

From: [Jacqui Miller](#)
To: [Norfolk Vanguard](#)
Subject: RSPB submissions for deadline 4
Date: 13 March 2019 16:55:56
Attachments: [FINAL RSPB reponse to 2nd written questions.pdf](#)
[FINAL Attendance at Hearing 27th March.pdf](#)

Dear Sir/Madam

Registration Identification Ref: 20012785

Please find attached the RSPB's responses for deadline 4 of the Norfolk Vanguard examination.

Please do let me know if you have any queries regarding our submissions. I would be grateful if you could confirm receipt.

Kind regards

Jacqui Miller
Conservation Officer

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Re: Application by Norfolk Vanguard Limited for an Order Granting Development Consent
for the Norfolk Vanguard Offshore Wind Farm

RSPB Response Submitted for Deadline 4: 13th March 2019

RSPB response to the Examining Authority's second written questions

Dear Sir/Madam

Please find below our responses to the questions directed to the RSPB.

1.7 Are you satisfied that long-term ecological monitoring during the operational phase of the project is adequately secured in the dDCO?

No, we are concerned that provision for project level monitoring has not been included. Whilst we welcome the inclusion of strategic monitoring, project level monitoring is also needed to understand impact pathways and test hypotheses that have been used in planning decisions, such as avoidance and collision rates. The main topics for post-construction monitoring and research are collision risk and displacement/barrier effects. Studies benefit from before/after comparison, whilst data collection during construction is also helpful to identify whether construction per se is the cause of observed changes and whether effects persist during the operational phase. Our full position regarding the need to update the In-principle Monitoring Plan and to secure these changes in the dDCO is set out in our Written Representations [doc. REP1-112].

3.19 Please comment on whether or not the Applicant's response to the First Examination Questions (ExQ1) [PD-008] 3.3, 3.4, 3.5, 3.7 and 3.8 [REP1-007] together with the information submitted by the Applicant at D1, specifically Appendix 3.1 Red-throated diver displacement, Appendix 3.2 Collision Risk Modelling: update and clarification, Appendix 3.3 Operational Auk and Gannet displacement: update and clarification [REP1-008 collectively], has now overcome the concerns you had previously raised in regard to these particular matters and which are reflected in the relevant topic areas that are defined as 'not agreed' in the Statement of Common Ground submitted at Deadline 1 (D1) [RSPB REP1-058].

Use of migration-free breeding season for gannet, kittiwake and lesser black-backed gull

These concerns were not addressed by the Applicant in the representations noted above, and hence this area is still 'not agreed'.

Construction and operational displacement and mortality rates – red throated diver

The Applicant presented revised displacement assessment outputs in Appendix 3.1 Red-throated diver displacement [REP1-008]. These incorporated a 4km buffer and were based on the displacement and mortality rates recommended by Natural England and supported by us. However, the Applicant also presented an assessment based on their preferred values of 90% displacement and 1% mortality. We therefore agree with the assessment based on the Natural England recommended displacement and mortality rates, but disagree with the assessment based on the Applicant's preferred rates.

We also do not agree that cumulative impacts on the red-throated diver biogeographic/BDMPS populations should be considered to be of minor significance. Given the levels of mortality predicted using the recommended parameters, these impacts should be considered to be of moderate significance.

Construction and operational displacement – auks

The Applicant presented revised displacement assessment outputs in Appendix 3.3 Operational Auk and Gannet displacement: update and clarification [REP1-008]. We supported the recommendations of Natural England which state that the displacement assessment for auks should incorporate a 2km buffer and be based on worst case scenario (WCS) displacement of 70% and mortality of 10%. Whilst this was acknowledged in the update, outputs based on these figures were not discussed. However, the tables provided indicate that at these levels, cumulative mortality is predicted to result in a rise in background mortality of over 1% for all auk species, with the rise for guillemot and razorbill being over 3%. Given the WCS levels of mortality predicted using the recommended parameters, we do not agree that impacts on the biogeographic/BDMPS populations can be considered to be of minor significance; these should be considered to be of moderate significance.

