East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Comments on Natural England's Deadline 3 Submissions

Applicant: East Anglia TWO and East Anglia ONE North Limited
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Applicable to East Anglia ONE North and East Anglia TWO

Revision Summary				
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Glossary of Acronyms

AEoI	Adverse Effect on Integrity
AONB	Area of Outstanding Natural Beauty
APP	Application Document
AS	Additional Submission
BLF	Beach Landing facility
CRM	Collision Risk Modelling
DCO	Development Consent Order
DML	Deemed Marine Licence
EDF	Électricité de France
EIA	Environmental Impact Assessment
ES	Environmental Statement
FFC	Flamborough & Filey Coast
HRA	Habitats Regulation Assessment
IPMP	In-Principle Monitoring Plan
IPSIP	In-Principle Site Integrity Plan
LVIA	Landscape and Visual Impact Assessment
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
NE	Natrual England
NPS	National Policy Statement
OTE	Outer Thames Estuary
OWF	Offshore Windfarm
PD	Procedural Decision
PEIR	Preliminary Environmental Information Report
PTS	Permanent Threshold Shift / Permanent Auditory Injury
PVA	Population Viability Analysis
RSPB	Royal Society for the Protection of Birds
RTD	Red-Throated Diver
SAC	Special Area of Conservation
SCHAONB	Suffolk Coasts and Heaths Area of Outstanding Natural Beauty
SIP	Site Integrity Plan
SNS	Southern North Sea
SPA	Special Protected Area
UXO	Unexploded Ordnance

Glossary of Terminology

Applicant	East Anglia TWO Limited / East Anglia ONE North Limited
Construction operation and maintenance platform	A fixed offshore structure required for construction, operation, and maintenance personnel and activities.
East Anglia ONE North project	The proposed project consisting of up to 67 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia ONE North windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Generation Deemed Marine Licence (DML)	The deemed marine licence in respect of the generation assets set out within Schedule 13 of the draft DCO.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
Inter-array cables	Offshore cables which link the wind turbines to each other and the offshore electrical platforms, these cables will include fibre optic cables.
Jointing bay	Underground structures constructed at intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Link boxes	Underground chambers within the onshore cable route housing electrical earthing links.
Meteorological mast	An offshore structure which contains metrological instruments used for wind data acquisition.
Mitigation areas	Areas captured within the onshore development area specifically for mitigating expected or anticipated impacts.
Marking buoys	Buoys to delineate spatial features / restrictions within the offshore development area.

Monitoring buoys	Buoys to monitor *in situ* condition within the windfarm, for example wave and metocean conditions.
Natura 2000 site	A site forming part of the network of sites made up of Special Areas of Conservation and Special Protection Areas designated respectively under the Habitats Directive and Birds Directive.
Offshore cable corridor	This is the area which will contain the offshore export cables between offshore electrical platforms and landfall.
Offshore development area	The East Anglia TWO / East Anglia ONE North windfarm site and offshore cable corridor (up to Mean High Water Springs).
Offshore electrical infrastructure	The transmission assets required to export generated electricity to shore. This includes inter-array cables from the wind turbines to the offshore electrical platforms, offshore electrical platforms, platform link cables and export cables from the offshore electrical platforms to the landfall.
Offshore electrical platform	A fixed structure located within the windfarm 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 would bring electricity from the offshore electrical platforms to the landfall. These cables will include fibre optic cables.
Offshore infrastructure	All of the offshore infrastructure including wind turbines, platforms, and cables.
Offshore platform	A collective term for the construction, operation and maintenance platform and the offshore electrical platforms.
Platform link cable	Electrical cable which links one or more offshore platforms. These cables will include fibre optic cables.
Safety zones	A marine area declared for the purposes of safety around a renewable energy installation or works / construction area under the Energy Act 2004.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the foundations as a result of the flow of water.
Transition bay	Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.
Transmission DML	The deemed marine licence in respect of the transmission assets set out within Schedule 14 of the draft DCO.

1 Introduction

1. This document presents the Applicants' comments on Natural England's (NE) Deadline 3 submissions (REP3-116 to REP3-119) as follows.

   - ***Section 2*** – Comments on Assessment of Flamborough and Filey Coast SPA and Gannet PVA [REP2-006] (NE Appendix A10 – REP3-116)
   - ***Section 3*** – Offshore Ornithology Update (NE Appendix A11 REP3-117)
   - ***Section 4*** – Comments on Information to Support Appropriate Assessment - Addendum for Marine Mammals [REP1-038] (NE Appendix B2 REP3-118)
   - ***Section 5*** – Comments to Sizewell C Cumulative Impact Assessment [REP2-010] (NE Appendix D2 REP3-119)

2. NE also submitted Appendix E3 (REP3-120) 'Comments to Effects with Regard to SCHAONB and Accordance with NPS Policy [REP2-008]' at Deadline 3 which the Applicants will respond to at Deadline 5.

