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Our ref: Case: 10571 Consultation: 379437
Your ref: EN010077 East Anglia ONE North (EA1N)



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Dear Gareth

East Anglia ONE North – Secretary of State’s 2nd Consultation for Comments to the Applicant’s Response of the 30th November 2021 and for Further Information and Updates, as Received on 20 December 2021.

Natural England’s remit is to ensure sustainable stewardship of the land and sea so that people and nature can thrive. We are working to achieve a healthy and biodiverse marine environment which can enable a truly sustainable UK offshore wind sector, to support the achievement of ‘net zero’ and address the climate change emergency. This is underpinned by our vision for thriving marine and coastal nature alongside low impact offshore wind energy, tackling both climate and biodiversity emergencies as set out in our [REDACTED]. Aligned to the four aims of our Approach, we use our expertise to help facilitate offshore windfarms that are sensitively located and constructed, whilst protecting marine ecosystems from proposals with significant environmental impacts through our statutory advice. This, coupled with mechanisms for nature enhancement, will allow marine nature recovery and help mitigate the negative impacts of climate change.

Natural England provides the following statutory advice to the SoS and BEIS for consideration.

A. Natural England’s Advice to the Applicant’s Response to the First Consultation, 02 November, 2021

On 20 December 2021, the Secretary of State (SoS) invited all interested parties to comment on the responses received to the first consultation dated 02 November 2021. As such, within **Sections 1 to 4** of this response, Natural England provides advice to the Applicant’s updated East Anglia ONE (North)/East Anglia TWO (EA1N/EA2) cumulative assessment, the in-combination assessments for the Flamborough and Filey Coast (FFC) SPA and Alde-Ore Estuary (AOE) SPA and the Applicant’s further information regarding RTD displacement from vessel movements.

Further Technical Ornithological advice on these items is enclosed in the following appendices:

- **Appendix 1:** NE Advice to the Applicant's Offshore Ornithology EIA Impacts from East Anglia ONE North and East Anglia TWO Cumulatively with other Plans and Projects.
- **Appendix 2:** NE Advice and Comments on the Applicant's Alde-Ore Estuary (AOE) SPA PVA and In-Combination Assessment.
- **Appendix 3:** NE Comments to the Applicant's Flamborough and Filey Coast (FFC) SPA PVAs and In-Combination Assessments.
- **Appendix 4:** Comments on the Applicant's Response relating to the Outer Thames Estuary Special Protection Area in Relation to Red-Throated Diver Displacement from Vessel Movements.

B. Natural England's Response and Advice to the Second Consultation Questions from the Secretary of State, 20 December 2021

In addition, the SoS letter of the 20 December provided written request with regard to East Anglia ONE North (EA1N) and East Anglia TWO (EA2) for Natural England to:

- Engage with the Applicant in relation to providing an updated project layout that includes a sufficient buffer between the array and the Outer Thames Estuary (OTE) Special Protection Area (SPA) boundary to remove displacement impacts on red-throated divers within the SPA.
- Provide comments on the updated in-combination impact assessments for the razorbill, gannet, and guillemot features of the Flamborough and Filey Coast SPA.
- Provide an update on the progression of the Great Crested Newt (GCN) District Level Licencing submission and whether an Impact Assessment and Conservation Payment Certificate has been awarded.

In **Section 5**, we set out a summary of our engagement with the Applicant in relation to an updated project layout that includes a sufficient buffer between the array and the Outer Thames Estuary (OTE) SPA boundary to remove displacement impacts on red-throated divers within the SPA. The in-combination assessment comments for the Flamborough and Filey Coast (FFC) SPA are already provided in **Section 3**. Lastly, in **Section 6**, an updated is provided on the progression of the GCN District Level Licence and the award of an Impact Assessment and Conservation Payment Certificate.

1. Summary of Natural England's Updated Advice on Cumulative (EIA) Scale Impacts for EA1N and EA2 in Response to the Applicant's Updated Cumulative Collision and Displacement Assessments, Submitted 30-Nov-2021

Since the close of the EA1N and EA2 examinations, no further updates have been made in relation to draught heights and the collision risk modelling (CRM) for the projects remains based on a draught height of a minimum of 24m above Mean High Water Springs (MHWS). The projects continue to make a meaningful contribution to cumulative effects on several seabirds at the EIA scale, particularly with respect to North Sea populations of great black-backed gull, gannet and kittiwake (see Table 1).

