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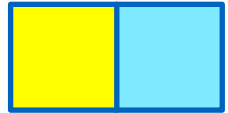
East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Comments on Natural England's Deadline 8 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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Description of Revisions			
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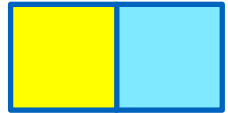


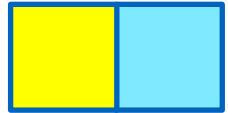
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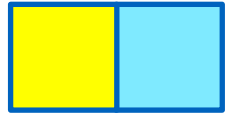
Glossary of Acronyms

AEoI	Adverse Effect on Integrity
AONB	Area of Outstanding Natural Beauty
APP	Application Document
AS	Additional Submission
CoCP	Code of Construction Practice
CRM	Collision Risk Modelling
DCO	Development Consent Order
DML	Deemed Marine Licence
EIA	Environmental Impact Assessment
EMP	Ecological Management Plan
ES	Environmental Statement
ESC	East Suffolk Council
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	Natural England
NGET	National Grid Electricity Transmission
NVG	Norfolk Vanguard
OLEMS	Outline Landscape and Ecological Management Strategy
OTE	Outer Thames Estuary
OWF	Offshore Windfarm
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
SCC	Suffolk County Council
SCHAONB	Suffolk Coasts and Heaths Area of Outstanding Natural Beauty
SEAS	Suffolk Energy Action Solutions
SIP	Site Integrity Plan
SNS	Southern North Sea
SPA	Special Protected Area
UXO	Unexploded Ordnance

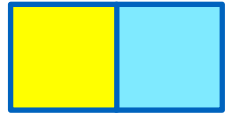


Glossary of Terminology

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 <i>in situ</i> 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 8 submissions as follows.
 - **Section 2** – Appendix A20 [REP8-160]: NE Red-Throated Diver Displacement Clarification Note;
 - **Section 3** – Appendix B3b [REP8-161] – NE's Further Comments on the Draft Marine Mammal Mitigation Protocol [REP7-029, REP7-030] and In Principle Southern North Sea SAC Site Integrity Plan [REP7-031, REP7-032];
 - **Section 4** – NE Appendix C9 [REP8-162] – NE Comments to D6 and D7 Terrestrial Ecology Documents;
 - **Section 5** – Appendix F10 [REP8-164] – NE Update on All Other Matters;
 - **Section 6** – Appendix K8 [REP8-167] NE Comments on the Report on implications for European Sites (REIS) [PD-033];
 - **Section 7** – Appendix E4 [REP8-169]: NE Comments to the Applicants 'Think Piece' [REP6-049];
 - **Section 8** – Appendix G5 [REP8-163] NE's Comments on EA1N/EA2 DCO Application Version 5;
 - **Section 9** – Appendix K7 [REP8-166] – NE Response to Rule 17 Letter; and
 - **Section 10** – Appendix A19 [REP8-159] – NE's Comments and Conclusions on EIA Scale Impacts.
2. 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.



2 Applicants' Comments on NE Appendix A20 [REP8-160] – NE Red-Throated Diver Displacement Clarification Note

ID	NE Comment	Applicants' Comments
Summary		
1	Natural England's previous advice remains unchanged. This response is provided to help provide further clarity on our previous advice, based on the Applicant response to that.	The Applicants have provided responses to the detailed points below.
Specific Comments		
2	<p>a) Model Outputs</p> <p>1. Natural England's concerns around lack of model validation remain, with our understanding being that the Applicant is not intending to fully address the issues raised by Natural England. Therefore, the model outputs will not change and neither will our advice on the scientific robustness of the model data, and certainty around conclusions drawn from it.</p>	The Applicants have provided detailed responses to Natural England's comments on model validation in REP5-015 and REP7-053 and the reasons why the model outputs are robust.
3	<p>2. Due to the continuing concerns around the outputs of the models, we advise a more precautionary approach which considers a range of displacement scenarios.</p> <p>In particular, when assessing the area of supporting habitat impacted by displacement for the in-combination assessment, we advise that the SoS uses a range to include the 55% - 95% reduction at London Array as a worst-case scenario for within-windfarm displacement. This approach takes into account the consistently high levels of within windfarm displacement reported regardless of survey platform or location of the study. This is the literature review provided in Appendix 2 of REP3-049 and REP6-019.</p>	Notwithstanding the Applicants' position that the red-throated diver modelling is robust and Natural England's criticisms are misplaced, the Applicants have provided additional assessment based on Natural England's precautionary advice and this was included in the updated modelling and assessment report (REP5-025 and REP6-019, REP8-034) alongside the assessment based on the Applicants' modelling.
4	<p>b) Ecological consequences</p> <p>3. Natural England's advice is that the ecological consequences resulting from further effective habitat loss due to the displacement effects from the proposed turbines is not fully</p>	The Applicants consider that Natural England's statement ' <i>that the ecological consequences resulting from further effective habitat loss due to the</i>



ID	NE Comment	Applicants' Comments
	<p>understood. However, the consequences for the HRA are that at least 0.5% of the entire SPA (using the Applicants' model outputs) or 1.4% of the SPA (using percentages from the London Array monitoring) will be impacted. On the basis on considering the Applicant's modelling, Natural England maintains that an AEol from EA1N alone cannot be ruled out beyond reasonable scientific doubt.</p>	<p><i>displacement effects from the proposed turbines is not fully understood</i> does not fully take into account the evidence that the red-throated diver population has either remained the same size over the period that windfarms have been constructed within the Special Protection Area (SPA) (if the early visual surveys under-counted birds by a factor of approximately three) or the population has increased by around the same margin over this period (if the visual surveys were as accurate as the current digital ones). Therefore, the Applicants consider it reasonable to state that on current evidence there does not appear to have been any ecological consequence due to the construction of windfarms within the SPA.</p> <p>Furthermore, similar conclusions have been reached with respect to the populations of this species recorded in the German Bight, as discussed in Section 10.3.2 of Appendix 6 of Offshore Ornithology Without Prejudice Compensation Measures (REP8-090)</p>
5	<p>c) Compensation</p> <p>4. Natural England's view as stated in REP7-071 remains that the compensatory measures proposed for red throated diver displacement with the OTE SPA are not adequate. Whilst we accept that the vessel management measures mitigate the temporary effects of displacement from vessel movements transiting the SPA, the proposed measures do not compensate for the ongoing and long-term displacement effects from the turbines themselves.</p>	<p>The Applicants have provided further evidence of the magnitude of reduction in disturbance that would result from the proposed vessel re-routing in Section 10.4 of Appendix 6 of Offshore Ornithology Without Prejudice Compensation Measures (REP8-090). This has demonstrated that this measure would significantly reduce disturbance as compensation for displacement due to the Projects.</p>
6	<p>d) EA2 In-combination</p>	<p>East Anglia TWO was not included in the in-combination assessment in the final iteration of the Displacement of</p>



ID	NE Comment	Applicants' Comments
	<p>5. We welcome the inclusion of East Anglia TWO into the in-combination assessment. We acknowledge that EA2's contribution to the overall displacement effects is small compared to EA1N's contribution. However, it is nevertheless important that EA2's contribution to the area of SPA subjected to displacement is captured in the in-combination assessment.</p>	<p>red throated divers in the Outer Thames Estuary SPA report (REP8-034) for the reasons stated in that report:</p> <ul style="list-style-type: none"> • The effective area over which displacement could occur from East Anglia TWO based on NE's approach equates to 0.075% of the SPA. • The in-combination effective area of displacement using NE's precautionary approach would be 23.5% of the SPA • East Anglia TWO is not included in the in-combination assessment as its contribution even using NE's precautionary approach to effective area of displacement would not materially add to the in-combination effect. <p>However, the project alone figure can be added to the in-combination total if deemed necessary and therefore in-combination effective area of displacement using NE's precautionary approach would be 23.6%</p>
7	<p>e) Displacement due to survey platform</p> <p>6. We note the Applicant's assertion about higher displacement rates from studies using boat-based surveys. However, as stated previously high levels of displacement within windfarm are reported consistently, regardless of survey platform. For example, at the Lincs OWF within the Greater Wash SPA HiDef (2017) reported 83% displacement within the windfarm area. The Lincs study also used a combination of visual and digital aerial survey results, and any boat-based surveys were excluded from the assessment.</p>	<p>The Applicants acknowledge that high displacement rates have been reported from digital aerial surveys, such as the one at Lincs cited by NE in this comment, but lower rates have also been reported, such as the 55% reported at London Array (APEM 2018¹), therefore the Applicant does not consider NE's statement that '<i>high levels of displacement within windfarm [sic] are reported consistently</i>' is borne out by the evidence which has</p>

¹ APEM (2018) Final Ornithological Monitoring Report for London Array Offshore Wind Farm – 2018. February 2018.



ID	NE Comment	Applicants' Comments
		found a range of displacement rates both from within windfarms and also in distances from windfarms.
8	7. The empirical studies we are referring to are the studies in the Applicant's literature review of red throated diver displacement (Appendix 2 of REP3-049 REP5-025 and REP6-019). Some of these studies are based on pre-construction and post construction surveys, not modelling and are a direct comparison of diver densities before and after the presence of a windfarm. Regardless of whether the survey platform is boat-based surveys or aerial surveys, it is striking that findings are consistently demonstrating the high level of within windfarm displacement, regardless of location.	The Applicants continue to highlight that even the density estimates referred to by NE have been derived through some form of analysis or modelling (e.g. Distance analysis) and that the apparent distinction which NE ascribes to 'empirical' or 'modelled' outputs is not based on how these densities are estimated. Furthermore the ' <i>striking</i> ' finding of consistently high within windfarm displacement does not appear to include the 55% within windfarm displacement at London Array: the Applicants consider that this very pertinent result, which found that approximately half the birds were displaced, is at odds with NE's statement and suggests that there is in fact a large degree of variation in diver responses to windfarms. This is also the conclusion reached by the authors of studies in the German Bight (Vilella et al. 2020) ² .
9	f) Bootstraps 8. We raised this issue as the number of replicates sounded low. However, Natural England notes the Applicant's response, and that the number of bootstraps was a decision partly determined by examination timescales, and due to the time to run the models. We accept that based on the information supplied additional simulations would not make a material difference to the confidence intervals.	The Applicants welcome NE's acceptance that additional simulations would not make a material difference to the confidence intervals