3. This document is applicable to both the East Anglia TWO and East Anglia ONE North DCO applications, and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's procedural decisions on document management of 23rd December 2019 (PD-004). Whilst this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it for the other project submission. The exception to this is ***section 3*** in which some aspects relate specifically to measures being implemented at the East Anglia ONE North project to reduce the potential operational displacement impacts on the red-throated diver feature of the Outer Thames Estuary SPA.

2 Comments on Assessment of Flamborough and Filey Coast SPA and Gannet PVA [REP2-006] (NE Appendix A10 – REP3-116)

Reference	NE Comment	Applicants Comments
Cumulative Auk Displacement Updates		
1.1	Updated displacement tables: We welcome that the cumulative and in-combination displacement tables for guillemot and razorbill have been updated to include the offshore windfarms (OWFs) that were previously missing from the assessments. We note that where estimates are available, these have been included and where no data are available, the windfarm has been added to the table for completeness, but without any estimate.	Noted
1.2	Displacement Conclusions: We note that the Applicant's view is that the updates presented do not alter the conclusions of APP 043 and APP 060 i.e. negligible significance for cumulative displacement at the EIA scale and no adverse effects on integrity (AEoI) for in-combination displacement at the Flamborough and Filey Coast (FFC) SPA. However, at the Norfolk Boreas Examination Natural England's final advice on these issues was as follows and **therefore we are unable to agree with the Applicant's position:**	No further comment.
1.2a	EIA cumulative displacement: a significant adverse impact (i.e. moderate adverse or above) to razorbill and guillemot from cumulative operational displacement cannot be ruled out at an EIA scale. This is irrespective of whether the Hornsea 3 and Hornsea 4 projects are included in the cumulative totals or not (as set out in our Deadline 4 advice during the	The Applicants disagree with NE's position and maintain the cumulative impact conclusion of minor adverse as reached in the ES (APP-060) and REP2-006.

Reference	NE Comment	Applicants Comments
	Norfolk Boreas examination). Please see Natural England's Boreas Deadline 4 response in REP4-040.	
1.2b	FFC SPA in-combination auk displacement: we were able to conclude that an AEoI on the guillemot and razorbill features of the FFC SPA could be ruled out from displacement in-combination with other plans and projects if Hornsea 3 and Hornsea 4 are excluded from the in-combination totals. However, we were not in a position to advise that an AEoI could be ruled out for the guillemot and razorbill features of the FFC SPA for displacement in-combination with other plans and projects when the Hornsea 3 and Hornsea 4 projects are included in the in-combination totals. This was due to our significant concerns regarding the incomplete baseline surveys for the Hornsea 3 project, the associated level of uncertainty with regards to the potential impacts of that project and the inevitable uncertainty associated with the figures for Hornsea 4 from the PEIR and are subject to change (as set out in our Deadline 4 advice during the Norfolk Boreas examination).	The Applicants recognise that Hornsea Project Three has now been granted consent and therefore assume that the NE position is that there is an AEoI of the FFC SPA with regard to displacement of guillemot and razorbill. The Applicants disagree with this conclusion and maintain the conclusion of no AEoI as reached in the Information to Support Appropriate Assessment Report (APP-043) and REP2-006.
1.2c	Following the Secretary of State (SoS) decisions on Thanet Extension, Vanguard and the 'minded to consent' letter on Hornsea 3, our updated advice at Norfolk Boreas with regard to auk displacement for those species/site combinations changed. We previously concluded in our Deadline 4 advice[1] that a significant adverse impact (i.e. moderate adverse or above) for cumulative EIA scale or AEoI for in-combination could not be ruled out irrespective of whether Hornsea 3 was included or not. Even with the removal of the contributions to these totals from Thanet Extension, the contributions from Hornsea 3 will most likely be greater than those from Thanet Extension. Therefore, in these instances our advice would most likely remain as that set out at Deadline 4. Regarding the EIA scale cumulative displacement for guillemot and razorbill, our advice was that a significant adverse impact (i.e. moderate	The Applicants disagree with NE's conclusions and refer to their response at 1.2a and 1.2b.

Reference	NE Comment	Applicants Comments
	adverse or above) to razorbill and guillemot from cumulative operational displacement cannot be ruled out at an EIA scale irrespective of whether the Hornsea 3 and Hornsea 4 projects are included in the cumulative totals or not (see our response to ExA Q5.8.6.2 in our Deadline 14 response).	
1.3	In-combination/Cumulative figures: We note that the figures presented in Tables 1 and 2 in REP2-006 match the Boreas Deadline 2 submission [REP2-035], which was the last in-combination/cumulative total update for auks undertaken by the Boreas Applicant. However, the East Anglia One North/East Anglia Two Applicant is advised to check the 'all projects' (incl. Hornsea 3 and Hornsea 4) total presented for the breeding season EIA scale for guillemot and hence the annual EIA total, as it appears that the breeding season total for all projects still includes the figure for Thanet Extension.	The Applicants thank NE for pointing out this error and note that it is only the breeding season total where there is an error. This figure should have read 185,866 rather than 185,878. This error was not carried through to the EIA total.
1.4	Omission of Kentish flats: Although a minor omission, the annual total under FFC SPA for Kentish Flats Extension is omitted, but should be 0.2.	Noted
1.5	Inclusion of Hornsea Project 3: The figures presented by the Applicant in Tables 1 and 2 of REP2-006 for Hornsea 3 are those Natural England suggested be used for this project in cumulative/in-combination auk displacement assessments during the Norfolk Vanguard and Boreas examinations. However, during the Vanguard and Boreas examinations Natural England noted that we highlighted throughout our written and oral submissions for Hornsea 3 that the lack of sufficient baseline information for the Hornsea Three Zone (i.e. the array area) means that there is a considerable degree of uncertainty (and thereby level of risk) associated with these figures and these should not be seen as Natural England's agreed position on the levels of impact from Hornsea 3.	The Applicants will continue to engage with NE on the most appropriate figures to consider for Hornsea Project Three given that it has now been granted consent.