We largely agree with the updated cumulative predicted collision impact totals of gannet, kittiwake, lesser black-backed gull (LBBG), herring gull, great black-backed gull (GBBG) and the updated cumulative abundances at risk of displacement of gannet and guillemot presented by the Applicants in Tables 1-7 of the Updated Offshore Ornithology Cumulative and In Combination Collision Risk and Displacement Assessment (MacArthur Green & Royal Haskoning DHV, 2021)¹ for all projects up to and including Hornsea Project 3, Norfolk Boreas, Norfolk Vanguard, EA1N and EA2 and excluding Hornsea Project 4 and Dudgeon (DEP) and Sheringham (SEP) Extensions.

We note that the Hornsea Project 4 application has now been accepted by the Planning Inspectorate (PINS) and the Environmental Statement (ES) is now in the public domain. Natural England has reviewed this submission and provided a joint Relevant and Written Representation [\[RR – 029\]](#) on the application dated 16th December 2021. Currently we are not in a position to provide definitive advice to BEIS regarding the Hornsea Project 4 contribution to any in-combination totals as the figures for that project are subject to change.

A summary of our advice regarding cumulative impacts is presented in Table 1. Detailed advice around how these conclusions were reached are set out in Appendix 1.

¹ MacArthur Green & Royal Haskoning DHV (2021) *East Anglia Two and East Anglia One North Offshore Windfarms Updated Offshore Ornithology Cumulative and In-Combination Collision Risk and Displacement Assessment*. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-007519-ExA.AS-3.SoSQ.V1%20Updated%20Offshore%20Ornithology%20Cumulative%20and%20In%20Combination%20Collision%20Risk%20and%20Displacement%20Assessment.pdf>

Table 1: Summary of conclusions for operational collision and displacement assessments of the EA1N and EA2 projects cumulatively with other plans and projects for relevant species for EIA based on the Applicants' updated cumulative collision and displacement assessments in MacArthur Green & Royal Haskoning DHV (2021)¹

EIA species	EA1N and EA2 cumulatively with other plans & projects
Gannet: collision	Unable to rule out significant adverse impact excl. & incl. H4*, DEP & SEP **
Gannet: displacement	No significant adverse impact excl. H4, DEP & SEP Unable to rule out significant adverse impact incl. H4, DEP & SEP
Gannet: collision + displacement	Unable to rule out significant adverse impact excl. & incl. H4, DEP & SEP
Kittiwake: collision	Unable to rule out significant adverse impact excl. & incl. H4, DEP & SEP
Lesser black-backed gull: collision	No significant adverse impact excl. H4, DEP & SEP Unable to rule out significant adverse impact incl. H4, DEP & SEP
Herring gull: collision	<u>EA1N</u> : No significant adverse impact excl. & incl. H4, DEP & SEP <u>EA2</u> : No significant adverse impact excl. H4, DEP & SEP Unable to rule out significant adverse impact incl. H4, DEP & SEP
Great black-backed gull: collision	Unable to rule out significant adverse impact excl. & incl. H4, DEP & SEP
Red-throated diver: displacement ***	Unable to rule out significant adverse impact excl. & incl. H4, DEP & SEP
Guillemot: displacement	Unable to rule out significant adverse impact excl. & incl. H4, DEP & SEP
Razorbill: displacement	Unable to rule out significant adverse impact excl. & incl. H4, DEP & SEP

* Hornsea Project 4

** Dudgeon and Sheringham Extension Projects

***No new updates from the Applicants since end of examination. Figures included for RTD remain as per our deadline 8 [REP8 – 159]

2. Comments on the Applicant's Updated Alde-Ore Estuary (AOE) SPA Lesser Black-Backed Gull (LBBG) In-combination Assessment, Submitted 30 November 2021

2.1 Summary of Advice on HRA In-combination Impacts Following the Applicant's Updated In-combination Assessment

Natural England has reviewed the evidence presented for AOE LBBGs in the updated in-combination collision risk totals presented by the EA1N and EA2 Applicants in Table 3 of their Updated Offshore Ornithology Cumulative and In Combination Collision Risk and Displacement Assessment.pdf (MacArthur Green & Royal Haskoning DHV 2021)¹.

