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THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES

2010

Sheringham Shoal Extension and Dudgeon Extension Offshore Wind Farms

Appendix C2 to the Natural England Deadline 3 Submission

Natural England's Comments on the 13.3 Apportioning and Habitats Regulations Assessment Updates Technical Note Version B [REP2-036] and the 14.28 Auk Construction Phase Displacement Assessment (EIA Context) Technical Note [REP2-049].

For:

The construction and operation of the Sheringham Shoal Extension and Dudgeon Extension Offshore Wind Farms located approximately 16km and 27km respectively from the Norfolk Coast in the Southern North Sea.

Planning Inspectorate Reference: EN010109

2nd May 2023

Natural England's Comments on the 13.3 Apportioning and Habitats Regulations Assessment Updates Technical Note VERSION B [REP2-036] and the 14.28 Auk Construction Phase Displacement Assessment (EIA Context) Technical Note [REP2-049].

In providing this advice, Natural England has reviewed the following documents in relation to the impacts of Sheringham Shoal Extension and Dudgeon Extension Offshore Wind Farms ('SADEP') on Offshore Ornithology:

- [REP2-036] 13.3 Apportioning and Habitats Regulations Assessment Updates Technical Note VERSION B
- [REP2-049] 14.28 Auk Construction Phase Displacement Assessment (EIA Context) Technical Note

Summary of Advice

Table 1 and Table 2 provide Natural England's detailed comments on the above submissions. The key points raised in our advice are as follows:

Impacts on Red-Throated Diver (RTD) feature of the Greater Wash (GW) Special Protection Area (SPA)

1. Natural England concludes that adverse effects on the integrity (AEOI) of the Greater Wash SPA cannot be ruled out when SADEP is considered in-combination with other plans and projects, specifically other offshore windfarms (OWF) within or adjacent to the SPA. The in-combination contribution of SADEP is principally due to the operational displacement effects arising from the long-term presence of the Sheringham Shoal Extension Array, though vessel movements associated with the construction and operation of SADEP would also contribute. This reflects Natural England's advice to BEIS on the recent [Review of consents for major energy infrastructure projects and Special Protection Areas, 2022 - GOV.UK \(www.gov.uk\)](#) regarding the Greater Wash SPA.
2. Natural England considers that the displacement impact should principally be considered in terms of the area over which some level of displacement may occur, both in terms of km² and % of the SPA. Natural England has some concerns over the validity of the method used to calculate 'effective area' of displacement by scaling the area of effect proportionally according to the corresponding rate of displacement (see detailed comments below for further explanation). However, even if the 'effective' displacement calculation were used, 20.63% of the SPA is still considered to be subject to in-combination displacement impacts. Thus, it appears that when tested against the conservation objective to maintain or restore the distribution of features within the site, it is impossible to conclude that there is no AEOI on the red-throated diver feature of the GW SPA in combination.

3. Whilst SADEP's contribution to these impacts is modest, an in-combination AEOI on the red-throated diver feature at the Greater Wash SPA cannot be ruled out due to displacement causing a significant reduction in the functional extent of the SPA available, which will modify the distribution of birds within those sites. We consider that the operational displacement effects from the array could be addressed by ensuring that no turbines are installed within 10km of the GW SPA boundary, and that further mitigation measures as regards construction and operational vessel movements are available. We would welcome discussion with the Applicant regarding these.

Estimates of impact from Hornsea Project FOUR OWF on Flamborough & Filey Coast SPA (FFC SPA) Guillemot and Razorbill

4. Natural England recognise that, in the case of Hornsea Project FOUR (HP4), there have been many iterations and variations of impact estimates produced for the above, and that the revision of estimates has continued beyond the conclusion of the HP4 examination. Natural England recommends that the Applicant refers to the HP4 submission - '*Applicant's Response to RFI dated 16 December*' ([EN010098-002234-G9.2 Applicants Response to RFI dated 16 December.pdf \(planninginspectorate.gov.uk\)](#)) as this provides a summary of impact estimates for all key FFC species.
5. In the case of guillemot and razorbill there are three variations in approach presented ('the Applicants' NE standard' and 'NE bespoke'). Natural England does not support 'the Applicants' approach, as it does not follow SNCB advised methodology in relation to apportioning and displacement. When forming our position on the in-combination totals for these features, Natural England will refer to only the NE 'standard' and 'bespoke' estimates presented. We therefore request that the FFC SPA guillemot and razorbill impact estimates are updated, presenting the 'NE standard' and 'NE bespoke' approaches (as per Table 14 and 17 for guillemot, and Tables 23 and 26 for Razorbill in the referenced submission). In combination totals and the subsequent impact assessment (including the PVA outputs) should be updated to reflect this.