Reference	NE Comment	Applicants Comments
	Therefore we welcome that Applicant has presented cumulative/in-combination totals for all projects excluding Hornsea 3. Further consideration of these figures may be required once Hornsea 3 has been formally determined.	
1.6	Inclusion of Hornsea Project 4: The figures presented by the Applicant in Tables 1 and 2 of REP2-006 for Hornsea 4 match those included by Boreas in their Deadline 2 updated assessments for this project, but it should be noted that the figures for Hornsea 4 come from the PEIR for that project. These figures and the methodologies to produce them are subject to ongoing discussions through the evidence plan process and therefore have an element of uncertainty associated with them and are likely to change. Therefore, we welcome that the Applicant has presented cumulative/in-combination totals for all projects excluding Hornsea 4 and also excluding both Hornsea 3 and Hornsea 4. Further consideration of these figures may be required once Hornsea 4 application is submitted, which is expected to be before the end of the EA1N and EA2 examination.	Noted
Flamborough and Filey Coast (FFC) SPA Seabird Assemblage Assessment		
2.1	Alone conclusions: We agree with the Applicant's conclusions that there will be no adverse effect on the integrity (AEoI) of the SPA in relation to any of the individually named species due to either the East Anglia TWO or the East Anglia ONE North projects alone. We also agree with the Applicants that due to impacts on the individual components of the seabird assemblage feature, it can be concluded that there will be no risk of adverse effect on the integrity on the seabird assemblage feature itself for the projects alone.	Noted

Reference	NE Comment	Applicants Comments
2.2	In-combination conclusions: We note that during the Norfolk Boreas Examination Natural England concluded that whilst we advised that an AEoI on the assemblage from in-combination impacts could be ruled out when Hornsea 3 and Hornsea 4 were excluded from the totals, we weren't in a position to rule out AEoI for the assemblage when Hornsea 3 and Hornsea 4 were included in the totals. This was due to the uncertainty in the figures for these Hornsea projects. It is likely that our advice regarding this will remain the same for East Anglia One North and East Anglia Two, unless further information from those projects can be provided in a timely manner to be included into this examination	Given that Hornsea Project Three has now been granted consent the Applicants assume that the NE position is that there will be an AEoI of the seabird assemblage feature of the FFC SPA. The Applicants disagree with this conclusion and maintain the position set out in REP2-006 that there would not be an AEoI either at the project alone or in-combination level.
Gannet Population Viability Analysis (PVA)		
3.1	Update to CRM predictions in Table 1: We suggest that the figures in Table 1 are presented like the collision risk modelling (CRM) predictions in the Environmental Statement (including the range of predictions based on 95% confidence intervals CIs of density data), the displacement predictions (again including the range of predictions based on the 95% CIs of abundance/density) and then the summed totals. We also advise that the % of baseline mortality of the colony the predictions equate to are presented, in order to ascertain whether predictions equate to 1% or more of baseline mortality, and hence require further consideration.	A revised version of Table 1 presented in REP2-006 is provided below (see ***Table 1***) which includes confidence intervals on the collision and displacement estimates, as advised by NE. The values also incorporate small changes in estimates due to a small revision in the estimate of the tidal offset (difference between mean sea level and mean high water springs) used in the calculations. The most recent Flamborough and Filey Coast SPA population estimate is 13,391 pairs (2017). At the adult mortality rate of 0.081 the natural mortality of adults is 2,169 individuals. Therefore, additional mortality below 21.7 (1%) would be considered undetectable. Values higher than 21.7 are highlighted (**bold**) in ***Table 1***. On this basis, the Projects alone combined collision and displacement predictions are below the 1% threshold of detectability except for the combined upper confidence interval estimates for the full breeding season predictions, which are slightly above (26.4 and 23.9 cf 21.7). Therefore, since the 1% threshold is only exceeded through a combination of precautionary assumptions (use of full breeding season, upper 95% confidence interval estimates for both collisions and displacement), the

Reference	NE Comment	Applicants Comments
		Projects alone are predicted to result in undetectable effects on the Flamborough and Filey Coast SPA gannet population. The summed totals across both Projects exceed the 1% threshold for the combined mean collisions and displacement and the combined upper 95% thresholds and therefore these are considered in further detail using the PVA outputs.