We agree with the updated in-combination predicted impact total to the AOE SPA LBBG feature presented by the Applicants in Table 3 of MacArthur Green & Royal Haskoning DHV (2021)¹ for all projects up to and including Hornsea Project 3, Norfolk Boreas, Norfolk Vanguard, EA1N and EA2 and excluding Hornsea Project 4 and Dudgeon (DEP) and Sheringham (SEP) Extensions. We note that the SoS letter specifically requested that the Hornsea Project 4, DEP and SEP projects were excluded from the in-combination totals. Further details on how this conclusion was reached is set out in

Appendix 2.

Natural England continues to advise that an adverse effect on the integrity of the AOE SPA cannot be ruled out due to EA1N and EA2's contribution to in-combination collision mortality.

2.2 PVA Assessment

We note that an updated Alde-Ore Estuary (AOE) SPA LBBG PVA and in-combination assessment was submitted by the Norfolk Boreas Applicant in response to the Secretary of State (SoS) letter dated 22 September 2021 (MacArthur Green 2021)². As no updated PVA has been undertaken by the EA1N and EA2 Applicants, this updated PVA is also highly relevant to EA1N and EA2 and further advice is provided in Appendix 2.

3 Comments on the Applicants Updated EA1N and EA2 Flamborough and Filey Coast (FFC) SPA PVAs and in-Combination Assessments, submitted 30 November 2021

3.1 Summary of Advice on HRA In-combination Impacts Following the Applicant's Updated PVAs and Assessments

Natural England has reviewed the evidence presented in the updated assessments submitted by the EA1N and EA2 Applicants in their updated Flamborough and Filey Coast (FFC) SPA PVAs and in-combination assessments in Section 6.2 of the Applicants' Responses to the Secretary of State's Questions of 2nd November 2021 (Royal Haskoning DHV *et al.* 2021)³.

We agree with the updated in-combination predicted impact totals to the Flamborough and Filey Coast (FFC) SPA gannet, guillemot and razorbill features presented by the Applicants in Table 1 of Royal Haskoning DHV *et al.*, 2021⁴ for all projects up to and including Hornsea Project 3, Norfolk Boreas, Norfolk Vanguard, EA1N and EA2 and excluding Hornsea Project 4 and Dudgeon (DEP) and Sheringham (SEP) Extensions. We note that the SoS letter specifically requested that the Hornsea Project 4, DEP and SEP projects were excluded from the in-combination totals.

² MacArthur Green (2021) *Norfolk Boreas Offshore Wind Farm Updated Population Viability Analysis: Flamborough and Filey Coast SPA – updated at the request of Natural England*. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-002896-SoS%20Deadline%20-%20Applicant%20-%20Updated%20Population%20Viability%20Analysis%20Flamborough%20and%20Filey%20Coast%20SPA%20-%20Updated%20at%20the%20request%20of%20Natural%20England.pdf>

³ Royal Haskoning DHV, Scottish Power Renewables & Shepherd and Wedderburn LLP (2021) *East Anglia One North and East Anglia Two Offshore Windfarms Applicants' Responses to the Secretary of State's Questions of 2nd November 2021 (Items 4-7)*. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-007520-ExA.AS->

A summary of our advice regarding in-combination impacts to the qualifying features of the FFC SPA is presented in Table 2. Detailed advice around how these conclusions were reached are set out in Appendix 3.

Table 2: Summary of FFC SPA conclusions for assessments of in-combination impacts of EA1N and EA2 with other plans and projects

HRA species & site	EA1N/EA2 in-combination with other plans & projects
Gannet, Flamborough & Filey Coast SPA: collision	No AEol excl. H4, DEP & SEP Unable to rule out AEol incl. H4, DEP & SEP
Gannet, Flamborough & Filey Coast SPA: displacement	No AEol excl. H4, DEP & SEP Unable to rule out AEol incl. H4, DEP & SEP
Gannet, Flamborough & Filey Coast SPA: collision + displacement	No AEol excl. H4, DEP & SEP Unable to rule out AEol incl. H4, DEP & SEP
Kittiwake, Flamborough & Filey Coast SPA: collision	Unable to rule out AEol excl. and incl. H4, DEP & SEP irrespective of whether H3's contribution is 0 or 74
Guillemot, Flamborough & Filey Coast SPA: displacement	No AEol excl. H4, DEP & SEP Unable to rule out AEol incl. H4, DEP & SEP
Razorbill, Flamborough & Filey Coast SPA: displacement	No AEol excl. H4, DEP & SEP Unable to rule out AEol incl. H4, DEP & SEP
Assemblage, Flamborough & Filey Coast SPA	No AEol excl. H4, DEP & SEP Unable to rule out AEol incl. H4, DEP & SEP