Collision risk modelling methodologies

Following the Applicant's response to the First Examination Questions (ExQ1) [PD-008] and Appendix 3.2 Collision Risk Modelling: update and clarification, we still have significant concerns about the methods used in the collision risk modelling and the subsequent conclusions regarding impact significance. In particular,

- We do not agree with the justification provided for using median values for bird density in the collision risk model and continue to recommend that mean densities are used, as is standard practice.
- Insufficient detail is presented to enable comparison with the MSS stochastic model. We therefore continue to recommend the use of the MSS model and disagree with the use of the Applicant's own stochastic model.
- We welcome the provision of updated collision mortality figures using the Natural England recommended rates for kittiwake and large gulls. However, as survey timings are not known, the Natural England recommended rates should be used for gannet as well, instead of the Furness *et al.* (2018) nocturnal activity rates.

- Our disagreement with the use of a 98.9% avoidance rate for gannet in the breeding season remains.

Concerns regarding the approach to the determination of adverse effects on integrity

We disagreed with the Applicant's approach to apportioning of impacts to kittiwakes of the Flamborough and Filey Coast SPA, and recommended that the Applicant should follow the recommendations of SNH (2018), amended, as per the guidance, with additional account of recent tracking data from Flamborough and Filey Coast SPA. Whilst some progress is being made regarding the use of the RSPB tracking data, this area is yet to be resolved.

We also disagreed with the Applicant's approach to apportioning of impacts to lesser black-backed gulls of the Alde-Ore Estuary SPA and recommended an alternative approach based on the SNH (2018) guidance and informed by updated colony numbers and studies of diet preferences (see our Response to the First Written Questions [REP1-110]). The Applicant responded to this in their Comments on Responses to the First Written Questions [REP2-004], however, our view remains as set out in REP1-110, as we do not agree that their response sufficiently addresses these issues.

No updates regarding population modelling have been provided at this stage, hence our disagreement with the use of potential biological removal (PBR) to inform conclusions regarding adverse effects on integrity remains.

Significance of collision risk impacts

Given our outstanding concerns regarding the collision risk methodologies, we are still unable to agree that adverse effects on the integrity of the following sites and features can be ruled out:

- The kittiwake population of the Flamborough and Filey Coast SPA alone and in-combination with other plans and projects;
- The gannet population of the Flamborough and Filey Coast SPA alone and in-combination with other plans and projects;
- The lesser black-backed gull population of the Alde-Ore Estuary SPA alone and in-combination with other projects.

We are also unable to agree that cumulative collision risk impacts for key populations are of minor significance only. The populations of concern are the North Sea populations of kittiwake and great black-backed gull.

Lesser black-backed gull management measures at the Alde-Ore Estuary SPA

The Applicant discussed management measures at the Alde-Ore Estuary SPA in the Information for HRA [APP-045], para. 201 and stated that such measures could 'readily offset' the in-combination collision mortality. We disagreed that measures such as predation management could be regarded as mitigation for collision mortality. Whilst we still disagree with some of the points made regarding the likely

effectiveness of such measures, the Applicant has since confirmed that these measures are not proposed as mitigation, therefore this area of disagreement is resolved.

With regard to mitigation, a DML condition was agreed for East Anglia THREE which raised the draught height of a proportion of the turbines. This condition was for the purpose of minimising collision risk, as this reduces the number of birds flying at Potential Collision Height and hence reduces likely collision mortality. We note that the Applicant has stated that this is not necessary as impacts are not predicted to be significant, however, given the concerns regarding the collision mortality predictions, we would welcome exploration of the potential for a similar approach to be taken by Norfolk Vanguard.

23.66 Can you confirm whether the use of mean density values is advocated in any particular guidance?

The use of mean density values is not explicitly advocated in any guidance, but this is due to the lack of guidance for carrying out a stochastic collision risk assessment in general and not to the specifics of how to input density into the stochastic modelling process. As detailed in Trinder (2017), typically wind farm surveys are carried out over two years and so for each month there are two densities, one for each year. To obtain a final monthly collision rate using the Band (2012) deterministic formulation of the model, a mean of these would be taken. This is true of virtually every consented offshore wind farm since the model was published.