Table 1 Revised version of Table 1 from REP2-006 to include confidence intervals - Gannet collision and displacement mortality apportioned to Flamborough and Filey Coast SPA. Displacement at 60% or 80% combined with 1% mortality, collisions updated following draught height increase

Project	Breeding season	FFC SPA collisions (lower/upper 95% confidence intervals)	FFC SPA displacement (60% displaced, 1% mortality)	FFC SPA displacement (80% displaced, 1% mortality)	Total collisions and displacement (higher estimate) inc. 95% confidence intervals on collisions and displacement
East Anglia ONE North	Full	13.0 (3.1-26.0)	0.14 (0.05-0.3)	0.18 (0.1-0.4)	13.2 (3.2-**26.4**)
	Migration free	10.6 (2.8-20.8)			10.8 (2.9-21.2)
East Anglia TWO	Full	12.1 (4.7-23.0)	0.34 (0.04-0.7)	0.45 (0.05-0.9)	12.6 (5.2-**23.9**)
	Migration free	10.6 (4.5-19.8)			11.1 (5.0-20.7)
Summed across both projects	Full	25.1 (7.8-49.0)	0.48 (0.1-0.9)	0.63 (0.1-1.3)	**25.7** (7.9-**50.3**)
	Migration free	21.2 (7.2-40.6)			**21.8** (7.3-**41.9**)

Reference	NE Comment	Applicants Comments
Gannet Population Viability Analysis (PVA) - Continued		
3.2	Inclusion of a range of predictions in Table 1: The collisions in Table 1 of this section of REP2-006 appear to be just the mean CRM predictions. The range of predictions, i.e. based on the 95% CIs, should also be considered in order to account for uncertainty/variability in the input data.	See previous response (Row 3.1).
3.3	Summation error: We also note that there is a summing error in Table 1 under FFC SPA collisions: 10.4 and 12.2 equals 22.6.	This has been corrected in ***Table 1***above.
3.4	Use of PVA outputs: During the Norfolk Vanguard and Boreas examinations we noted that there were outstanding concerns with the Hornsea 3 PVAs which were not resolved by the close of the Examination for the Hornsea 3 project. However, these models nevertheless represents the best available evidence on which to base assessments, though this should not be taken as an endorsement or 'acceptance' of the model outputs. As advised during the Boreas examination, the Natural England funded 'Seabird PVA Tool' is now available for use and therefore we advise that the Applicant re-runs/updates the Hornsea 3 PVAs using this tool. Also, as advised at in our Deadline 9 response during the Boreas examination, we recommend that for any PVA models that are constructed in the future, 5,000 simulations should be considered best practice.	The Applicants note this comment, but consider the response to the following comment (3.5), and the conclusion therein, means that there is no requirement for further population modelling for this species.
3.5	Conclusions: Regarding conclusions, we note that only the central impact predictions are presented, and a range of predictions to account for uncertainty/variability (i.e. those from the 95% CIs) should be presented. However, if the central figure predictions are below the Boreas alone figures, where we concluded no AEoI alone for Boreas, it is likely that Natural England would agree with the Applicant's	The updated table of estimates provided above (***Table 1***) has provided the additional range of values requested by NE (95% confidence intervals on collisions and displacement). The summed maximum mortality across both Projects is 25.7 (95% c.i.: 7.9-50.3). NE has stated that if these figures are below those for the Norfolk Boreas project then Natural England would be expected to reach the same conclusion as that project, specifically of no

Reference	NE Comment	Applicants Comments
	conclusion that there is there is no risk of an AEoI for the FFC SPA gannet population; from combined collisions and displacement at either the East Anglia ONE North or East Anglia TWO windfarms alone, nor for the summed total across both windfarms.	adverse effect on the integrity (AEoI) of the SPA. NE was able to reach this conclusion for the Norfolk Boreas project on an equivalent combined impact of 68 (95% c.i.: 5-161)[1]. Since the Norfolk Boreas estimate was more than twice the summed total for East Anglia ONE North and East Anglia TWO, it is considered that the same conclusion of no AEoI will be reached for the current projects.

3 Offshore Ornithology Update (NE Appendix A11 REP3-117)

Reference	NE Comment	Applicants Comments
Red-Throated Diver of the Outer Thames Estuary (OTE) Special Protection Area (SPA)		
001	Natural England's advice remains that the change in the distribution of divers within OTE SPA is incompatible with meeting the Conservation Objectives for the site, and will result in an adverse effect on site integrity, both alone and in-combination with other plans and projects. To address the risk of adverse impacts on the SPA, we strongly advise that the boundary of EA1N is also moved from the SPA, by at least 10km, and that EA2 (already 8.3km from the SPA) is also moved out to at least 10km from the SPA. Please see our previously submitted advice [Rep1-172].	The Applicants disagree with NE's position and would refer to section 4 of Outer Thames Estuary – Red Throated Diver Displacement Assessment (REP3-049).
002	Natural England is encouraged that the Applicant is submitting a full RTD assessment at Deadline 3 with the intention of addressing the concerns we	The comments from NE match the concerns raised in the workshop on the 7th of December 2020. The Applicants sought to address the

