Monitoring Plan (IPMP) allows for both strategic and project level monitoring (although these need to be considered in relation to the relative magnitude of individual project scale impacts). Monitoring options will be agreed with the Marine Management Organisation (MMO) in consultation with relevant stakeholders in accordance with Condition 14(1)(l) of the generation Deemed Marine License (DMLs) (Schedule 9 and 10) which refer to the Ornithological Monitoring Plan.</p>	<p>Not agreed. Site-specific monitoring should be included in the In Principle Monitoring Plan due to the need to validate the conclusions regarding impacts that have been made in the EIA and HRA.</p>	Not agreed
	<p>However, the Applicant also considers that in many instances studies for offshore wind farm effects on seabirds designed to reduce uncertainties and precaution in assessments need to be conducted at a strategic rather than project level. The Applicant is a key supporter of strategic monitoring initiatives and has a proven track record in this area (e.g. through the Scientific Research and Monitoring Programme for the European Offshore Wind Development Centre and involvement in the Offshore Renewables Joint Industry Programme (ORJIP)).</p>	<p>Agreed. The RSPB welcomes the Applicant's commitment to strategic level monitoring.</p>	Agreed

The undersigned agree to the provisions within this SOCG

Signed	
Printed Name	Rosie Sutherland
Position	In House Solicitor
On behalf of	The Royal Society for the Protection of Birds
Date	20 March 2019

Signed	R Sherwood
Printed Name	Rebecca Sherwood
Position	Norfolk Vanguard Consents Manager
On behalf of	Norfolk Vanguard Ltd (the Applicant)
Date	20 March 2019