The development of a stochastic version of the Band (2012) model, first by Masden (2015) as a proof of concept and then by MacGregor *et al.*, (2018) allowed for uncertainty and variability to be incorporated into the Band model, including that around bird density. This uncertainty can be included in the model as a distribution, described by statistics such as confidence intervals and means or medians. The Masden model version did this using a truncated normal distribution with a mean, following stakeholder consultation and discussion with the project scientific steering group.

Subsequent to Masden's work it became accepted that it was desirable to incorporate stochasticity into collision risk modelling, and this was reflected in scoping advice from the SNCBs. In response to such advice from Natural England, for the Hornsea Project Two application bird density was modelled using Generalised Linear Models whereby mean density was presented alongside 95% confidence intervals. This was accepted by the Examining Authority

The MacGregor *et al.*, (2018) model version included the facility to use a revised truncated normal distribution, modified following the recommendations of Trinder (2017) with mean and standard deviation, along with two further options for other user specified distributions. The first option is by providing reference points (max, min and selected percentiles) for the user's distribution of mean density, the second is by providing 1000 samples from the user's distribution of mean density.

While neither Masden or MacGregor *et al.*, can be seen as formal guidance, their consistent use of the mean, alongside the historical use described above set a strong precedent for using this and can

therefore be considered the standard approach. In the guidance accompanying the Band (2012) model, it is said that “*Developers and their advisors are encouraged where appropriate to go beyond the core requirements set out in this guidance; but where they do so, the standard approach of this guidance should also be pursued so as to make clear how the results of any improved methods differ from that of the standard approach.*”

The Applicant’s discussion of the use of medians is relevant, but incomplete data are presented to support the approach taken, in particular, the mean monthly densities (not, as is presented in Annex 1 of Appendix 13.1, means of medians) are not presented. In not doing so, the Applicant is contravening the guidance detailed above.

23.67 Can you comment on whether AEOI could be ruled out for collision risk for any features of the European sites currently under discussion, should the ExA be minded to agree to the use of median values?

We do not consider that median values provide a robust basis for collision risk modelling, and therefore do not agree that it would be safe to rule out adverse effects on integrity for any features on this basis.

23.83 Having regard to the Applicant’s response at D1, please can you expand on your concerns regarding nocturnal activity rates?

We welcome the provision of updated collision mortality figures using the Furness *et al.* (2018) nocturnal activity rates for gannet and the NE recommended rates for kittiwake and large gulls, although these do increase concerns about levels of collision risk. There is also still a need to resolve the query regarding survey timings outlined in section 4.2 of our Written Representations. If survey timings are not known and hence it is not known whether likely peaks in activity at first and last light are accounted for, the more precautionary rates based on Garthe and Huppopp (2004) and Furness *et al.*, (2013) should be used for gannet as well. We further welcome the Applicant’s statement that the timing of surveys and diurnal patterns of activity are important and that these were given careful consideration. However, no information is given on these considerations, in particular, actual timings of surveys and details of the sources of information relied upon for the conclusions regarding seabird flight activity during autumn, winter and spring.

Yours faithfully

Jacqui Miller
Conservation Officer

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RSPB Response Submitted for Deadline 4: 13th March 2019

Confirmation of RSPB attendance at environmental Issue Specific Hearing on 27th March

Dear Sir/Madam

This is to confirm that the RSPB intends to attend the Issue Specific Hearing on environmental matters on 27th March to discuss offshore ornithology. Four members of staff will be attending; Dr Aly McCluskie is the RSPB's expert and will be speaking (note that he is only available for one day); Jacqui Miller, Valerie Wheeler and James Dawkins will be providing support. Would it be possible for the supporting staff to sit with or near Dr McCluskie to help with documentation etc?

Many thanks

Yours faithfully

Jacqui Miller
Conservation Officer