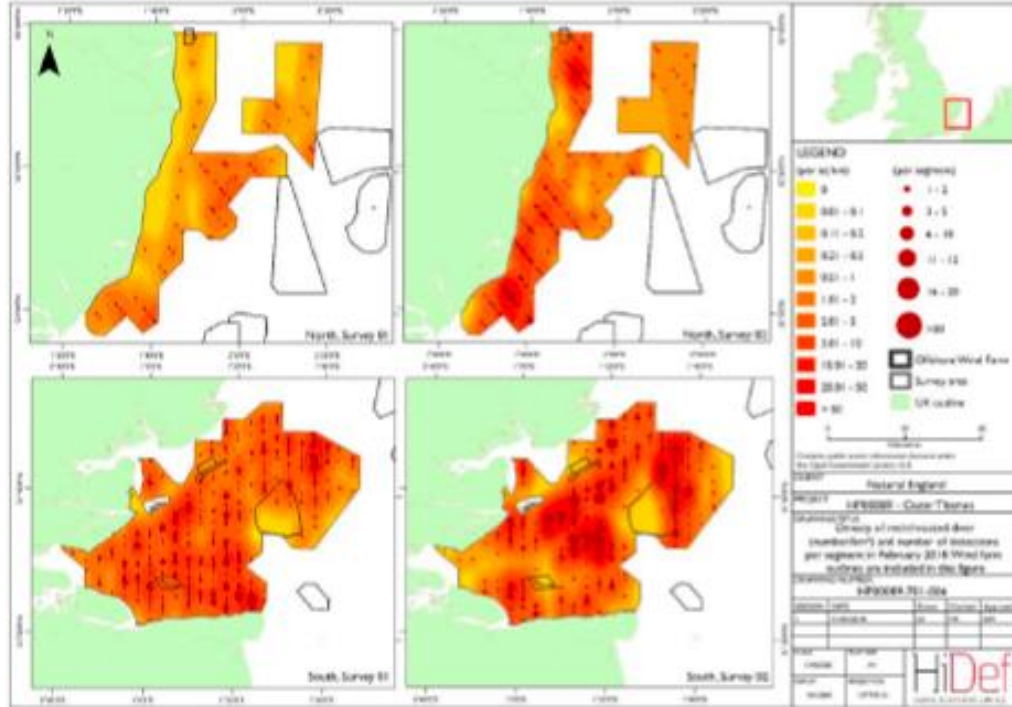
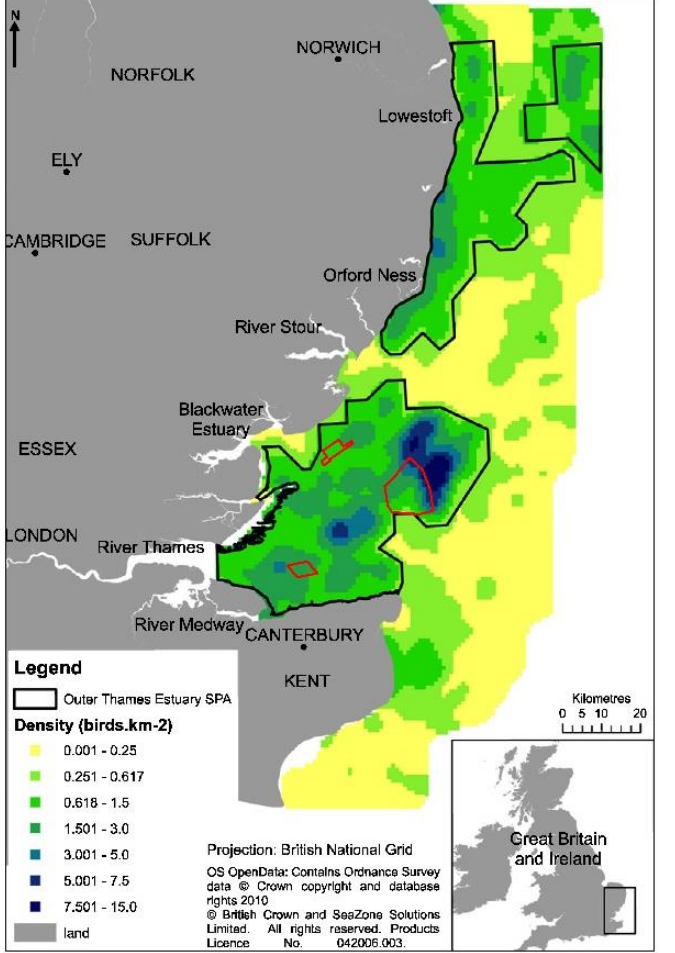
² Vilella, R., Burger, C., Diederichs, A., Nehls, G., Bachi, F., Szostek, L., Freund, A., Braasch, A., Bellebaum, J., Beckers, B., Piper, W. (2020). Final Report: Divers (*Gavia spp.*) in the German North Sea: Changes in Abundance and Effects of Offshore Wind Farms. A study into diver abundance and distribution based on aerial survey data in the German North Sea. BioConsult Report prepared for Bundesverband der Windparkbetreiber Offshore e.V.



ID	NE Comment	Applicants' Comments
10	<p>g) Distribution and density</p> <p>9. It is not possible to meaningfully compare the distribution and density reported in O'Brien et al. (2012), and that presented in the most recent surveys (Irwin et al. 2019), particularly without the outlines of the windfarms for context. However, when looking at Figure 8 from Irwin et al. 2019 (see figure below) which includes densities of red-throated diver (number/km²) together with the windfarm outlines, it is possible to see the effect of existing windfarms on diver distribution.</p>	<p>In order to assist NE to compare the distribution of red-throated divers before the windfarms were constructed with those presented following construction, the Applicants have updated the red-throated diver distribution figure (Figure 2 from O'Brien et al. 2012)³ with the addition of the boundaries of the windfarms which were <u>later</u> built (the windfarm boundaries are shown in red on the figure).</p> <p>It is apparent that the distribution of red-throated divers in the lower-right panel of Figure 8 from Irwin et al. (2018), highlighted by NE as evidence of displacement from the windfarms, was in fact already evident <u>before</u> the windfarms were installed. Indeed the similarity in the distribution between the 2018 distribution in the lower-right panel of Figure 8 and the distribution in the same region in O'Brien et al. (2012) is striking, with lower density areas 'within' the windfarms and higher densities 'between' them and to the east of where London Array <u>would</u> be built.</p>

³ O'Brien, S.H., Webb, A., Brewer, M.J. and Reid, J.B. (2012). Use of kernel density estimation and maximum curvature to set Marine Protected Area boundaries: Identifying a Special Protection Area for wintering red-throated divers in the UK. *Biological Conservation*, 156, 15-21.



ID	NE Comment	Applicants' Comments
		 <p>Estimated density of red-throated divers in the Outer Thames Estuary. Adapted from Figure 2 in O'Brien et al. 2012 (windfarm boundaries are shown in red).</p>



ID	NE Comment	Applicants' Comments
11	<p>10. The lower densities of RTDs within windfarm footprints is clearly demonstrated in the bottom right image in Figure 8, and the largest density of divers is equidistant from the three windfarms – London Array, Kentish Flats and Gunfleet Sands.</p>	<p>As noted above, the apparent displacement effect due to the windfarms was in fact present in advance of the windfarms being constructed and it is therefore not appropriate to ascribe the 2018 distribution of red-throated divers to windfarm displacement, with other factors in the environment already influencing the bird's distribution.</p> <p>It should be stressed that the Applicants are not suggesting that windfarms have no effect on this species, but rather their influence should be viewed in the context of existing distributions and not overstated. This was the rationale for the spatial modelling undertaken by the Applicants, and the use of counterfactual outputs which incorporate existing distributions.</p>
12	<p>h) Conservation Objectives</p> <p>11. Natural England re-iterates that all the Conservation Objectives need to be considered. The guidance states that one of the principles for HRA is to: <i>“understand the conservation objectives for the relevant European site affected - these describe the ecological reasons for its protection”</i>. Natural England's conservation objectives all follow the same format:</p> <p><i>“Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;</i></p> <ul style="list-style-type: none"> • <i>The extent and distribution of the habitats of the qualifying features;</i> • <i>The structure and function of the habitats of the qualifying features;</i> • <i>The supporting processes on which the habitats of the qualifying features rely;</i> 	<p>As the Applicant has highlighted previously, the ultimate purpose of the SPA and indeed the Birds Directive, is to safeguard wild bird populations, in this case red-throated divers. The objectives which refer to habitats are intended to ensure that the needs of the population are met and not that the habitats are maintained in their own right. It is clear that the needs of the red-throated diver population have been met since the SPA was designated, since the population has not declined (and has probably increased), despite the construction of windfarms within the SPA. Therefore, the SPA has performed its required purpose, and there is no evidence to indicate that the construction of the proposed windfarms will jeopardise this.</p>



ID	NE Comment	Applicants' Comments
	<ul style="list-style-type: none"> • <i>The population of each of the qualifying features, and,</i> • <i>The distribution of the qualifying features within the site.</i> 	<p>Furthermore NE stated (paragraph 37, REP4-089): <i>“Natural England acknowledges that the abundance objective is likely to be maintained.”</i></p> <p>The Applicants' position on the conservation objectives was stated in ISH14 and the full position is set out in Appendix 1 of REP8-093 the Applicants Written Summary of Oral Case Issue Specific Hearing 14 (REP8-099).</p>
13	<p>12. There is nothing in the Defra HRA guidance relating to a hierarchy of attributes, and therefore the distribution of features should be considered as an integral part of site integrity. All the attributes contributing to site integrity in the conservation objectives carry equal weight.</p>	<p>The Applicants' position on the conservation objectives was stated in ISH14 and the full position is set out in Appendix 1 of REP8-093 and the Applicants Written Summary of Oral Case Issue Specific Hearing 14 (REP8-099).</p>
14	<p>i) Effective loss of supporting habitat</p> <p>13. Using the Applicant's figures in Table 9 of REP6-019 the minimum estimated area of the SPA subject to displacement from EA1N is 19 km² or 0.5% of the SPA. If using Natural England's approach, a total of 51.4 km² or 1.4% of the SPA is subjected to displacement. Natural England's advice is that the effective loss of supporting habitat of 19km² is at a level where it is not possible to rule out AEol beyond reasonable scientific doubt.</p>	<p>The Applicants maintain that the assessment has demonstrated that the red-throated diver population of the SPA will not be affected by the proposed windfarms, either alone or in-combination with other windfarms, and that this conclusion has been reached when considering both the results of the detailed statistical modelling undertaken by the Applicants and the highly precautionary approach advised by Natural England.</p> <p>The Applicants therefore disagree that potential displacement due to the windfarms will result in an AEol and that this conclusion is robust and based on the application of evidence and appropriate scientific methods. NE concedes the Applicants' central point in its</p>