Impacts on Alde-Ore Estuary SPA lesser black-backed gull (LBBG)

6. Natural England is satisfied that SADEP will not make a material contribution to in-combination AEOI on LBBG from the Alde-Ore Estuary SPA.

Impacts on FFC SPA puffin (as a component of the breeding seabird assemblage)

7. Natural England is satisfied that the impact of SADEP on puffin will not result in AEOI, alone or in-contribution, on the seabird assemblage feature of the SPA.

Additional information request for Red Throated Diver.

8. Natural England notes that the assessment for the impact of disturbance and displacement during the operational phase of SADEP as a result of O&M vessels on red-throated diver at the Outer Thames Estuary only presents figures based on 1% mortality. Natural England's view is that mortality rates of 1% and 10% should be presented for the potential range of displacement effects on red-throated diver.

Detailed Comments

9. Natural England's detailed comments in relation to the Deadline 2 Submission - 13.3 Apportioning and Habitats Regulations Assessment Updates Technical Note VERSION B [REP2-036] and 14.28 Auk Construction Phase Displacement Assessment (EIA Context) Technical Note [REP2-036] are set out respectively in Table 1 and Table 2 below.

References

Ørsted. 2023. Applicant's response to Request for Further Information dated 16 December. Planning Inspectorate[online]. G9.2 01 URL: [EN010098-002234-G9.2 Applicants Response to RFI dated 16 December.pdf \(planninginspectorate.gov.uk\)](https://www.planninginspectorate.gov.uk/media/10098/002234-G9.2-Applicants-Response-to-RFI-dated-16-December.pdf) [Accessed 27 April 2023]

Table 1 Natural England's Comments on 13.3 Apportioning and Habitats Regulations Assessment Updates Technical Note VERSION B [REP2-036]

NE Ref	Section	Para/ Table	Natural England's Concern	Natural England's Recommendation	Risk
1	4. Alde-Ore Estuary SPA Lesser black-backed gull	14	Natural England agrees that the apportioning approach is likely to lead to overestimation of apportioning for projects at the further reaches of a species foraging range.	No further action required.	
2	4. Alde-Ore Estuary SPA Lesser black-backed gull	18	Natural England agrees with this conclusion, no AEOI for LBBG at Alde Ore SPA alone and no measurable contribution to in-combination.		
3	5. FFC SPA Gannet	24	Natural England welcomes the inclusion of Rampion 2 data and updating of HP4 data for the in-combination displacement assessment	No further action required.	
4	5. FFC SPA Gannet	27	Natural England welcomes the inclusion of Rampion 2 data and updating of HP4 data in the in-combination collision risk assessment. However, we note that Natural England raised a query with the Applicant regarding the correction of the avoidance rate (AR) (from 98.9 to 99.2) when commenting on the draft Collision Risk Modelling (CRM) updates (EIA context) Technical note, which was subsequently submitted into examination by the Applicant at Deadline 1 [REP1-056]. We cannot place confidence in the updated in-combination totals until this query is addressed (anticipated to be through the submission of the revised CRM report at Deadline 3).	Revised CRM report to be submitted at Deadline 3, addressing comments made by Natural England regarding REP1-056.	
5	5. FFC SPA Gannet	29	Combined displacement and collision – please note point 4 above relates equally to these combined totals.		
6	6. FFC SPA Guillemot	37	Natural England recognises that, in the case of HP4, there have been many iterations and variations of impact estimates produced for Guillemot and Razorbill, and that the revision of	Please update guillemot estimates, and all relevant tables/displacement matrices to reflect HP4 Submission and	

