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2010

East Anglia ONE North Offshore Windfarm

**Appendix A9 to the Natural England Deadline 2 Submission**

**NE Comments on Cumulative and In-Combination Collision Risk Update [REP1-047]**

For:

The construction and operation of East Anglia One North Offshore Windfarm, a 800MW windfarm which could consist of up to 67 turbines, generators and associated infrastructure, located 36km from Lowestoft and 42km from Southwold.

Planning Inspectorate Reference: EN010077

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17<sup>th</sup> November 2020



## Natural England's Comments on Offshore Ornithology Cumulative and In-Combination Collision Risk Update Submitted at Deadline 1 [REP1-047]

This document is applicable to both the East Anglia ONE North and East Anglia TWO applications, and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's (ExA) procedural decisions on document management of 23rd December 2019. Whilst for completeness of the record this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it again for the other project.

### Summary

- During previous Offshore Windfarm (OWF) examinations Natural England has provided advice regarding our concerns about predicted level of cumulative impacts on North Sea seabirds. These include EIA great black-backed gull at EA3 and Vanguard, Flamborough and Filey Coast (FFC) SPA kittiwake at Hornsea 2 and Vanguard and Alde-Ore Estuary SPA lesser black-backed gull (LBBG) at Vanguard, which were subsequently consented. These concerns have intensified during the recent Norfolk Boreas offshore wind farm (OWF) examination and the addition of East Anglia One North (EA1N) and East Anglia Two (EA2) totals. Therefore, Natural England considers that without project-level mitigation being applied to all relevant projects coming forward, there is a significant risk of large-scale impacts on seabird populations. We recommend that for these projects and all relevant future projects located in the North Sea, raising turbine draught height should be considered as standard mitigation practice. Where appropriate relevant proposals should include this measure in order to minimise their contributions to the cumulative/in-combination collision totals by as much as is possible. For example the Norfolk OWF NSIPs have committed to raising draft height to a minimum of 35m above MHWS for turbines of up to and including 14.6MW and a minimum of 30m above MHWS for turbines of 14.7MW and above – the Norfolk Vanguard DCO as made by the SoS is based on these draught heights<sup>1</sup>. Therefore we continue to advise that raising the air draft height should be explored further by the Applicants to beyond 24m.
- We note that the Non-Material Change (NMC) Applications at East Anglia THREE (accepted in July 2020) and East Anglia ONE (application to be submitted in early 2021) form part of the Applicant's proposed reduction. However, more clarity is required on whether these reductions are legally binding.

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<sup>1</sup> Norfolk Vanguard Development Consent Order as made by the Secretary of State, available from: [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-004281-Norfolk\\_Vanguard\\_DCO\\_SoS\\_1\\_July\\_2020.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010079/EN010079-004281-Norfolk_Vanguard_DCO_SoS_1_July_2020.pdf)



- We note and welcome the changes to the apportioning methodology for the Alde-Ore Estuary Special Protection Area (SPA) as recommended by Natural England during discussions with the Applicant.

## 1. Alde-Ore SPA lesser black-backed gull (LBBG): Apportioning methodology

1. We welcome that the Applicant proposes using a range of breeding season apportionment values for LBBGs at the Alde-Ore Estuary SPA in the assessments (i.e. 10-30% for East Anglia One North and 20-50% for East Anglia Two). However if a single figure is used for the assessment (e.g. in the in-combination assessment), due to the uncertainty, the upper values of these ranges should be considered.
2. In the submission document [APP-043], the Applicant had previously applied a generic rate of 30% apportionment to the total breeding season collision predictions from all the wind farms within 141km of the Alde-Ore to apportion total in-combination collisions in the breeding season. We consider this to be an overly simplistic approach, as it does not consider the distance of each of these wind farms from the Alde-Ore SPA, the other colonies within foraging range of each of these offshore wind farms and the size of each of the other offshore wind farms etc. This approach would potentially overestimate the contribution of some of the other projects and underestimate the contribution of others. The extent to which this underestimation of values is cancelled out by any overestimated values in the calculated overall total is unknown.
3. In REP1-047 the Applicant has used the SNH apportionment method<sup>2</sup> to calculate breeding season apportionment rates for the relevant offshore wind farms. We welcome that the Applicants have considered this approach and note that the SNH tool uses the term  $1/\text{distance}^2$  as a weighting factor. This approach means that for a colony of a given size, the further it is away from the development site, the lower its overall weighting factor will be and so too will its estimated contribution to the birds present at the development sites. However, the underlying assumption here is that the likelihood of an individual travelling 1km from its colony or 181km (in the case of maximum foraging range of LBBG) is identical, such that the density of birds declines with increasing distance from the colony solely because within each concentric 1km ring around a colony the area within it will increase as a linear function of its distance from the colony. This fails to take account of the fact that seabirds are central place foragers that must forage away from their nest, but return to it to feed their chicks. This places strong advantages in terms of reducing both time spent away from the nest and energy expended in foraging if birds can forage