Applicants' Comments on NE's Deadline 8 Submissions

15th April 2021



ID	NE Comment	Applicants' Comments
		submissions that “ <i>the simple fact of an element of disturbance is not of itself enough to prove adverse effect on site integrity</i> ” (paragraph 9, REP7-070)



3 Applicants' Comments on NE Appendix B3b [REP8-161] – NE's Further Comments on the Draft Marine Mammal Mitigation Protocol [REP7-029, REP7-030] and In Principle Southern North Sea SAC Site Integrity Plan [REP7-031, REP7-032]

ID	NE Comment	Applicants' Comments
1	<p>1. Summary</p> <p>In Appendix B3 [REP4-090] submitted at Deadline 4, Natural England provided comments on Version 2 of the Draft Marine Mammal Mitigation Protocol (MMMP) [REP3-042] and the In-Principle Site Integrity Plan (SIP) for the Southern North Sea Special Area of Conservation (SAC) [REP3-044] submitted by the Applicant at Deadline 3. These comments are updated following Version 3 of the Draft MMMP [REP7-029, REP7-030] and In Principle SIP [REP7-031, REP7-032] submitted by the Applicant at Deadline 7.</p>	<p>The Applicants note that the SIP and MMMP were updated at Deadline 8 (REP8-032 and REP8-030 respectively) to remove reference to clustering.</p> <p>The SIP was also updated to include consideration of Temporary Threshold Shift (TTS) in Table 5.1 of the SIP following a request from the MMO/Cefas.</p>
2	<p>2. Marine Mammal Swimming Speed</p> <p>Natural England welcomes the change in Section 5.2.2 and Appendix 1 of the MMMP [REP7-029, REP7-030] where the cited swimming speed has reverted to 1.5m/s and text changed accordingly.</p>	<p>Noted</p>



ID	NE Comment	Applicants' Comments
3	<p>3. Mitigation Commitments</p> <p>Within Version 3 of the MMMP [REP7-029, REP7-030], Natural England welcomes the reference to Condition 27 of the Generation DML and Condition 23 of the Transmission 23, which secures the commitments. We note text has been removed describing the commitments.</p>	<p>The Applicants welcome this position. Note that the condition numbering was updated in the draft DCO submitted at Deadline 8 and these conditions are now Condition 28 of the Generation DML and Condition 24 of the Transmission DML.</p>
4	<p>4. Clustering of UXO Detonations</p> <p>Natural England notes that in Section 6.4 of the SIP [REP7-031, REP7-032] the Applicant has removed reference to a 5km cluster centre point. However, the Applicant still hasn't provided any evidence or justification for using clustering as a mitigation tool.</p> <p>Subsequent to Deadline 7, at the project update meeting held on the 11th March 2021 between Natural England and the Applicant, it was discussed that the Applicant would remove reference to clustering as a mitigation tool. At the time of this meeting no information had been provided regarding how clustering of UXO would work or a justification for the number of UXO that would constitute a cluster and over what distance they would be spread.</p> <p>However, if this information is provided post-consent through the appropriate variation process, Natural England would be content to consider it.</p> <p>On 25th March the Applicant advised some updated text for definition of detonation within the DML. It is noted that this wording allows some clustering, but only under a very specific scenario where two UXO's are discovered so close that any individual detonation is not possible. The wording provided ensures that such a detonation would need specific approval and that it could be expected that information to support this would be provided as part of the approval process. Natural England,</p>	<p>The Applicants note that the SIP and MMMP were updated at Deadline 8 to remove reference to clustering and to include a definition for UXO detonation (see ID 6 of section 8). It was agreed with the MMO and NE that it was not necessary to include a definition within the DMLs.</p> <p>The Applicants understand that the MMO and NE are now content with the condition wording and that this matter is resolved.</p>

Applicants' Comments on NE's Deadline 8 Submissions
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ID	NE Comment	Applicants' Comments
	therefore, considers this limited and controlled use of clustering acceptable.	



4 Applicants' Comments on NE Appendix C9 [REP8-162] – NE Comments to D6 and D7 Terrestrial Ecology Documents

ID	NE Comment	Applicants' Comments
Introduction		
1	<p>This document provides an update on Natural England's position and advice to the following documents submitted by the Applicant at Deadline 6 and Deadline 7 in relation to terrestrial ecology:</p> <ul style="list-style-type: none"> • Outline Code of Construction Practice Version 3 [REP6-003, REP6-004] and Version 4 [REP7-025, REP7-026]. • Outline Landscape and Ecological Management Strategy (OLEMS) Version 3 [REP6-007 and REP6-008]. • Outline Sandlings SPA Crossing Method Statement [Clean and Tracked REP6-036 to REP6-038]. • Outline Water Course Crossing Method Statement [Clean and Tracked REP6-041 and REP6-042]. <p>In addition, please refer to our comments in relation to terrestrial mitigation measures in Appendix F10 All Other Matters Update at Deadline 8.</p>	Noted.
1) Natural England's Further Comments to the Outline Code of Construction Practice Version 3 [REP6-003, REP6-004] and Version 4 [REP7-025, REP7-026]		
2	<p>1. Natural England notes that many of the construction methods statements included with the Outline Code of Construction Practice (CoCP) relate to our role and remit and therefore we require consultation on the finalised CoCP.</p> <p>2. However, as set out in our D8 Appendix G5, Natural England are not a named consultee. This should be rectified especially as it is not explicitly clear in the</p>	As detailed with section 1.2.1 of the Outline Code of Construction Practice (OCoCP) submitted at Deadline 8 (REP8-018), where management plans are applicable to works within the Sandlings Special Protection Area (SPA) or the Leiston – Aldeburgh Site of Special Scientific Interest (SSSI) the Applicants will consult with the



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	<p>CoCP that the relevant Statutory Named Consultation Body (SNCB) should be consulted.</p> <p>3. In addition please also see our comments to the Outline Landfall Construction Method Statement Version 2 [REP7-074] provided at Deadline 7 as our comments on minimising noise and vibration and not increasing environmental impacts are also relevant at Section 9.1.1.</p> <p>4. Finally, the contingency planning Section 15 is not what Natural England would expect in terms of managing potential construction issues. If there is a change from the CoCP, and what was assessed in the environmental statement [ES], then the contingency planning should allow for that to be efficiently be resolved.</p>	<p>relevant statutory nature conservation body (Natural England) during the preparation of the plan.</p> <p>Subsequent to further discussions with NE, the Applicants have agreed to update Section 1.2.1 of the OCoCP (REP8-018) to specifically list those plans which the Applicants will consult the relevant statutory nature conservation body during their preparation, and over what geographic area (i.e. Work Nos.) this consultation relates to (to include areas within the Sandlings SPA and Leiston-Aldeburgh SSSI and areas which could affect the Sandlings SPA and Leiston-Aldeburgh SSSI).</p> <p>The Applicants refer Natural England and the Examining Authority to their response to Natural England's Deadline 7 submissions relating to the Outline Landfall Construction Method Statement (REP7-074) within the Applicants' Comments on Natural England's Deadline 7 Submissions submitted at Deadline 8 (REP8-049).</p> <p>Section 15 of the OCoCP (REP8-017) deals with contingency planning and the final CoCP must accord with the OCoCP. Construction works must be undertaken in line with the approved CoCP. Where modifications to the CoCP are required, this will require subsequent approval from the relevant planning authority, most likely via an update to the relevant section of the approved CoCP.</p>



Para	Appendix C7 Natural England's Comments to the OLEMS Version 2 at Deadline 5 [REP5- 084]	Natural England's Further Comments to the OLEMS Version 3 at Deadline 8 [REP6-007 and REP6-008]	Applicants' Comments
<p>2) Natural England's Further Comments to the Outline Landscape and Ecological Management Strategy (OLEMS) Version 3 [REP6-007 and REP6-008]</p> <p>5. In our Deadline 5 Appendix C7 [REP5-084] we provided comments on the Outline Landscape and Ecological Management Strategy (OLEMS) version 2 document submitted at Deadline 3 [REP3-030 Clean and REP3-031 Tracked]. These comments are updated, as presented in Table 1 below, following review of Version 3 of the OLEMS [REP6-007 and REP6-008] submitted by the Applicant at Deadline 6.</p> <p>Table 1 Natural England's Further Comments to the OLEMS Version 3 [REP6-007 and REP6-008]</p>			Noted
11	Overall Natural England welcomes the additional text added to the Outline Landscape and Ecological Management Strategy (OLEMS), which provides greater clarity concerning the proposed mitigation and other matters raised by stakeholders. However, in our view the additional text is generally not in a form that would be legally binding i.e. words such as 'would' and 'could' are used in place of 'will'. Also, 'where possible' or 'where practicable' are added to statements, which lessens the commitment to carrying out the described action. We recommend that the document is revisited and wording amended to ensure that the document is legally robust.	We welcome the strengthening of the wording and therefore commitment to undertake consultation, monitoring, mitigation and ecological management as set out in the OLEMS and have no further comments on this point.	Noted.
12	We welcome the woodland retention, additional woodland planting and the proposed increased density of tree planting outlined in 45 (3.1.4) Amendments to the OLMP. However we are now aware that there is an area of deciduous woodland, which is Priority Habitat,	We note that Work No. 19 Woodland adjacent to the Hundred River is now included at para 156 of the OLEMS Version 3 [REP6- 007 and REP6-008] and that woodland will be replanted. However,	There is no contradiction between the content of the Outline Landscape and Ecological Management Strategy (OLEMS) (REP6-007) and the Outline