NE Ref	Section	Para/ Table	Natural England's Concern	Natural England's Recommendation	Risk
			estimates has continued beyond the conclusion of the HP4 examination. Natural England recommends that the Applicant refers to the HP4 submission - ' <i>Applicant's Response to RFI dated 16 December</i> ' (Ørsted, 2023) as this provides a summary of impact estimates for all key FFC species. In the case of guillemot (and razorbill) there are three variations in approach presented ('the applicants', 'NE standard' and 'NE bespoke'), however Natural England does not support 'the Applicants' approach, as it does not follow SNCB advised methodology in relation to apportioning and displacement. When forming our position Natural England will only refer to the 'NE standard' and 'NE bespoke' estimates presented. We request that the guillemot estimates are updated, presenting the 'NE standard and NE bespoke' approaches (as per Table 14 and 17 in the case of guillemot in the referenced submission).	to present the two NE scenarios: (Ørsted, 2023).	
7	6. FFC SPA Guillemot	38	As noted above (point 6), the in-combination figures are based on the HP4 Applicant's standard approach for HP4, but there are two other variations - 'NE standard' and 'NE bespoke'. Natural England request that only the 'NE' approaches are presented, and figures obtained from the HP4 submission linked above (Tables 14 and 17). We note that the 'NE bespoke' approach to HP4 will result in double the in-combination impact; however, the % contribution from SADEP is halved as a result, to approximately 1% of the in-combination total.	As above (see point 6).	
8	6. FFC SPA Guillemot	Table 6.1	Natural England agrees the in-combination figures up to Norfolk Vanguard (tier 3) for EIA. The HP4 figures are 'the Applicants' approach, but they differ from those presented in HP4's recent submission (EN010098-002234-G9.2 Applicants Response to RFI dated 16 December.pdf (planninginspectorate.gov.uk)). As noted above, we request that estimates derived from the NE standard and bespoke approaches are presented (as per Point 6 above).	Update tables to present 'NE standard' and 'NE Bespoke' approaches to Guillemot displacement estimates.	

NE Ref	Section	Para/ Table	Natural England's Concern	Natural England's Recommendation	Risk
9	6. FFC SPA Guillemot	41	We note that Natural England's approach to apportioning and displacement of guillemot at HP4 result in upper impact ranges above that presented in the RIAA.	Please provide an update or explanation for the discrepancy	
10	6. FFC SPA Guillemot	Table 6-3	Natural England notes the table does not encompass the full range of impact, when taking into account Natural England's approach to HP4 - the maximum predicted impact is over 4000, whereas the highest impact presented (in the RIAA) is 3079.	Provide tables that present increase in mortality rate and PVA outputs (median CGR and median GPS) that encompass the full range of estimated impact (including figures from HP4 derived using the 'NE bespoke' apportioning approach.)	
11	7. FFC SPA Kittiwake	7.2.2	Natural England welcomes the inclusion of Rampion 2 data and updating of HP4 data in the in-combination collision risk assessment. However, we note that Natural England raised a query regarding the correction of the (AR (from 98.9 to 99.2) when commenting on the CRM updates (EIA context) Technical note to the Applicant which was subsequently submitted into examination by the Applicant at Deadline 1 [REP1-056]. We cannot place confidence in the updated in-combination totals until this query is addressed (at submission of CRM revised report at Deadline 3).	Revised CRM to be submitted at Deadline 3, addressing comments made by Natural England regarding REP1-056.	
12	7. FFC SPA Kittiwake	Table 7-2	We note there is no description provided of whether these numbers have been corrected for ARs (from 98.9 to 99.2), though it would seem they have. It is crucial that a clear audit trail of how in-combination figures are calculated and where they are obtained from is presented. (See Point 11).	Provide text describing how in-combination totals have been obtained (including any AR corrections that have been applied).	
13	7. FFC SPA Kittiwake	50	In-combination totals are reduced from the RIAA without an explanation for the change.	Please explain why in combination totals are reduced from the RIAA – presumably this is due to an avoidance rate correction?	
14	8. FFC SPA Razorbill	63	The above comments apply equally to the relevant Razorbill sections.	NE recommend that razorbill in-combination totals are presented that	

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				include the two different NE variations for HP4 (NE standard and NE bespoke). The correct estimates are presented in the post-examination submission by HP4 (EN010098-002234-G9.2 Applicants Response to RFI dated 16 December.pdf (planninginspectorate.gov.uk)) in Tables 23 and 26.	
15	9. FFC SPA Puffin	67 to 69	<p>NE welcome the acknowledgement of potential connectivity between breeding puffin at FFC SPA and the development sites and acknowledge that both projects are at the further reaches of the mean maximum foraging range.</p> <p>Natural England acknowledge that there is no clear method to quantify what proportion of birds present at the project sites are likely to be breeding adults originating from FFC SPA. However, we do not follow the logic behind working out what proportion of immatures present in the non-breeding season (31,984) are breeding adults from FFC SPA, and then using this as an apportioning figure in the breeding season.</p> <p>The worse-case scenario is to assume 100% of birds in the breeding season are FFC adults. which would lead to a displacement impact of 0.1-2.38 for SEP and DEP together. However Natural England agrees it is unlikely that 100% of birds are breeding adults, and while we do not necessarily support the Applicant's approach/level of apportioning, we do agree with the conclusion that there would be no measurable contribution to an in-combination assessment of puffin mortality due to displacement from SEP and DEP.</p>	No action required	