[1] https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-001629-DL4%20-%20Natural%20England%20-%20Updated%20Ornithology%20Advice.pdf

Reference	NE Comment	Applicants Comments
	have been raising with the Applicant during the evidence plan process and subsequently pressing the Applicant to engage with us on since the Relevant Representations in January 2020. However, Natural England wishes to raise with the Examining Authority that the assessment is likely to require updating and will remain outstanding beyond the next set of ISHs and Deadline 5.	concerns raised by NE on the modelling report where possible, which was incorporated into the Outer Thames Estuary – Red Throated Diver Displacement Assessment which was submitted at Deadline 3 (REP3-049). The Applicants will respond in detail to NE's full statutory nature conservation advice which is expected at Deadline 4.
003	The first incomplete draft of the assessment was shared with us on 16th November 2020 in advance of a workshop with the Applicant and RSPB on 7th December 2020. During the workshop we raised initial concerns with the Applicant, but at the end of the workshop it remained unclear if these concerns would be resolved by reviewing a more complete document and/or if there would be further updates to address concerns prior to Deadline 3 submission. Therefore, presently we are unable to provide our full statutory nature conservation advice on this matter until Deadline 4 and impacts to RTD from the projects remains a fundamental concern to Natural England.	
004	For the ExA's benefit the following is a summary (provided on a without prejudice basis) of the key areas of concerned raised by Natural England at the workshop on 7th December 2020: • Disparity exists between the Applicant's predicted levels of displacement within the windfarm footprint and the results (c.33%) from other empirical studies from the Outer Thames Estuary SPA (c.75-95%). In order for the Examining Authority to have confidence in any assessment, we advise that further information is requested from the Applicant. o Firstly, a key issue around the treatment of the counterfactuals used to make the assessment needs to be addressed regarding the likelihood that the distance to windfarm signal was carried over in modelled output thus impacting the overall displacement calculation;	The comments from NE match the concerns raised in the workshop on the 7th of December 2020. It should be noted that at the multi-party (NE, MMO and RSPB) ornithological workshop on the 22nd October 2020 it was agreed that the modelling report component of the Outer Thames Estuary – Red Throated Diver Displacement Assessment which was to be submitted at Deadline 3 would be shared with NE, RSPB and MMO a minimum of 2-weeks prior to the 7th December 2020 workshop and the Applicants issued the modelling report on the 16th November 2020. It was agreed with NE at the 22nd October workshop that the modelling report would be issued for information only and to take early feedback, but that NE would formally respond through the Examination process at Deadline 4 or Deadline 5. The Applicants did however seek to address the concerns raised by NE on the draft modelling report where possible and these updates were incorporated into the Outer Thames Estuary

Reference	NE Comment	Applicants Comments
	o Secondly, no cross-validation efforts were made to determine the predictive performance of the model, which would be necessary to assess robustness of predictions; and o Finally, a comparison of the predicted densities within the windfarm footprint against those actually recorded in the surveys would be useful. • Another key issue is that the 2002 -2008 visual aerial data has effectively been treated the same as 2013 and 2018 survey data which were collected using digital aerial methods. APEM (2010) carried out comparisons between visual and digital survey methods and reported that digital still photography reveals up to 6.5 times as many birds as the visual spotter method. Unless this issue if taken account of in the modelling there is a significant risk that the magnitude and spatial extent of the displacement effect will be underestimated (as appears to be the case).	– Red Throated Diver Displacement Assessment which was submitted at Deadline 3 (REP3-049). The Applicants will respond in detail to NE's full statutory nature conservation advice once received.
005	Further, Natural England noted in the meeting on 7th December 2020 the Applicant's proposal for a 2km buffer. As we have not yet reviewed any information with regard to their proposal, we would refer to our previous advice provided at Deadline 1 [REP1-172] that a 10km buffer would be needed to avoid AEoI. Therefore, our interim position is that while the buffer is welcome, it is insufficient mitigation to change our advice regarding displacement impacts to RTD.	The Project Update Note submitted at Deadline 3 (REP3-052) clarifies that the 2km buffer commitment does not act to mitigate the potential impact entirely rather it provides a reduction in the potential displacement extent into the SPA. Also refer to Row 001 of this table.
Flamborough and Filey Coast SPA		
006	Natural England's positions remain as stated in Appendix A9 to NE's Deadline 2 submission [REP1-047]. Natural England notes that the overall updates do not alter our overall conclusions and our advice at the end of the Boreas examination, which are detailed in the Table 1 above (*see full response document [REP3-117] for Table 1*).	No further comment