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	<p>adjacent to the Hundred river crossing (see comments in paras 7 and 8 above). Natural England is surprised this habitat has not been picked up during the phase one habitat survey, or included within the mitigation plans, and request that this habitat is assessed and added to all relevant documentation.</p>	<p>this is contradictory to [REP6-042 and REP6-043] the Outline (Hundred River) Watercourse Crossing statement as within that it specifies that the replacement of trees may not be possible due to impacts from roots. So, woodland is likely to be replaced with shrub and grassland. In addition to this, please see Paragraph 7 of Appendix C7 [REP5-085] where we raise concerns in relation to changes in ground conditions.</p>	<p>Watercourse Crossing Method Statement (REP6-041).</p> <p>Paragraph 154 to 156 of the OLEMS are as follows (emphasis added):</p> <p><i>“Where the reduced width onshore cable corridor crosses the woodland to the east and west of Aldeburgh Road, the Applicants will engage with the relevant planning authority post-consent to inform the micro-siting of the onshore cable route to avoid trees of particular importance where possible. At this location, the final LMP will set out the specific planting scheme to be adopted, including details on the planting extent and layout, species mix, management measures and objectives associated with the landscape planting in this area.</i></p> <p>Any woodland reinstated at the Hundred River will be subject to a ten year management period and will also be subject to the adaptive management provisions set out in Section 3.6 of this OLEMS.</p> <p><i>The Applicant will continue to engage with the Councils through the Examination, and where common ground on the landscape</i></p>



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			<p><i>planting proposals within the woodland east and west of Aldeburgh Road is reached, provide early details of the landscape design treatment at this location within a further update to this OLEMS".</i></p> <p>The OLEMS (REP8-019) sets out the approach to landscaping and reinstatement within the area around the Hundred River. Notwithstanding the constraints associated with planting directly over and within the immediate vicinity of buried cables (as set out within Section 3.5.10 of the OLEMS), the remaining area within the onshore cable route (i.e. beyond the immediate area of the buried cables) would be replanted. The reinstatement of woodland in this area will be dependent upon the micrositing of buried cables and the final landscaping proposal in this location will be agreed with the relevant planning authority.</p>
13	<p>Furthermore, in the recent response to Natural England's comments regarding hairy dragonfly, <i>Brachytron pratense</i>, a qualifying species of the Leiston-Aldeburgh SSSI, the habitat near and at the Hundred River crossing point was described as completely unsuitable for dragonfly larva. However, the wet woodland habitat described above in paragraphs 9</p>	<p>We note that paragraph 305 of the OLEMS version 3 [REP6-007 and REP6-008] submitted at Deadline 6 that hairy dragonfly is not going to be surveyed until post consent and subsequent mitigation will then be outlined if it is found to be present. Natural England advises in these</p>	<p>No evidence of suitable habitat to support significant populations of invertebrates was noted during the 2018 extended Phase 1 habitat survey (APP-503 and APP-504) or the subsequent 2019 update survey (REP6-035).</p>



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	and 10 is considered suitable and therefore we recommend that the Applicant carries out a further review of the likelihood of hairy dragonfly being affected by the proposed works.	situations it is advisable to assess the worst case scenario that hairy dragonfly is present and identify possible mitigation measures that could be adopted to demonstrate to the ExA that mitigation is possible which will give assurance to the decision making process.	In response to a submission by SEAS (REP5-108), the Applicants revisited the site of the Hundred River crossing on 15 th – 16 th February 2021. The findings of this site visit corroborated the conclusions within the ES, establishing that the existing habitat the is sub-optimal for hairy dragonfly given the flow of the river and the limited bankside species diversity (the habitat requirements for hairy dragonfly are clean, still water with lots of emergent vegetation comprising the species set out in section 3.2 of the Ecology Survey Results (REP6-035)). No emergent vegetation was identified during the 2021 survey and limited bankside vegetation (key species being bramble <i>Rubus spp.</i> , nettle <i>Urtica dioica</i> , teasel <i>Dipsacus</i> and perennial rye grass <i>Lolium perenne</i>) was recorded.
14	Natural England also note that hairy dragonfly have not been included within Section 7, the overview of pre-construction ecological surveys. Note that, particularly given the new information above concerning suitable habitat, the pre-construction survey of the whole onshore development area detailed in Paragraph 284 will need to include an assessment of the suitability of the habitat for hairy dragonfly.	Natural England notes that surveys of hairy dragonfly will be undertaken before construction, however please see point above.	The grazing field adjacent to the Hundred River crossing location had cattle present at the time of the February 2021 survey and key species noted comprised perennial rye grass, Yorkshire fog and open muddy areas. The hairy dragonfly is unlikely to be present due to the absence of its habitat requirements.



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			<p>Suitably qualified ecologists undertook this survey and whilst the Applicants' submission acknowledges the suboptimal time of year that the survey was undertaken, it was undertaken in direct response to the SEAS survey (REP5-108) undertaken in the same time of year.</p> <p>As for the whole of the onshore cable corridor, the Applicants have committed to undertake pre-construction surveys, and should the presence of invertebrates or suitable habitat for invertebrates be identified, appropriate mitigation measures (where required) will be implemented through the final Ecological Management Plan (EMP) secured under Requirement 21 of the draft DCO (document reference 3.1).</p> <p>As stated in the Outline Watercourse Crossing Method Statement (REP8-085) Natural England will be consulted on preparation of the final Watercourse Crossing Method Statement (secured under Requirement 22(2)(k) of the DCO) which will require approval by the relevant planning authority.</p>



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15	In Section 6.3.4.1, we note the further details provided on the mitigation to be provided for the Sandlings SPA birds. We expect this mitigation area to be available and used by the birds prior to construction. Surveying for five years, as detailed in the OLEMS, does not appear a sufficient length of time considering how long the mitigation is likely to take to become favourable for the birds when coupled with the full construction period. The Applicant will also need to survey post-construction to check that the birds are actually using the land. If the land is not being used, alternative mitigation will need to be provided. This mitigation will need to be secured within the DCO.	In relation to mitigation measures for Sandlings SPA please see Natural England's comments on the latest crossing statement [RE6-036] as our advice is also relevant for the OLEMS document.	See row 3a-3d below for responses to comments relating to the Sandlings SPA mitigation measures.
16	Habitats in the OLEMS are often described as being of 'low ecological value' e.g. in relation to the land around the substations. Note that Natural England consider that land of current low ecological value provides an excellent opportunity to provide enhancement to that land so that it becomes of greater ecological value. Therefore, rather than simply noting the land is of low ecological value, we expect the Applicant to be considering what can be done to improve it.	Natural England's previous advice. Natural England's previous advice in relation to seeking opportunities for Net Gain remain relevant	The Applicants have submitted an Ecological Enhancement Clarification Note Addendum at Deadline 8 (REP8-041), which reviews the proposed landscaping set out within the most up to date Outline Landscape Mitigation Plan and calculates the units of habitat lost and gained through delivery of the Projects. There will be notable opportunities for ecological enhancement which the Projects will seek to deliver and develop through the Landscape Management Plans and Ecological Management Plans, most notably at the ecological mitigation areas at Work



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			Nos. 12A, 14, 24, 28, 29 and also through landscaping and woodland planting at the substation site (Work No. 33).
17	3.5.13. Natural England agrees that it is important to replace Public Rights of Way (PRoW) during works and operation, and to ensure the new PRoW are in place prior to any construction taking place.	No further comment.	No further comment.
18	Table 5.1 – The timing of the seasonal restriction to avoid the bird breeding season may be based on the Ecological Clerk of Works records, but if the Applicant wants to start works early owing to this information, they will still need to consult Natural England.	Table 5.1 - there is no acknowledgement of our comment that further consultation with Natural England will be required should they wish to start early. Therefore we assume the Applicant doesn't consider this to be an issue.	The Applicants do not anticipate the need to undertake works within the seasonal restrictions specified within the OLEMS (REP8-019) and the Outline SPA Crossing Method Statement (REP6-036). The Applicants note that Natural England (as the SNCB) will be consulted during the approval of the EMP (and the Breeding Bird Protection Plan), in accordance with Requirement 21 of the draft DCO (document reference 3.1).
19	5.3.2. We welcome the change to a width of 16.1m where the cable route crosses important hedgerows.	No further comment on the working width update.	Noted.
20	We have noted the wording is an issue in the following areas i.e. where the text needs firming up from a legal standpoint: <ul style="list-style-type: none"> Paragraph 155: Landscaping 	Natural England notes the wording has been addressed to be legally robust and have no further comment.	Noted.



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	<ul style="list-style-type: none"> • Section 5.6.3.2: During Construction • Paragraph 222: Post Construction • Paragraph 232: Invasive Species Method Statement • Paragraph 250: Badgers • Paragraph 259: Bat surveys • Table 6.2 Embedded Mitigation Relating to Onshore Ornithology • Paragraph 333: Additional Mitigation - Pre-Construction • Paragraph 346: The Breeding Bird Protection Plan (BBPP_Section 9: Monitoring <p>Note that there may be other examples and therefore a full review of the document is necessary.</p>		
21	<p>242 – The document states that 'where possible, known setts will be avoided'. We consider that main setts are likely to be already known and therefore there should not be an issue in avoiding them during micro-siting of the cable route.</p>	<p>Natural England is concerned that at paragraph 254 (previously 242) the wording has been amended to state that rather than avoiding known badger setts through micrositing, the cable corridor these will actually be destroyed. With no further information included this issue is of major concern to Natural England.</p>	<p>Where possible the Applicants will seek to avoid known active badger setts. However, detailed design information is currently not known and therefore the worst-case scenario is that the known active badger sett (Sett 33b) along the onshore cable corridor will require removal.</p> <p>The Applicants have prepared and submitted a draft badger licence application to Natural England (which includes this requirement)</p>



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			for which discussions remain ongoing to obtain a Letter of No Impediment (LONI) for badgers.
22	5.7 – It appears that effects to farmland birds have not been considered in the OLEMS within the ornithology section, despite arable land within the application site. Natural England would welcome clarification within the OLEMS of whether any ground nesting birds (other than those associated with Sandlings SPA) such as skylark, for example, have been found during survey, and whether any mitigation is being provided for loss of farmland habitat in this context.	Natural England notes that farmland bird protection still has not been addressed in the OLEMS. Please note that the protection and/or provision for farmland birds may be part of landowners Agri – environment schemes and therefore the potential implications should be considered in the OLEMS document.	<p>All nesting birds will be protected as part of the Breeding Bird Protection Plan (secured under Requirement 21 of the draft DCO (document reference 3.1)), through a series of pre-construction nest checks by the Ecological Clerk of Works, which will determine whether any restrictions to or mitigation of construction activities are deemed necessary to allow breeding to continue.</p> <p>No other specific mitigation or habitat management is considered necessary in relation to potential effects on farmland birds, other than the management area for turtle dove committed to by the Applicants, which is also likely to benefit some other farmland species. Although during the construction phase some habitat may be unavailable to a small number of some relatively common species such as skylark, this would be temporary and short-term in nature as the period of reinstatement of arable or grassland after construction would be short, and similar to that of regular arable farming</p>