NE Ref	Section	Para/ Table	Natural England's Concern	Natural England's Recommendation	Risk
16	10. FFC SPA assemblage	Section 10	Note comments relating to individual species impact above (see point 15), in particular gannet, guillemot and razorbill.	Update text on these species to incorporate full range of possible impact.	
17	11. GW SPA RTD	91	<p>A) We recognise that parts of the Greater Wash SPA fall outside the area identified by Maximum Curvature Analysis (MCA) as being the most suitable parts of the SPA for RTD. MCA was used to identifying the areas important to each relevant species, a composite of which was then used to determine the boundary of the SPA. However, whilst it is reasonable to say that these areas are less important to RTD than other parts of the site, we do not consider that the area should be entirely excluded from estimates of the displacement area for this species. We highlight that RTD were recorded in this area during the classification surveys, and furthermore, that recent digital aerial surveys of the GW SPA conducted in October 2022 show the presence of RTD in this area. outside the RTD MCA. Therefore, Natural England's assessment of potential impacts does include some consideration of the area that falls beyond the MCA line, albeit with the caveats noted above. It is therefore helpful that the Applicant has provided displacement area/SPA % values including as well as excluding this area.</p> <p>B) Natural England note that potential impacts from construction vessels transiting to and from the cable corridors have not been considered within the assessment, presumably due to the fact that the construction port(s) will not be confirmed until nearer the start of construction. However, Natural England consider that due to the fact that use of a port adjacent to either the Greater Wash SPA or Outer Thames is plausible, some further</p>	<p>A) No action needed, as figures are provided for the entire SPA including the area outside the RTD MCA.</p> <p>B) Please provide any available information relevant to potential impacts from construction vessels transiting to and from the ECC on the GW SPA and/or OTE.</p>	

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			consideration of the possible impacts from construction vessels transiting to and from the ECC should be undertaken.		
18	11. GW SPA RTD	Figures 1 & 2	The legends for Figures 1 and 2 incorrectly show the boundary of the RTD MCA and the area where SEP's buffer zone overlaps the RTD MCA.	Correct Figures 1 & 2.	
19	11. GW SPA RTD	93	The reference population used for the assessment is 1,511 individuals. However, this figure is the population estimate for the pSPA prior to the amendment of the area covered by the SPA. The population estimate within the citation for the GW SPA is 1,407 individuals.	Update the calculations for impacts to RTD using a reference population of 1,407.	
20	11. GW SPA RTD	94	Natural England notes that the in-combination assessment for the GW SPA does not include any attempt to quantify the level of displacement due to vessel activity associated with existing OWFs, both in terms of the construction phase and vessels associated with ongoing operations and maintenance (O&M). In the RIAA, the Applicant argues that 'since the transit routes used by operation and maintenance vessels associated with other OWFs are unknown, it is not possible to quantitatively assess the potential in-combination impact of operational vessels on Greater Wash SPA red-throated diver'. Natural England believes that there is additional data available on the impacts resulting from vessel activity associated with relevant existing OWFs, both in terms of mortality and the area subject to displacement, which would enable the applicant to undertake a more quantitative assessment for the Greater Wash SPA and would be happy to discuss this further.	Natural England would recommend the applicant reviews the draft Review of consents for major energy infrastructure projects and Special Protection Areas, 2022 - GOV.UK (www.gov.uk) carried out by BEIS, which contains information and data on vessel activity associated with the construction and O&M of existing offshore wind farms within the Greater Wash SPA.	
21	11. GW SPA RTD	96-97	NE welcomes the consideration of the reduction in available habitat as a result of cable installation vessels to the assessment. However, we feel there is not enough information provided to determine whether the Applicant's suggested worst-	Provide further justification as to why the concurrent scenario represents the worst-case for red-throated diver.	