Natural England has previously provided regulators with our advice regarding our concerns about predicted level of in-combination impacts on North Sea seabirds, especially FFC SPA kittiwakes and e.g. at Hornsea Project 2, Hornsea Project 3 and Norfolk Boreas. These concerns have intensified given the further offshore wind farm NSIPs currently in the planning system (EA1N, EA2, Hornsea 4), with further projects planned to submit in the next 12 months (Dudgeon extension and Sheringham extension), and additional Extensions projects and Round 4 to follow. Therefore, Natural England again considers that without major project-level mitigation being applied to all relevant projects coming forward, there is a significant risk of large-scale impacts on seabird populations.

3.2 Updated PVAs – FFC SPA

Natural England welcomes the updated PVAs for the Flamborough and Filey Coast (FFC) SAC in Royal Haskoning DHV *et al.* (2021)³. A few issues remain and these are outlined in Appendix 3.

4. Comments on the Applicant's Response relating to the Outer Thames Estuary Special Protection Area in Relation to Red Throated Diver Displacement from Vessel Movements, Submitted 30 November 2021

Natural England has reviewed the Applicant's response in relation to red-throated diver in Section 7 of the Applicants' Responses to the Secretary of State's Questions of 2nd November 2021 (Items 4-7).pdf (Royal Haskoning DHV et al. 2021)³. Essentially, our conclusions on this compensatory measure are unchanged from that provided at REP9-065. Please refer to Appendix 4 for our detailed response.

During discussions in January 2022, the Applicant has indicated that additional compensatory measures are under development, using the principles in the Defra draft best practice guidance. Given our position on the measures proposed to date, we welcome this further consideration. As we have not seen the detail of these measures, we are unable to advise BEIS on their ecological efficacy in fully offsetting the Adverse Effect on Integrity. We do highlight that providing relevant and effective measures to maintain the coherence of the national site network for red-throated divers is likely to be challenging, particularly in the context of the impact being the effective loss of habitat within the SPA. This puts further emphasis on the need to reduce impacts to acceptable levels.

5. Summary of Engagement with the Applicant in relation to providing an updated project layout that includes a sufficient buffer between the array and the Outer Thames Estuary (OTE) Special Protection Area (SPA) boundary to remove displacement impacts on red-throated divers within the SPA.

Following a meeting held on 13 January 2022 with the SPR EA1N and EA2 project team, Natural England agreed to review the red-throated diver displacement data for the incremental buffer distances between EA1N and the OTE SPA. In accordance with their project design, the Applicant suggested a focus on a narrowed buffer range between 4km and 8km, initially at 1km increments to detect change and then apply 0.5km increments accordingly to determine adverse effects of EA1N alone.

The Applicant has worked collaboratively with NE to present information on which to base discussions, and we have had several constructive meetings to explore our respective positions. Unfortunately, it has not been possible to agree, as requested in BEIS's letter dated 20 December 2021, '*a sufficient buffer between the array and the SPA boundary to remove displacement impacts on red-throated divers within the SPA*'. **Natural England's advice remains that the displacement effects will not be removed until the array is moved at least 10km from the SPA.** Noting that empirical evidence is demonstrating displacement effects have extended beyond this distance on other offshore windfarm projects, but we consider these effects unlikely to be significant. We recognise that this may have

significant implications for the viability of EA1N.

We understand that the Applicant intends to present the following buffer distances for the Secretary of State's consideration in their 31st January 2022 response:

- EA1N – 2km (current distance), 6.5km and 8km buffers
- EA2 – 8.3km (current distance) and 10km buffers