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			<p>cycles. No long-term, or population level effects would therefore occur to any species.</p> <p>As stated within Chapter 21 (APP-069) and shown on Figure 21.4 of the ES (APP-271), 38.9% (or 123.6ha) of the onshore development area is covered by an Entry Level with Higher Level Stewardship Scheme, with the majority of that stewardship scheme (120ha) covering the area of the Order limits east of the B1122 Aldeburgh Road. However, the total area of land affected by the Projects that is covered by an environmental stewardship scheme represents 0.164% of the resource within the county of Suffolk (72,177ha). The Applicants will consult with affected landowners to agree the necessary compensations and as such, Chapter 21 (APP-069) concludes the significance of impacts to land within Environmental Stewardship to be minor adverse. Given the readily available land covered by Environmental Stewardship outside of the Order limits which won't be affected by the Projects, the Applicants do not consider it necessary to provide reference to agri-environmental schemes</p>



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			within the OLEMS (REP8-019) as suggested by NE.
23	333 - Natural England consider that the text regarding avoidance of the bird breeding season needs to be more robust. Works need to avoid the bird breeding season, or works should cease in that area until such time as the birds have fledged. In our view 5m is very close to potential nests. We would welcome further explanation of why 5m is thought to be in this context.	Natural England notes that no further explanation of the 5m distance from nesting birds has been included. We would therefore welcome further consideration on this matter.	The Applicants note that the 5m buffer referred to is the minimum distance and the actual buffer distances surrounding a nest site would be species-specific and would be determined at the time by the Ecological Clerk of Works, based on the nature and duration of works that would take place nearby. Any species listed in Schedule 1 of the Act would be afforded enhanced protection from disturbance to adults, by appropriate mitigation measures as part of the Breeding Bird Protection Plan. This would also apply to non-Schedule 1 species that are qualifying interests of the Sandlings SPA or Leiston-Aldeburgh SSSI.
24	410 - Natural England should be added to the section regarding consultation.	Natural England still has not been named within this consultation paragraph (now paragraph 425) and should be added.	The OLEMS (REP8-019) state (emphasis added) " <i>that the final EMP prepared post-consent will be submitted to the relevant planning authority for approval in consultation with the statutory nature conservation body</i> in accordance with Requirement 21 of the draft DCO". Requirement 21 of the draft DCO (document reference 3.1) secures this. It is therefore



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			clear that Natural England will be a consultee on the final EMP.

Para	Appendix C7 Natural England's Updated Position and Advice on the SPA Crossing at Deadline 5 [REP5-084]	Natural England's Updated Comments and Advice Following Review of the SPA Crossing Method Statement Version 2 [REP6-036 - REP6-038]	Applicants' Comments
<p>3) Natural England's Further Comments and Advice on the Sandlings SPA Crossing Method Statement [REP6-036 - REP6-038]</p> <p>Table 2 Natural England's Position and Advice on the Sandlings SPA Crossing Method Statement</p> <p>6. In our Deadline 5 Appendix C7 [REP5-084] we provided an update to our position on the Sandlings special protection area (SPA) crossing. These comments are updated, as presented in Table 2 below, following review of Version 2 of the Outline SPA Crossing Method Statement [REP6-036 to REP6-038] submitted by the Applicant at Deadline 6.</p>			Noted
3	Therefore, Natural England would advise that an Adverse Effect on Integrity (AEol) of the Sandlings SPA is unlikely to occur from an open cut trench option; but as proposed there remains residual concerns. To address these concerns we advise that the following must be secured:	See responses to 3a, 3b, 3c and 3d.	See below for responses to 3a, 3b, 3c and 3d.
3a	There must be a requirement within Schedule 1 of the DCO which ensures that the proposed mitigation measures in the form of planting must be functioning as nesting habitats before any works can commence	Natural England notes at 2.11.2 Para. 71 that the mitigation will be 'established' prior to construction, but there remains no guarantee/confirmation that it is delivering the	Required mitigation, as described within Section 7.3.4 Targeted Management of the latest OLEMS submitted at Deadline 8 (REP8-019), relates specifically to nightingale



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	<p>within the boundary of the SPA. This will need to be reported to and signed off by the regulator in consultation with the relevant SNCB.</p> <p>Reason: As this this mitigation is fundamental and immutable to preventing an AEol we believe that it is imperative that it is has its own requirement and not part of other wider project plans, which implies a level of flexibility to the use of this mitigation. We consider that such a requirement, appropriately worded, would meet all five tests for a planning condition.</p>	<p>required mitigation. Natural England has provided some proposed wording for a requirement within Appendix K6.</p> <p>Therefore, our advice remains unchanged. The ExA and decision makers will need to be confident that there is a high likelihood of the birds using the mitigation areas to successfully remove an AEol should the Application progress.</p>	<p>and turtle dove which are features of the Leiston - Aldeburgh SSSI but not the Sandlings SPA. As presented in the Habitat Regulations Assessment - Information to Support Appropriate Assessment Report (APP-043), the two qualifying features of the Sandlings SPA (woodlark and nightjar) would not be subject to habitat loss, and the described mitigation areas are not applicable for these two SPA species. As such, the determination of AEol should not be based on the management relating to the mitigation areas.</p> <p>Work No. 12A is within the Sandlings SPA, and the proposed mitigation within this area (as set out within the Outline SPA Crossing Method Statement (REP6-036)), which would be suitably managed for a period of ten years from completion of the relevant construction period (except for the area identified as horse paddock, which would be subject to a 5-year management period), would, in combination with reinstatement of the Work No. 12 construction footprint, produce overall improved habitat for nightingale and other species compared to current conditions. Given that nightingale and</p>



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			<p>turtle dove have been known to use this part of the SPA in previous years, the Applicants see no reason why such bird species would not use the areas following the implementation of the proposed mitigation measures.</p> <p>See response to 3c for comments on establishment of mitigation.</p> <p>Regarding confidence in there being a high likelihood of the birds using the mitigation areas, whilst the Applicants can control how this mitigation habitat is prepared, it cannot control the extent to which avian species use this mitigation area. Such a requirement is therefore inappropriate and unacceptable to the Applicants.</p>
3b	<p>There needs to be agreement on what recovery of the SPA supporting habitats will look like. Also, monitoring will need to be undertaken and reports submitted to the regulator, in consultation with Natural England to confirm that recovery has occurred.</p> <p>Reason: Maintaining/Restoring supporting habitat is a conservation objective of the Sandlings SPA.</p>	<p>Natural England notes that what successful recovery looks like has been deferred to post consent. But we welcome the increased monitoring to help determine the recovery of the site and any restoration measures.</p>	<p>Noted.</p>



Para	Appendix C7 Natural England's Updated Position and Advice on the SPA Crossing at Deadline 5 [REP5-084]	Natural England's Updated Comments and Advice Following Review of the SPA Crossing Method Statement Version 2 [REP6-036 - REP6-038]	Applicants' Comments
3c	<p>We advise that vegetation should be planted, and where required managed, before, during and post completion of the works until full recovery is achieved. Which may mean that the 5 years as set out for this mitigation measure may not be appropriate. Therefore, there will need to be more flexibility than the 5 years currently committed to in the plan.</p> <p>Reason: Without flexibility in terms of duration and active management of the vegetation to maintain favourable heights, it is unlikely that the mitigation will fully negate the impacts.</p>	<p>Natural England notes that as with point 3a above the pre- construction element has not been progressed further by the Applicant. But we do welcome the extension of managing the mitigation areas (excluding the horse paddock) to 10 years rather than 5.</p>	<p>The comments relating to mitigation in Appendix K6 to the Natural England Deadline 8 Submission have been noted.</p> <p>The Applicants can confirm that no construction works within the Sandlings SPA would commence until the preparatory mitigation measures within Work No. 12A, as specified within version 2 of the Outline SPA Crossing Method Statement have been implemented. Preparation of the mitigation within proposed Work No.12A will occur during the non-breeding season in the calendar year prior to the SPA crossing works commencing and would be agreed with the relevant local planning authority in consultation with the relevant statutory nature conservation body.</p>
3d	<p>Considerable weight has been given in the Outline SPA Crossing Method Statement plan to the lower ecological value of the area to be impacted by the open trench. However, as a statutory undertaker and a Section 28G body under the Wildlife and Countryside Act 1981 (as amended), the Applicant has a duty to explore reinstatement options that would improve the habitat for interest features of the designated sites. Therefore, we advise that</p>	<p>Natural England notes that improvements to the ecological habitats have not been included in this document. Please see our feedback on the OLEMS [REP6- 007 and REP6-008] within this Appendix C9.</p>	<p>As noted above in response to comment 3a, no suitable habitat for the two Sandlings SPA qualifying features (woodlark and nightjar) would be affected by works, and it is more applicable to consider the species most likely to be affected (i.e. nightingale) for habitat reinstatement and management.</p>



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	<p>improvements to the habitats be included in the Outline SPA Crossing Method Statement plan with full details submitted prior to construction.</p> <p>Reason: Please be advised that in relation to enhancement measures we do not feel that the OLEMS are sufficiently detailed and/or binding to ally our concerns in relation to impacts to the SPA.</p>		<p>Section 2.10 of the Outline SPA Crossing Method Statement (REP6-036) contains a list of measures to reinstate areas disturbed by construction and to further promote the area for nightingales, which would be set out in the final Ecological Management Plan. Work No. 12A is within the Sandlings SPA, and the proposed mitigation within this area, which would be suitably managed for a period of ten years from completion of the relevant construction period (except for the area identified as horse paddock, which would be subject to a 5-year management period), would, in combination with reinstatement of the Work No. 12 construction footprint, produce overall improved habitat for nightingale and other species compared to current conditions.</p>

ID	NE Comment	Applicants' Comments
4) Natural England's Comments to the Outline Watercourse Crossing Method Statement Version 2 [REP6-042 and REP6-043].		
1	7. In Appendix C6 [REP4-092] we raised concerns about the crossing not assessing impacts to Sandlings SPA and Leiston-Aldeburgh SSSI. In Appendix	Across the ecological profession it is accepted that Phase 1 habitat surveys can be conducted all year round. However, the Applicants