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			case scenario (concurrent construction of the SADEP export cables) can be considered as such.		
22	11. GW SPA RTD	99	As recognised by the Applicant in the RIAA, excluding areas that overlap existing OWFs from the calculations of area over which displacement could occur as a result of SEP alone does not account for the potential increase in the magnitude of impact in these areas if SEP is closer than the existing OWFs, and therefore this is likely to be an underestimate. Furthermore, even if SEP is further away, it is plausible that it could exert an additional displacement effect. Therefore, Natural England consider that the real project alone impact will lie somewhere within the range of 0.41% - 1.77% for the percentage of the total area of the SPA subject to displacement (and 0.12% - 0.56% for the 'effective area of displacement') based on the SEP buffer zones as presented in tables 11-3 and 11-4.		
23	11. GW SPA RTD		NE have some concerns over the validity of the method used to calculate the 'effective area' of displacement by scaling the area of effect proportionally according to the corresponding rate of displacement. This is because the proportion of the population that is displaced is not analogous to the area that birds are subject to displacement from. The logical supposition, if the area of effective displacement is say 55%, is that all of the divers remaining are using 45% of the area. However, this is not how displacement of Red throated diver is likely to operate, as the birds that are not displaced from a given area could well utilise it all. So, the area of effective displacement is always 100% for the birds that are displaced and could be 0% for the birds that are not displaced. In this case there seems no logical way to proportionally reduce the effective habitat loss. However, we do recognise the potential value in trying to account for the gradient of effect in spatial terms but in light of the relevant conservation objectives, consider that an area subject to any displacement		

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			<p>effect is to some extent compromised in its ability to support red-throated diver across the whole of that area.</p> <p>We therefore welcome the presentation of figures for all approaches to calculating the area over which red-throated divers are subjected to displacement.</p>		
24	11. GW SPA RTD	101	Natural England considers that, depending on the approach taken to calculating the area impacted, somewhere in the range of 20.63% to 42.01% of the Greater Wash SPA is subject to displacement impacts due to SEP in combination with existing OWFs. In light of the conservation objectives for the Greater Wash SPA, Natural England consider that, whilst SADEP's contribution to these impacts is minimal, AEOI on the red-throated diver feature at the Greater Wash SPA cannot be ruled out due to in combination displacement causing a significant reduction in the functional extent of the SPA available, which will modify the distribution of birds within those sites.	We consider that adverse effects from the operational array would be avoided were all turbines to be located at least 10km from the SPA.	
25	GW SPA common scoter		Natural England notes that common scoter is a qualifying feature at Greater Wash SPA but has not been included in the RIAA for Greater Wash SPA.	Submit LSE assessment for common scoter at Greater Wash SPA	
26	12. GW and NNC SPA Sandwich Tern	Table 12-5	Natural England notes the in-combination total is limited to windfarms within the foraging range of NNC SPA. This doesn't follow the standard approach to assessing impacts outside the breeding season, in that Natural England recommends the use of the BDMPS (Furness 2015) to establish which windfarms should be included in a cumulative or in-combination assessment. In the case of Sandwich Tern breeding at NNC SPA, this would include all windfarms within the UK North Sea and English Channel. Natural England accepts that presenting a full in combination assessment, including all windfarms within the UK North Sea and English Channel, would be extremely challenging (as many would not include CRM for Sandwich tern, because they are not present in sufficient numbers to have been	No further action needed.	

NE Ref	Section	Para/ Table	Natural England's Concern	Natural England's Recommendation	Risk
			screened in for these projects), and that in this instance, where a conclusion of AEOSI in combination has been agreed, it is judged acceptable to present the in-combination figures limited to the projects that have the key impacts. However, it is worth noting that this means a certain proportion of birds, impacted by windfarms further afield in the non-breeding season will not be included in the impact assessment. This omission, though driven by the lack of available data, does result in an unquantified under-estimate of in-combination sandwich tern mortality at NNC/GW SPA.		

Table 2 Natural England's Comments to 14.28 Auk Construction Phase Displacement Assessment (EIA Context) Technical Note [REP2-049].

NE Ref	Section	Para / Table	Natural England's Concern	Natural England's Recommendation	Risk
1	3.2 Razorbill	Table 3.2	It is assumed that 'mean abundance' refers to the combined annual 'mean of peak' per season. We note that the mean abundance for DEP is presented as 5246 birds, whereas in the recently submitted Apportioning and HRA update note abundance is presented as 5829	Natural England advises to check razorbill numbers presented and correct if necessary.	