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<sup>2</sup> [https://www.nature.scot/sites/default/files/2018-11/Guidance%20-%20Apportioning%20impacts%20from%20marine%20renewable%20developments%20to%20breeding%20seabird%20populations%20in%20SPAs\\_0.pdf](https://www.nature.scot/sites/default/files/2018-11/Guidance%20-%20Apportioning%20impacts%20from%20marine%20renewable%20developments%20to%20breeding%20seabird%20populations%20in%20SPAs_0.pdf)



as close to their colony as possible. As such, the likelihood of each individual foraging closer to their colony than further away will not be equal and so the density of birds is likely to decline more rapidly with increasing distance from a colony than the simple geometric relationship based on the square of distance would suggest. However, the approach now taken by the Applicant does consider the distance of each of the relevant offshore wind farms from the Alde-Ore SPA and the other colonies within foraging range of the wind farms, this is more appropriate than the blanket apportionment approach previously taken (as per our advice at Deadline 4 of the Norfolk Boreas examination<sup>3</sup>).

4. Natural England agrees that assuming a maximum foraging distance of 181km does represent a reasonable balance of the current evidence.

## 2. Collision modelling update

### 2.1 Non-Material Changes (NMC)

5. It is not clear whether the smaller turbines have been ruled out from the East Anglia Three project envelope. If the previous worst case scenario remains a possibility and the change is not legally secured then it would not be appropriate to update the collision predictions included in the cumulative totals based on the reduced number of turbines.
6. For East Anglia ONE it is not clear if there is legal certainty that the as built project will not be expanded upon at a later date up to the full MW capacity. Therefore, it is perhaps premature to be suggesting the figures in the cumulative/in-combination totals are updated on this basis.

### 2.2 Draught height increases at East Anglia ONE North and East Anglia TWO

7. Whilst we welcome the Applicants proposed raising of the draught height, as noted in the summary above, Natural England's advice is that all projects should minimise their contributions to the cumulative/in-combination collision totals by **as much as is possible**. Therefore, further evidence should be provided by The Applicant as to why the draught height for East Anglia One North and East Anglia Two cannot be further increased.

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<sup>3</sup> Natural England (2020) Norfolk Boreas Offshore Wind Farm, Deadline 4: Natural England's comments in relation to the Norfolk Boreas updated offshore ornithological assessment, submitted at Deadline 2 [REP2-035]. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010087/EN010087-001629-DL4%20-%20Natural%20England%20-%20Updated%20Ornithology%20Advice.pdf>



### 3. Updated cumulative and in-combination collisions

8. Natural England welcomes that the Norfolk Boreas Deadline 8 collision risk estimates have been taken as the new common position for all other projects. However, given the questions raised above regarding the NMCs and whether these can be/are legally secured, this question will need to be addressed before we can be in a position to accept these figures. Also we note that the figures currently included for Hornsea 4 are those from the PEIR, but the application is due to be submitted in spring 2021. These figures and the methodologies to produce them are therefore subject to change and have an element of uncertainty associated with them.
9. We also note that, with the exception of kittiwake from the Flamborough and Filey Coast SPA, the Hornsea Project Three Applicant has not provided updated collision figures for the revised design parameters for any other key species for cumulative/in-combination collision assessments (gannet, LBBG, herring gull or great black-backed gull), and therefore those values cannot be relied upon and hence an element of uncertainty remains regarding the Hornsea 3 figures.
10. We welcome that the Applicants have presented cumulative/in-combination collision totals for each key species for both including and excluding Hornsea projects 3 and 4.
11. Natural England notes that the overall updates do not alter our overall conclusions and our advice at the end of the Boreas examination, which was as follows:
  - Flamborough & Filey Coast SPA kittiwake in-combination collision: there is an adverse effect on integrity (AEoI) on this feature due to in-combination collision mortality and that includes a contribution from Boreas - see our response to 5th round of EXA Q 5.8.6.2 available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-002408-DL14%20-%20NE%20-%20Response%20to%20WQ.pdf>.  
As the Boreas in-combination assessment included EA1N and EA2, the same advice applies.
  - Alde-Ore Estuary SPA LBBG in-combination collision: an AEoI cannot be ruled out for in-combo collisions for this feature - as the Boreas assessment included EA1N/EA2 advice applies again here.
  - For EIA cumulative collisions, we concluded that it was not possible to rule out a moderate adverse impact on kittiwake and GBBG. Whilst the EA1N/EA2 Applicants' totals have been reduced due to the removal of Thanet Extension, updated figures for EA1N and EA2 and updated figures for EA1 and EA3 based on the NMCs (which may not be appropriate); the



contributions from Hornsea 3 will most likely be greater than those reductions. Therefore, it follows that in these instances our advice will most likely remain unchanged.