ID	NE Comment	Applicants' Comments
	<p>C8 [REP7-073] we highlighted issues with the February 2021 ecological surveys [REP6-035] of the habitats adjacent to the SPA.</p>	<p>acknowledge that the optimum time to have undertaken the February 2021 survey would have been between April and September.</p> <p>Regardless, the Applicants would reiterate that the February 2021 survey had the primary aim of verifying the habitat classification assessment of the area already undertaken in April 2018. The survey was undertaken in response to information submitted to the Examinations by Suffolk Energy Action Solutions (SEAS) (REP5-108) suggesting that the habitat at this location should be considered wet woodland. The Applicants are not aware if Natural England has visited this location. The Applicants would note that the information submitted by SEAS to support its conclusion was obtained from a visit undertaken in January 2021. With this in mind, Natural England's assertion that the Applicants' survey did not follow standard best practice in relation to timing and ground conditions should certainly apply to SEAS' submission also.</p> <p>As stated in the Applicants' Ecology Survey Results (REP6-035), the limitations associated with the survey are acknowledged; however, the surveyors were still able to make a robust assessment using winter species identification guidance and professional expertise to confirm the site conditions noted at the time of the survey.</p> <p>The Applicants maintain that the woodland at the Hundred River crossing is semi-natural broadleaf woodland. This conclusion is supported by the independent site visit undertaken by the Councils, as confirmed verbally at Issue Specific Hearing 7 and subsequently by ESC in its written submission at Deadline 6 (REP6-075).</p> <p>The Applicants therefore request confirmation from Natural England that this matter is closed.</p>



ID	NE Comment	Applicants' Comments
2	8. In relation to the ecological surveys [REP6-035] our advice provided at Deadline 7 [REP- 073] remains unchanged and therefore we do not feel that reference to this survey provides the sufficient evidence in relation to the significance of the impacts to habitats and species located immediately adjacent to the crossing point.	The Applicants refer to their comments at ID1 in the row above within this table and to Section 4 of the Applicants' Comments on Natural England's Deadline 7 Submissions submitted at Deadline 8 (REP8-049).
3	9. However, Natural England welcomes the inclusion of the assessment of the potential impacts to designated sites further downstream in Appendix 5. And whilst we stress that the assessment to the designated site features should be kept separate due to the different legislation; we do agree with the conclusions that there is unlikely to be an AEoI of the Sandlings SPA and significant adverse effect on the notified features of the SSSI from the proposed crossing if carried out in strict accordance with the proposals.	The Applicants welcome NE's position on this matter.



5 Applicants' Comments on NE Appendix F10 [REP8-164] – NE's All Other Matters Update

ID	NE Comment	Applicants' Comments
Introduction		
1	<p>This document provides Natural England's comments following review of the following documents submitted by the Applicant at Deadline 7:</p> <ul style="list-style-type: none"> • Outline Offshore Operations and Maintenance Plan [REP7-027 and REP7-028] • Mitigation Measures Tracking List [REP7-040] 	Noted
1) Outline Offshore Operations and Maintenance Plan (OOMP) [REP7-027 and REP7-028]		
2	<p>As also stated in our covering letter and comments to the DCO in Appendix G5 at Deadline 8, Natural England does not support the use of new cable protection, or scour protection during the Operations and Maintenance (O&M) phase and therefore cannot agree to the OOMP until this issue is resolved.</p>	<p>The Applicants welcome NE's agreement on a without prejudice basis to the DML condition wording for operational cable and scour protection.</p> <p>The Applicants maintain their position that any new cable or scour protection installed at locations where it was not previously installed should be permitted for the first five years of the operational period.</p> <p>Regarding the outline OOMP, the Applicants do not consider that this should be updated to reflect that a separate marine licence should be required for the installation of cable or scour protection in areas where it was not installed previously prior to a period of five years post completion of construction having elapsed because the outline OOMP should reflect the draft DCO.</p> <p>The Applicants would be grateful if NE could consider agreeing to the outline OOMP on a 'without prejudice' basis as they have done for the condition wording given that the OOMP covers a variety of</p>



ID	NE Comment	Applicants' Comments
		matters and it is understood that it is only this aspect of the OOMP that is not agreed.
Mitigation Measures Tracking list		
3	Detailed Comments to the Mitigation Measures Tracking List [REP7-040] are provided in the table below.	The Applicants intend to update the Mitigation Measures tracking List at Deadline 12 and will address NE comments as appropriate.



Applicants' Comments on NE's Deadline 8 Submissions

15th April 2021

Document Reference	Natural England's Comment
1.5	The mitigation measures should be agreed in consultation with the relevant statutory Nature Conservation Body (SNCB) as well as with the Marine Management Organisation (MMO).
1.10	This should be amended to reflect the commitments at 1.13 and 1.14.
Page 8	Please note that monitoring is not mitigation unless it informs adaptive management.
3.10	The mitigation measures should be agreed in consultation with relevant SNCB.
5.10	The measures at 5.1-5.6 may provide some limited mitigation in relation to prey species. However, Natural England considers that the herring spawning restriction should have been referenced here as it provides better mitigation since it mitigates an impact during the spawning period of this prey species.
5.11	This section states that during Operations and Maintenance mitigation at 5.1-5.6 will reduce impacts to prey resource. However, the mitigation referenced is piling and UXO limitation to 1 per day during the winter period. As UXO and piling only occurs during construction Natural England cannot support this as during operations mitigation. Natural England is not requesting mitigation for prey during this period; however, the document is misleading as drafted.
Section 6, Offshore Ornithology	Natural England notes there is no mention of the mitigation to reduce the displacement impacts from EA1N by moving 2km further away from the OTE SPA.
16.36	The reference to avoiding known badger setts is at odds with the updated OLEMS [REP6-007, REP6-008]. Please see Natural England response at Deadline 8 Appendix C9.
16.39	Habitats should be fully reinstated (not just where practicable) and improved upon.
Section 17, Onshore Ornithology	Please see Natural England comments on the SPA crossing document Appendix C9 at Deadline 8.



6 Applicants' Comments on NE Appendix K8 [REP8-167] - NE Comments on the Report on implications for European Sites (REIS) [PD-033]

6.1 Offshore Ornithology

ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
1.	9	Likely Significant Effects -3.0.4	Both	<p>Following the Applicant submitting an updated 'Information to Support Appropriate Assessment Screening Matrices' [REP3-016] Natural England confirms we agree with the conclusions for sites where a likely significant effect (LSE) cannot be ruled out, either alone or in-combination with other plans or projects.</p>		No further comment
2.	16	Ornithological matters for which outstanding HRA concerns remain - Table 4.0	EA1N	<p>We confirm that Natural England advises that it cannot be excluded beyond reasonable scientific doubt that EA1N would have an adverse effect alone or in-combination on the integrity of the designated sites and their ornithological features shown in Table 4.0.</p> <p>However, for completeness Flamborough and Filey Coast (FFC) Special Protection Area (SPA) should list gannet for in-combination displacement and in-combination collision and displacement, as the Hornsea 3 (and Hornsea 4) uncertainty issues apply to these as well. We have flagged this in our previous responses [REP3-117 and REP7-071].</p>		<p>The Applicants note NE's final positions on each feature.</p> <p>The Applicants reiterate their position that none of the effects of the Project would lead to AEOI</p>



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
3.	16	Ornithological matters for which outstanding HRA concerns remain - Table 4.0	EA2	<p>We confirm that Natural England's advises that it cannot be excluded beyond reasonable scientific doubt that the EA2 would have an adverse effect in-combination on the integrity of the designated sites and their ornithological features shown in Table 4.0.</p> <p>However, for completeness FFC SPA should list gannet for in-combination displacement and in-combination collision and displacement, as the Hornsea 3 (and Hornsea 4) uncertainty issues apply to these as well. We have flagged this in our previous responses [REP3-117 and REP7-071].</p>		<p>The Applicants note NE's final positions on each feature.</p> <p>The Applicants reiterate their position that none of the effects of the Project would lead to AEOI.</p>
4.	16-17	AEOI - 4.2.7	EA2	<p>EA2 is 8.3km from the Outer Thames Estuary (OTE) SPA, and the Applicant's modelling results suggest that the turbines will be at a distance that no displacement effects of the array will result. Natural England cannot rule out the possibility of some displacement effects, based on the evidence from the London Array monitoring that affects may extend to 11.5km. We do accept that the area of SPA subjected to any displacement is likely to be relatively small, particularly compared to EA1N. Therefore, we accept that a case can be made that EA2 alone will not have an AEol on RTD of the OTE SPA.</p> <p>However, there is the potential for EA2 to contribute to the in-combination displacement AEol, and therefore</p>		<p>The Applicants welcome NE's acceptance that there is no AEOI on RTD of the OTE SPA from project alone effects of East Anglia TWO</p> <p>The Applicants have provided an assessment of the effects of East Anglia TWO in terms of both the Applicants' modelling and NE's precautionary approach in the updated version of the RTD Report (REP8-034) and the Applicants do not consider there to be a material contribution to any in-combination effect from East Anglia TWO.</p>



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
				EA2 should be included as part of the in-combination assessment.		
5.	17	RTD – Assessment of Displacement – Offshore Laying Activities - 4.2.10	EA2	The operations and maintenance (O&M) requirements for consented and operational windfarms (and other infrastructure) are expanding as more projects come forward. Therefore, the spatial and temporal level of vessel activity in and adjacent to the Outer Thames SPA is increasingly becoming a concern in relation to disturbance and/or displacement of red-throated divers from a more persistent presence of vessels. In this context of increasing vessel activity, we consider that a 'worst case scenario' of 110 days of cable installation during the period that red-throated diver are likely to be most sensitive (1st November to 1st March inclusive) could make a meaningful contribution to in-combination effects on the SPA. This gives further weight to the need for a seasonal restriction for cable installation.		<p>The Applicants response at deadline 1 and deadline 2 (captured in REP2-004) made the point that whilst the duration of export cable installation programme is relatively short, it does comprise a number of independent activities including any requirements for sand wave levelling, pre-lay grapnel run and placement of mattresses / cable protection over existing cables at crossing locations. Delays to any of these activities, for example, due to inclement weather, could result in cable installation not being completed within the summer period and works having to be stood down until the following summer. This would present a significant risk to completing the construction programme on time and meeting Contract for Difference (CfD) contractual milestones for delivery of first power. As a result of this risk, the Applicant cannot implement the mitigation suggested by Natural England for this short-duration and temporary potential impact.</p> <p>Furthermore, it should be noted that through the Best Practice Protocol for Minimising Disturbance to Red Throated Diver (REP8-</p>



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
						037), the Applicants have committed to re-routing other construction vessel traffic between the construction port and the windfarm site to avoid as much of the SPA as is possible through the core winter months of 1st November to 1st March inclusive.
6.	17	Vessel Traffic Associated with Site Maintenance - 4.2.11	EA2	Natural England notes that since the publication of this REIS that the Best Practice Protocol (BPP) has been updated and will be again at Deadline 8.		No further comment
7.	18	Proposed Array Area - 4.2.12	EA2	Natural England cannot rule out the possibility of some displacement effects on the SPA from EA2, based on the evidence from the London Array monitoring that affects may extend to 11.5km. We do accept that the area of SPA subjected to any displacement is likely to be relatively small, particularly compared to EA1N. Therefore, we accept that a case can be made that EA2 alone will not have an AEol on RTD of the OTE SPA. However, there is the potential for EA2 to contribute to the in-combination displacement AEol, and therefore EA2 should be included as part of the in-combination assessment.		See ID 4
8.	19	RTD – extent of displacement	EA2	As noted above, we agree there it is likely to be no AEol from EA2 alone.		It is correct to say that the effects of London Array are observed through monitoring.