Reference	NE Comment	Applicants Comments
007	Natural England will respond to the Applicant's without prejudice proposals once they have been submitted at Deadline 3.	Noted
Lesser Black-Backed Gull of the Alde-Ore Estuary SPA		
008	Natural England's positions remain as stated in Appendix A9 to NE's Deadline 2 submission [REP1-047]. Natural England notes that the overall updates do not alter our overall conclusions and our advice at the end of the Boreas examination, which are detailed in the Table 1 above (*see full response document [REP3-117] for Table 1*).	No further comment
Monitoring		
009	We await the submission on an updated IPMP and advise that this should focus on impacts of displacement on red throated diver. This will be particularly important if consent is given to a design where any part of the array is within 10km of the OTE SPA, or within a distance where a robust modelling approach predicts displacement effects.	The updated IPMP was submitted at Deadline 3 (see REP3-040) and makes provision for pre- and post-construction monitoring of the potential displacement effects on red-throated diver from the East Anglia ONE North project. Conditions 20 and 22 of the generation DML and conditions 16 and 18 of the transmission DML have been updated within the draft DCO submitted at Deadline 3 (REP3-012) to make provision for ornithological monitoring.

4 Comments on Information to Support Appropriate Assessment - Addendum for Marine Mammals [REP1-038] (NE Appendix B2 REP3-118)

Reference	NE Comment	Applicants' Comments
General Comments		
001	Natural England has significant concerns regarding the marine mammal addendum (document reference ExA.AS-19.D1.V1) submitted in support of the EA1N and EA2 OWF projects, particularly regarding the changes to the wording of the project commitments and the intention to broaden the scope of the Site Integrity Plan (SIP) to cover project-alone impacts to the Southern North Sea SAC. Further details regarding these issues can be found below.	The Applicants have provided detailed responses below.
Project Commitment Wording		
002	Section 2 of the addendum states that the project commitment wording has been changed following responses post-submission, however no further detail or context is provided as to the rationale behind adding the wording 'without mitigation' to three of the four commitments. Natural England consider that neither UXO detonations or piling should, or would, ever take place without mitigation in place which has been approved by MMO in consultation with Natural England, prior to works commencing. As per our previous advice [REP1-155 and REP1-166], Natural England consider that the commitments listed in the draft SIP are	The Applicants would like to clarify that UXO and piling activities would be mitigated as described in the updated Marine Mammal Mitigation Protocol (MMMP) submitted at Deadline 3 (REP3-042). The addition of 'without mitigation' was to distinguish between at source mitigation (for example bubble curtains) and the standard mitigation that is secured through the MMMP. Paragraph 26 states (emphasis added): *"**In addition to the embedded mitigation secured through this MMMP** (such as establishing a Mitigation Zone based on the maximum potential range for PTS, soft-start and ramp-up, and activation of ADDs prior to soft-start, see section 5), the Applicant has also committed to the following:…"*

Reference	NE Comment	Applicants' Comments
	immutable and should be conditioned on the face of the DML to ensure they are adhered to. Indeed, they are essential in allowing Natural England to advise no adverse effect on integrity of the Southern North Sea SAC with any level of confidence. Without them we will be unable to reach the same conclusion beyond reasonable scientific doubt and would need to reconsider our advice regarding the outcome of the HRA.	Within the updated Southern North Sea (SNS) Site Integrity Plan (SIP) submitted at Deadline 3 (REP3-045) the words 'at source' have been added before 'without mitigation' to clarify this point, for example: *"During the winter period there would be no UXO detonation* ***without (at source) mitigation*** *in the offshore development area in the same 24 hour period as any piling* ***without (at source) mitigation****".* It is the Applicants' view that the commitments already made allow for robust control of this issue by the MMO (see response to Row 004 below) and that no further conditions are necessary. However, in recognition of NE's position on this matter and following a discussion with NE on the 11th January 2021, the Applicants are exploring the potential for a DML condition to be included in the DCO. The Applicants will continue to engage with NE and MMO on this matter and will provide a further update through submissions to the examination anticipated to be at Deadline 5 or Deadline 6. The Applicants would however re-emphasise that they consider that the approval process of the SIP and MMMP together with the associated DML conditions are the appropriate mechanisms in which to secure the commitments that have been made.
003	It should also be noted that the outcomes of the assessments revisited in the Addendum all conclude no adverse effect on site integrity when only one 'noisy' activity takes place in a day in the winter area of the SAC, based on the proposed mitigation in the marine mammal mitigation plan and the project commitments outlined in the SIP.	This is correct, after the use of standard mitigation, only one noisy activity would be possible per day in winter without the use of at-source mitigation.
Expanding the scope of the Site Integrity Plan		
004	Natural England does not agree with the proposal to expand the scope of the SIP for the Southern North Sea SAC to	There is no reason why a SIP cannot be used to manage project alone, in-combination effects or both. One of the key purposes of the SIP is to enable the MMO to be satisfied that the plan provides such mitigation as is necessary to avoid