We welcome the Applicant's decision to present alternative buffers that would reduce the impacts on the OTE SPA. In formulating our advice on these, please note that we have not used the Applicant's modelling outputs, as we have significant unresolved concerns regarding the modelling (see **REP4-087** and **REP6-113**). However, alongside those modelling outputs the Applicant has provided outputs that assumes 100% displacement of divers at 0km from the windfarm and then 0% at 12km, with a simple reduction in displacement levels between those two points along a straight line. Natural England considers this to be broadly appropriate, reflecting as it does the findings of some (albeit not all) post-construction monitoring. We have therefore used it in presenting our advice on the above buffers, as follows:

i) EA1N – 2km buffer

Natural England's advice remains that at this distance, EA1N will result in a significant level of effective habitat loss within the SPA. The information provided by the Applicant indicates that there will be some level of displacement across 156km² of the SPA, which is 4.03% of its total area. Using a 'straight line' approach, the Applicant has calculated that the effective habitat loss within the SPA for RTD is 54.54km², 1.39% of the SPA. **NE advises that an adverse effect on integrity (AEOI) from EA1N alone cannot be ruled out.**

ii) EA1N – 6.5km buffer

A 6.5km buffer would reduce the impacts of EA1N compared to a 2km buffer. However the impacts would remain substantial, with some level of displacement occurring across 84.51km² of the SPA, which is still 2.15% of its total area. Using data from the 'straight line' approach provided by the Applicant, the effective habitat loss within the SPA for RTD is 17.08km², 0.44% of the SPA. With displacement effects occurring over 2% of the SPA, **NE advises that an AEOI from EA1N alone cannot be ruled out.**

iii) EA1N – 8km buffer

An 8km buffer would result in a further reduction of impact compared to 6.5km, with some level of displacement occurring over 61.12km² of the SPA, which is 1.56% of its total area. Using data from the 'straight line' approach provided by the Applicant, the effective habitat loss within the SPA for RTD is 8.38km², 0.21% of the SPA. Despite this further reduction, with over 1.5% of the SPA still subject to

displacement effects and with 0.21% effective loss of habitat, **NE is still not in a position to rule out an AEOI alone.**

Natural England considers that there will be a zone between 8km and 10km where an AEOI alone could be avoided. However, Natural England's advice remains that the displacement effects will not be reduced to a negligible level until the array is moved at least 10km from the SPA. **Therefore, it would not be until the separation distance is at 10km that we would be able to rule out an adverse effect in combination.**

iv) EA2 – 8.3km buffer (current distance)

Natural England's advice remains that at this distance, EA2 will still result in effective habitat loss within the SPA. The information provided by the Applicant indicates some level of displacement occurring across 31.35km² of the SPA, which is 0.8% of its total area. Whilst the impacts are not at a scale that would constitute AEOI alone, due to existing level of displacement effects within the SPA **we advise that an AEOI in-combination cannot be ruled out.**

v) EA2 – 10km buffer

At 10km, Natural England is content that EA2 will not have an AEOI on the SPA in-combination with other plans and projects.

5.1 Evidential basis for Natural England's advice

As noted above, Natural England considers that the approach of taking a linear decrease in displacement from 100% at 0km out to 0% at a distance of 12km from the windfarm is a reasonable and evidence-based assumption to use when considering potential impacts. The assumption that displacement effects extend to 10km and beyond is supported by monitoring in the Outer Thames Estuary SPA from the London Array windfarm third year post-construction monitoring report [REP13-049]. Similar results have been reported from the German Bight, where it was found that divers were strongly displaced from wind farms in suitable habitat, and a significant effect could be detected up to 10–15 km away.

The broad pattern of a linear decline from windfarms is evident from a range of RTD displacement studies, including the German Bight and the Greater Wash. As a result, we consider the use of a linear decline away from the windfarm to be a reasonable approach. However, we highlight the same linear decline is not apparent with the London Array post-construction monitoring, with a lower level of displacement closer to the array but at 10km still recording around 40% displacement. The findings from London Array suggest that the affected area of displacement assumed between 8km and 12km may be an underestimate.

The figures based on the Applicant's modelling outputs need to be treated with significant caution for the reasons previously set out in NE's representations on the Applicant's RTD Displacement Note in **REP4-087** and **REP6-113**. Therefore, we advise that impact assessments should be focussed on the approach assuming a linear decrease out to 12km.

6. Great Crested Newt District Level Licencing Submission

Natural England can confirm that the Impact Assessment on the great crested newt (GCN) dataset for the EA1N and EA2 projects provided by the Applicant has been completed. Following receipt of the first stage payment, the Impact Assessment and Conservation Payment Certificate (IACPC) was awarded on 8 December 2021. Therefore, we consider this matter resolved.

If there are any aspects of our advice that require clarification, please contact me using the details provided below.

Yours sincerely

Martin Kerby
Offshore Wind Principal Adviser