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
		effects from the array (project-alone) - 4.2.14, 4.2.16, 4.2.19		NB: please note that the impacts from London Array are not 'predicted', as they have been observed through post construction monitoring and therefore are empirical evidence.		These do not show the very large percentages of displacement (near 100% within the windfarm) which are put forward by NE. Only 55% displacement is shown within the wind farm
9.	17	Outer Thames Estuary SPA Red-throated Diver - 4.2.9, and 4.2.10	EA1N	<p>We wish to highlight that the phrase "... (which NE calculates could affect up to 3.5% of the total OTE SPA area based on a 10km buffer)..." is in relation to area affected by the array, rather than the cable laying activities.</p> <p>Please be advised that the Best Practice Protocol (BPP) mitigation measures do not mitigate the impacts of the array itself. BPPs were developed to mitigate disturbance from vessels and helicopters transiting through red-throated diver SPAs. Please see point 5 in relation to seasonal restrictions for cable laying.</p>		No further comment
10.	20	RTD – extent of displacement effects from the array (project-alone) - 4.2.17	EA1N	In this section reference is made to the potential for birds in this region of the OTE SPA to be displaced and to suffer mortality. Para 4.2.17 states: "...the Applicant concludes that "available evidence suggests that the most likely result of displacement is that there will be little or no impact on adult survival...". However, this focuses on the potential implications of mortality		<p>The Applicants highlight the following text from the NE response</p> <p><i>Natural England's conclusion of AEoI from EA1N alone is based on the extent of supporting habitat within the SPA that will no longer be able to support the same numbers and distribution of birds in the absence of EA1N being constructed; in other words</i></p>



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
				<p>for one of the Conservation Objectives, which relates to the population of the qualifying features.</p> <p>As stated at para 23 and 25 of REP4-087, maintaining the population of divers is not the only Conservation Objective that needs to be met to secure the integrity of the SPA. Even if it were the case that no birds die as a result of displacement, an AEol on the Outer Thames Estuary SPA alone cannot be ruled out. Natural England's conclusion of AEol from EA1N alone is based on the extent of supporting habitat within the SPA that will no longer be able to support the same numbers and distribution of birds in the absence of EA1N being constructed; in other words impairing the ability of the SPA to support the feature for which it was classified. This conclusion is the same whether that is based on displacement effects extending to 7km as the Applicant's suggest from their modelling, or 11.5km as reported in the London Array post-construction monitoring.</p> <p>Therefore, a key issue in undertaking the Habitats Regulations Assessment is the need to consider the effective habitat loss, as well as mortality, for the conservation objectives of the SPA. The ecological</p>		<p><i>impairing the ability of the SPA to support the feature for which it was classified.</i></p> <p>The Applicants reiterate that the evidence from NE's own surveys (as reported in Irwin et al 2019⁴) show that the population is either stable or has increased in size since designation of the SPA.</p> <p>NE state that '<i>The ecological consequences of effectively reducing the area of SPA available to the red throated diver are not known</i>' however it is unclear to the Applicant what 'ecological consequences' means in this context.</p> <p>If it is assumed that the ultimate goal of a SPA is to maintain the populations for which it has been designated, it follows that an ecological change which does not translate into a population consequence is of low concern. It also follows that a decline in the population does not need to be attributed to an ecological change to be of high concern. Thus, the key consideration is whether or not the population is affected, and the uncertainty around</p>

⁴ IRWIN, C., SCOTT, M., S., HUMPHRIES, G. & WEBB, A. 2019. HiDef report to Natural England - Digital video aerial surveys of red-throated diver in the Outer Thames Estuary Special Protection Area 2018. Natural England Commissioned Reports, Number 260.



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
				<p>consequences of effectively reducing the area of SPA available to the red throated diver are not known.</p> <p>UPDATE: The submissions made by the Applicant at Deadline 6 on RTD modelling [REP6- 019] did not provide any substantive response to our concerns raised, and do not change our advice that there is likely to be an AEol alone. The Applicant's response to Natural England's legal submission [REP6-020] has only highlighted the issue of effective habitat loss for RTD. Please see our Deadline 8 Appendix A20 response on [REP7-070].</p>		<p>ecological consequences raised by NE should not be the focus.</p> <p>The red-throated diver population has not declined during the period that windfarms have been constructed within the SPA, a fact not in dispute. Thus, irrespective of the displacement itself, the most important ecological consequence (the status of the population) has not been affected. The Applicant does not therefore agree that the SPA is currently unable to support the same number of birds for which it was designated (indeed it appears to support considerably more), and this situation will not change due to construction of the Projects.</p>
11.	20-21	Red throated diver – assessment of displacement (in-combination) - 4.2.19	Both	Natural England notes that the Applicant has now included projects that were excluded from their earlier assessments for 'illustrative purposes'. As stated in REP4-089, Natural England advises that these existing windfarms should be included as critical context for in- combination integrity judgements and not just for illustrative purposes.		The Applicant has provided the in-combination figures for the projects requested by NE in terms of both the Applicants' modelling and NE's precautionary approach.
12.	21	Red throated diver	Both	Natural England advises that the in-combination assessment should not be based on assumptions from the Applicant's modelling. Of particular concern for an		The Applicant has provided the in-combination figures for the projects requested by NE in terms of both the Applicants' modelling and



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
		– assessment of displacement (in-combination)- 4.2.20		in-combination assessment, which includes those offshore wind farms within the SPA, is the figure used to estimate the 'within windfarm' displacement. The figure of 33% for 'within windfarm' displacement used by the Applicant in its assessment (REP3 -049 and subsequent revisions) is contrary to every empirical study, all of which indicate a much higher level of displacement within the windfarm area. This significantly undermines the basis of the Applicant's conclusions.		NE's precautionary approach. The Applicants' conclusion of no AEol is reached using both approaches.
13.	21	Red throated diver – assessment of displacement (in-combination) - 4.4.22	Both	<p>Natural England strongly advises that the in-combination assessment is based on a range of displacement scenarios. For 'within windfarm' displacement we advise that this range goes up to 100 % within the windfarm footprint, to reflect the strong evidence base for high levels of displacement within the windfarm itself. A gradient of displacement values out to 11.5km, decreasing with distance from the windfarm, should then be presented. The percentages used in this gradient should again be a range, due to the level of uncertainty on precise values. We advise that the figures presented in the London Array final year post construction monitoring 2020 report are included within that range.</p> <p>We advise that the SoS cannot rely on the assessment provided by the Applicant, as this is likely to be a significant under estimate of the levels of displacement</p>		The Applicant has provided the in-combination figures for the projects requested by NE in terms of both the Applicants' modelling and NE's precautionary approach. Therefore, the decision maker has the range of results requested by NE, the London Array results sit within this range, there is no reason to present these separately.



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
				with the OTE SPA. This is particularly the case with respect to the use of 33% for 'within windfarm' displacement, as the evidence from multiple studies indicates that this can be 80-100%.		
14.	21	RTD Displacement implication for OTE SPA conservation objectives - 4.2.24	Both	Natural England have considered the Applicant's legal submissions [REP6-020] in respect of the conservation objectives. We responded to these in REP7-070 and note that there is agreement that consideration of AEol of the SPA should start with the conservation objectives for the SPA. We note that three of those objectives are engaged by issues of effective habitat loss. It is right to say that the test of what amounts to an AEol should be broad and not mechanistic, and that the simple fact of an element of disturbance is not of itself enough to prove AEol.		NE state that three of the conservation objectives relate to habitat loss, however as pointed out by the Applicants in REP5-015, references to habitat derive from an aim to avoid 'affecting the long-term viability of the population' through impacts on the habitat, rather than to specifically safeguard the habitat in its own right. The habitat is not designated – the population of red-throated diver is. NE concedes the Applicants' central point in its submissions that " <i>the simple fact of an element of disturbance is not of itself enough to prove adverse effect on site integrity</i> ". Thereafter, however, the NE reply is silent as to any further submissions as to what does actually amount to an adverse effect on site integrity.
15.	21	RTD displacement implication for OTE SPA conservation	Both	The Appropriate Assessment needs to have regard for consideration all the conservation objectives, and not to focus solely on the population objective as the Applicant does.		The Applicants' position on the conservation objectives was stated in ISH14 and the full position is set out in Appendix 1 of REP8-093



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
		objectives – 4.2.27 and 4.2.30		<p>The Defra guidance on HRA (February 2021) states that one of the principles for HRA is to:</p> <ul style="list-style-type: none"> • understand the conservation objectives for the relevant European site affected - these describe the ecological reasons for its protection. • All conservation objectives follow the same format: • Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring; • The extent and distribution of the habitats of the qualifying features • The structure and function of the habitats of the qualifying features • The supporting processes on which the habitats of the qualifying features rely • The population of each of the qualifying features, and, • The distribution of the qualifying features within the site. <p>There is no hierarchy of objectives, and it is not the case that they are focussed on population. All the</p>		and the Applicants Written Summary of Oral Case Issue Specific Hearing 14 (REP8-099).