Reference	NE Comment	Applicants' Comments
	include project-alone impacts. In section 4 the Applicant states; *'The SIP was originally developed to manage the potential for adverse effects on integrity of the SNS SAC from in-combination effects. It is acknowledged by the Applicant that in the case of the Project, there is potential for project-alone effects that could result in adverse effects on integrity of the SNS SAC in the winter given the location of the offshore development site within the SNS SAC winter area.'* *'As such, it is proposed that the In-principle SIP (ISIP) for the Project is expanded in scope to reflect the project-alone effects as well as in-combination effects. Should the Applicant wish to undertake multiple UXO clearance or piling events on the same day in the winter period, this will be possible if it can be demonstrated that effective mitigation can be provided. The evidence for this will be provided in the relevant SIP(s) (either for UXO clearance, piling or both) post-consent.'* SIPs were developed as a way of managing in-combination impacts that would have an adverse effect on the integrity of a designated site in a way that would allow projects to proceed. Natural England do not consider it appropriate that project-alone adverse effects are dealt with via the SIP in the hope that a method will be developed to mitigate them prior to construction, just to maintain flexibility in the construction of the project to allow the impact to take place. It should also be noted that a marine mammal mitigation plan (MMMP) is intended to detail project specific mitigation post-consent. Conclusions drawn during assessments should be based on information available at the time, not post-consent mitigation	the projects adversely affecting the integrity of the relevant SAC. This will need to be considered in the context of the projects alone and in combination with other plans or projects. The Applicants note that the assessment provided within the Deadline 1 Submission - Information to Support Appropriate Assessment – Addendum for Marine Mammals (REP1-038) would allow for a single noisy activity within a 24-hour period in the winter area in the winter period at the project-alone level and that the Applicants have made the commitment within the SIP that there would only be a single event unless at-source mitigation can be shown to reduce the noise levels for multiple events below the 20% threshold for the SAC. If it could not be demonstrated that noise levels could be mitigated to below the threshold then more than one piling or UXO event would not be permitted within a 24 hour period. It is the Applicants' view that many of the reasons why it is appropriate to use the SIP to manage in-combination impacts equally apply to the management of project alone impacts. For example, the commitments secured in the conditions currently included in the DMLs (see below) prevent the introduction of high noise levels associated with UXO clearance and piling into the marine environment of the Southern North Sea SAC without further consideration of the project alone and cumulative position through the approval process of the SIP and the MMMP. The control mechanism currently set out within the DMLs allows for the review of currently available mitigation techniques as well as consideration of new techniques that may become available during the preconstruction phase. It will also enable changes to the science on the issue, changes in guidance and regulatory advice and any changes to the conservation objectives for the SAC to be taken into consideration prior to approval of the SIP and MMMP by the MMO. Additionally, the Applicants have committed to consulting with Natural England (and The Wildlife Trusts) through the in-principle SIP and have

Reference	NE Comment	Applicants' Comments
	options. Natural England have previously provided advice regarding the use of SIPs for project-alone impacts as part of the Boreas and Vanguard examinations. Further details can be found in Natural England's Deadline 4 submission as part of the Norfolk Boreas OWF examination, available here - Deadline 4 Submission - Position Statement Regarding the Proposed Site Integrity Plan for the Haisborough Hammond and Winterton Special Area of Conservation REP4 -041 https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-001600-DL4%20-%20Natural%20England%20-%20Position%20Statement.pdf .If a project alone construction scenario is predicted to have an adverse effect on site integrity, then the project should not undertake those activities i.e two noisy (UXO or piling) events in the same 24 hours in the winter part of the site. Adopting this approach would theoretically allow for any construction scenario to be carried forward, even if it was assessed as being significant or having an adverse effect during the EIA and/or HRA process.	proposed a consultation programme within the in-principle SIP (Table 2.1) that commences more than 12 months in advance of the first noisy activity (UXO clearance). For UXO clearance, condition 16 of the generation DML and condition 12 of the transmission DML states that: *(1) No removal or detonation of UXO can take place until the following have been submitted to and approved in writing by the MMO—* *…* *(b) a marine mammal mitigation protocol in accordance with the draft marine mammal mitigation protocol, the intention of which is to prevent injury to marine mammals, following current best practice as advised by the relevant statutory nature conservation bodies; and* *(c) an East Anglia [TWO/ONE North] Project Southern North Sea SAC Site Integrity Plan for UXO Clearance which accords with the principles set out in the in principle East Anglia [TWO/ONE North] Project Southern North Sea SAC Site Integrity Plan.* *(2) In approving the East Anglia [TWO/ONE North] Project Southern North Sea SAC Site Integrity Plan for UXO Clearance the MMO must be satisfied that the plan provides such mitigation as is necessary to avoid adversely affecting the integrity (within the meaning of the 2017 Offshore Regulations) of a relevant site, to the extent that harbour porpoise are a protected feature of that site.* *(3) Any UXO clearance activities must be undertaken in accordance with the method statement, marine mammal mitigation protocol and East Anglia [TWO/ONE North] Project Southern North Sea SAC Site Integrity Plan for UXO Clearance approved under paragraph (1).* With regard to piling, condition 17 of the generation DML and condition 13 of the transmission DML states that:

Reference	NE Comment	Applicants' Comments
		(1)The licensed activities or any part of those activities must not commence until the following (as relevant to that part) have been submitted to and approved in writing by the MMO— *…* *(f) In the event that driven or part-driven pile foundations are proposed to be used, a marine mammal mitigation protocol in accordance with the draft marine mammal mitigation protocol, the intention of which is to prevent injury to marine mammals, following current best practice as advised by the relevant statutory nature conservation bodies.* *(2) In the event that driven or part-driven pile foundations are proposed to be used, the licenced activities, or any phase of those activities must not commence until an East Anglia [TWO/ONE North] Project Southern North Sea SAC Site Integrity Plan for Piling which accords with the principles set out in the in principle East Anglia [TWO/ONE North] Project Southern North Sea SAC Site Integrity Plan has been submitted to the MMO and the MMO is satisfied that the plan provides such mitigation as is necessary to avoid adversely affecting the integrity (within the meaning of the 2017 Offshore Regulations) of a relevant site, to the extent that harbour porpoise are a protected feature of that site.* Overall, the Applicants therefore consider that there are sufficient controls in place to ensure that multiple noisy activities will not be able to be carried out until the relevant plans (SIP and MMMP) have been approved by the MMO and in approving the plans, the MMO will need to be satisfied that appropriate mitigation is in place. However, as stated in Row 002, notwithstanding the Applicants' position that the SIP and MMMP together with the associated DML conditions are the appropriate mechanisms in which to secure the commitments that have been made, the Applicants are exploring the potential for a DML condition to be included in the DCO and will provide a further update through submissions to the examination anticipated to be at Deadline 5 or Deadline 6.

Reference	NE Comment	Applicants' Comments
005	Furthermore, given this unexpected change in approach Natural England will need to reconsider the advice we have previously provided regarding being able to rule out adverse effect on integrity of the Southern North Sea SAC from the East Anglia 2 project alone, as well as in-combination with other plans and projects. Natural England are disappointed that this proposed change was not discussed with us by the Applicant prior to submission and we only learned of it through review of documentation. Broadening the scope of SIPs to include project-alone impacts is a significant change which would have industry-wide ramifications. We would have welcomed the opportunity to engage with the Applicant on this matter prior to the addendum being submitted.	As stated in Row 002, notwithstanding the Applicants' position that the SIP and MMMP together with the associated DML conditions are the appropriate mechanisms in which to secure the commitments that have been made, the Applicants are exploring the potential for a DML condition to be included in the DCO and will provide a further update through submissions to the examination anticipated to be at Deadline 5 or Deadline 6.
006	Natural England maintain our position as per our previous advice that the project commitments outlined in the draft SIP, not those included in the Addendum, should be conditioned on the face of the DML as they are critical to ensuring there is no adverse effect on the integrity of the Southern North Sea SAC.	See response to 002 within this table.

5 Comments to Sizewell C Cumulative Impact Assessment [REP2-010] (NE Appendix D2 REP3-119)

Reference	NE Comment	Applicants Comments
001	Natural England welcomes the Applicant's review of their Landscape and Visual Impact Assessment [APP-077] which addresses the cumulative effects of the onshore elements of the EA1 and EA2 schemes with the proposed Sizewell C nuclear power station.	Noted
002	Natural England's advice is focused on the cable landfall within and the cable route through the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB). Our concerns are only with the construction phase and for elements of the scheme within and directly affecting the AONB and its statutory purpose. Natural England note that significant adverse cumulative construction phase effects on the AONB are still identified. We have previously advised that those significant adverse effects could be more impactful than the Landscape and Visual Impacts Assessment (LVIA) narrative would suggest, with the cabling works for EA1N and EA2 and the Sizewell C construction site and activities combining in peoples' perception to strongly associate this section of the AONB with major construction. That advice still stands.	The Applicants recognise that NE have provided detailed comments on the Effects with regards to the Statutory Purposes of the Suffolk Coasts and Heaths AONB and Accordance with NPS Policy (REP2-008). The Applicants will provide detailed responses to these points at Deadline 5..
003	Specifically for the landfall site Natural England would advise that EDF Energy have now issued for consultation a set of proposed changes to the DCO for Sizewell C. Natural England has not yet responded to that consultation, but we do note that it does include new coastal activities and structures to allow more material to be delivered by sea. These changes may produce a significant cumulative effect with the EA1N and EA2 landfall site during the construction phase.	The Applicants understand that the most up to date publicly available information regarding these proposed changes is provided within AS-005 of the Sizewell C Project page on the PINS website. The document states (emphasis added): ***The precise details of how the Beach Landing Facility (BLF) proposals will change to allow for bulk material imports are currently being finalised***. *For the purpose of this Notification Report the*

Reference	NE Comment	Applicants Comments
		change is assumed to be potentially material, as some significant environmental effects cannot yet be ruled out. No extensions to the Order Limits would be required. During the examination, the Applicants have sought to consider changes or updates to the cumulative assessment as a result of the Sizewell C application progressing. However, this is a material change to the Sizewell C application for which full details are not available. Due to the advanced stage the Projects are at within the examination process, it is not considered necessary or appropriate for the Applicants to consider these changes within the applications. It is noted that Sizewell C will need to take the Projects into account in its cumulative assessment. Therefore, any effects arising from these changes at the cumulative level will be fully considered during determination of the Sizewell C application.