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
				attributes contributing to site integrity in the conservation objectives carry equal weight.		
16.	22	Red-throated Diver – mitigation 4.2.31	EA2	The 'Best Practice Protocol (BPP) for minimising disturbance to Red-Throated Diver' does provide mitigation for the temporary effects of vessels and helicopters transiting the SPA by reducing the number of movements and disturbance episodes		No further comment
17.	22	Red-throated diver – mitigation - 4.2.30	EA1N	There has been no change in Natural England's advice that the buffer between EA1N and the OTE SPA boundary should be at least 10km in order to avoid AEol.		The Applicants maintain that, for the reasons set out in the Offshore Commitments document (REP3-073) and repeated in the Derogation Case (REP8-088) an increased buffer would undermine the viability of the Project.
18.	23	Red-throated diver – mitigation - 4.2.31	EA1N	Please see points 5 and 9 above. In addition, as stated in REP7-071 Natural England's continued advice is that a relevant mitigation measure to avoid an AEol on the OTE SPA could be provided by increasing the buffer between the SPA boundary and EA1N, i.e. in the form of a smaller array. This could be considered as a suitable project-level 'alternative solution', as set out in the EEC Article 6.4 Derogations guidance.		The Applicant considered the application of buffers of greater than 2km and concluded that due to the relatively small area of the windfarm site, existing and known future constraints in addition to unknown future constraints such as archaeology and <i>Sabellaria spinulosa</i> reefs, a further reduction in the area of the windfarm site would prevent the Project from maintaining target capacity. This would reduce the ability to meet project



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
						<p>objective ID4⁵ as it would reduce the Project's contribution to the 2030 target.</p> <p>The UK needs the maximum size of projects to be constructed. Any reduction in project capacity will reduce the chance of meeting this target. Changes that affect the Project's costs risk the delivery of low cost generation for the benefit of UK electricity consumers under project objective ID2⁶.</p>
19.	23	Flamborough and Filey Coast (FFC) SPA – auks (guillemot and razorbill) and seabird assemblage - 4.2.34	Both	Natural England's advice at the end of the Norfolk Boreas Examination, remains unchanged, i.e. an AEOI could not 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 Project Three and Hornsea Project Four projects are included in the in-combination totals [REP3-116].		<p>The Applicants note NE's final positions on each feature.</p> <p>The Applicants reiterate their position that the in-combination effects would not lead to AEOI</p>
20.	25	Assessment of Collision Risk (in-combination)-	Both	Natural England agrees with the text here and has no further comments to make under this section.		No further comment

⁵ ID4 - To deliver a significant volume of offshore wind energy in the 2020s to support the urgent need to achieve 40GW of offshore wind energy by 2030 in line with UK Government policy

⁶ ID2 - To export electricity to the UK National Grid to support UK commitments for offshore wind generation, contribute to security of supply and deliver low cost generation for the benefit of UK electricity consumers



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
		4.2.43, table 4.2				
21.	31	Alde-Ore Estuary SPA and Ramsar – Lesser black-backed gull 4.2.78	Both	Natural England's conclusion in relation to the in-combination effects on lesser black- backed gull (LBBG) from the Alde-Ore Estuary SPA/Ramsar is not dependent on the consideration of Hornsea 3 and 4 figures, as no LBBGs were apportioned to the Alde-Ore Estuary SPA at Hornsea 3 and in the Hornsea 4 PEIR. Natural England agrees with zero apportioning for these projects on SPA LBBGs. Therefore, our advice is that an AEol in- combination cannot be ruled out <i>irrespective</i> of whether Hornsea 3 and 4 are included or excluded.		No further comment, the Applicants also highlighted this point to the ExA
22.	32	Offshore Ornithology – post- consent monitoring -4.2.84	Both	We acknowledge that that only submissions up to Deadline 5 were included in the REIS, however Natural England is satisfied that the revised IPMPs [REP6-015] have addressed NE's previous comments, subject to any compensation measures being appropriately monitored to inform adaptive management.		The Applicants welcome NE's comment.
23.	43	Alternatives and IROPI - 5.0.6	EA1N	Please see REP7-71. Natural England's continued advice is that mitigation to avoid an AEol could be achieved by increasing the buffer between the Outer Thames Estuary SPA boundary and EA1N, and that this could be considered as a suitable 'Alternative' under the Article 6.4 Derogations guidance. Therefore,		See ID 17 and 18



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
				whether EA1N should progress to the subsequent derogations (IROPI and compensation) is a matter for the ExA and SoS to determine. However, given NE's advice is that the proposed compensatory measures for red throated diver are not fit for purpose, and acknowledging that it will be difficult to secure the required level of compensation due to the nature of the impacts, we believe that a focus on mitigation is more appropriate.		
24.	44	Compensatory Measures - 6.0.2	Both	<p>Natural England has provided a response to Offshore Ornithology Compensation and Derogation documents at Deadline 7 [REP7-071]. Natural England and the Applicant discussed in principle compensation measures at a workshop on 10th March 2021. The Applicant's committed to submitting further details at Deadline 8. For kittiwake from the</p> <p>FFC SPA and LBBG from the Alde-Ore Estuary SPA this focused on providing more detail on how compensatory measures may be delivered where this project is contributing a small proportion to a larger in-combination total, and where other developers are planning/proposing to provide the same compensation measures.</p> <p>Natural England have provided comments on the Compensatory Measures provided by the Applicant at Deadline 6 in REP7-071.</p>		The <i>Offshore Ornithology Without Prejudice Compensation Measures</i> (REP8-090) was updated following discussions with NE and Defra.



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
25.	44	Compensatory Measures - 6.0.2	EA1N	For RTD at the OTE SPA Natural England do not accept the proposed measures of managing vessel traffic as compensation for displacement from the array. This is because the conclusion of AEoI is based on displacement effect from the presence of turbines, without considering vessel movements. Managing vessel traffic would only be minimising a separate impact of the project, rather than providing any benefit. In that context it should also be noted that the management of vessel traffic is already considered in the Best Practice Protocol, and so should be seen as best practice mitigation for vessel movements rather than compensation. Natural England's advice is that vessel management does not offset the displacement impact from the turbines, and as a result these proposals do not constitute compensatory measures.		<p>The Applicants have two proposals to minimise vessel traffic.</p> <p>The first, as outlined in the Best Practice Protocol (REF) for the Projects is mitigation for those Projects and is not a part of the proposed compensation.</p> <p>The second proposal is to extend the measures proposed for the Projects to East Anglia THREE. This goes above and beyond existing commitments for that project and it is this action only which is being presented as compensation.</p> <p>There are two aspects to the predicted effect of the windfarms and how these could be compensated that need to be considered. Does the proposed compensation target the predicted impact, and will it deliver an equivalent positive magnitude effect to offset the predicted negative effect?</p> <p>The predicted impact is displacement of red-throated divers from areas of the SPA in which they are currently present.</p> <p>The proposed compensation would reduce vessel disturbance within the SPA and thereby would reduce displacement from</p>



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
						<p>those areas. Therefore, the compensation does address the predicted effect.</p> <p>It is acknowledged that the proposed compensation is different from the predicted effect, being delivered via reduced vessel disturbance which is intended to offset avoidance of static turbines. However, while on first review equating vessel disturbance to turbine avoidance appears not to be well balanced, a maximum of 4,052 vessel movements per annum, or approximately 11 movements per day are predicted for East Anglia THREE during the operation and maintenance phase. Therefore, the vessel routeing measure would reduce a fairly consistent temporary pressure. On this basis reducing vessel disturbance will have a much greater positive effect than might at first be assumed. When this is coupled with the proportion of overall vessel traffic in the SPA which this represents (c. 5%) it is apparent that the proposed measures will in fact deliver meaningful compensation.</p>
26.	47	Summary - 7.0.8	EA1N	Whilst the summary is largely an accurate one, we suggest that the displacement issues around guillemot and razorbill from the FFC SPA and red throated diver from the OTE SPA are not considered in the same		No further comment



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
				point. For guillemot and razorbill at FFC SPA, the methods of assessing displacement impacts on the SPA have been agreed between Natural England and the Applicant. The only issue for the FFC SPA is that if totals from Hornsea 3 and 4 are included an AEol in-combination cannot be ruled out, due to the uncertainty in the figures for these projects. Similarly, for gannet at FFC SPA, the reason why an AEol on the combined displacement and collision in-combination totals cannot be ruled out is due to the uncertainty in the Hornsea 3 and Hornsea 4 figures.		
27.	47	Summary - 7.0.8	EA1N	In contrast, NE disagrees with the methods used to assess impacts on the RTD features of the SPA. For example, NE do not accept a 33% value for 'within windfarm' displacement, as empirical evidence from the same SPA reveals that this would significantly underestimate the in-combination levels of displacement. However, even using the Applicant's approach, an AEol alone cannot be ruled out on the basis that between 0.5% and 1.4% of the SPA would be subjected to effective habitat loss. Therefore, we do believe the summary suitably reflects the significance of the impacts and/or the level of disagreement between Natural England and the Applicant. Natural England considers that the proximity of EA1N to the SPA represents a significant ecological risk.		<p>The Applicants reiterate the points made on ecological consequence from the Displacement of Red-throated Divers in the Outer Thames Estuary SPA (section 3, REP8-160). NE has provided no evidence of ecological consequence, in their latest submission (REP8-160) they state:</p> <p><i>Natural England's advice is that the ecological consequences resulting from further effective habitat loss due to the displacement effects from the proposed turbines is not fully understood</i></p> <p>The Applicants consider that this is inadequate. The Applicants note that the typical lifespan of red throated-divers is around 8 years and the operational windfarms</p>



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
						<p>have been present since 2005 so adverse effects would have begun showing up in the 2018 surveys (Irwin et al, 2019) (e.g. through reduced numbers of birds) but in fact they show the highest population estimates to date.</p> <p>The Applicants contend that, at a minimum, the maintenance of the population at current size (if assumed that the original visual aerial surveys missed two-thirds of birds) or increased by up to three times (if assumed that the original visual aerial surveys recorded all birds present) indicates the SPA is in favourable status. Indeed, it is unclear on what basis this could reach the alternative conclusion (i.e. unfavourable status) given the positive population trend (or maintenance thereof).</p> <p>The Applicants highlight that the winter (nonbreeding) population in the EU has been increasing over the recent short-term, but the trend is unknown over the long term due to a lack of historical survey data (EU 2021). Overall, the threat to red-throated divers in the EU is categorized as "least concern" and the population status is defined as Green "Secure".</p>



ID	Pg	Section	EA1N EA2 Both	NE Comments	RAG Status	Applicants' response
						The Applicants note that NE concedes the Applicants' central point in its submissions that " <i>the simple fact of an element of disturbance is not of itself enough to prove adverse effect on site integrity</i> ", but they do not point to any evidence of the disturbance having a consequence.

6.2 Marine Mammals

ID	Pg	Section	EA1N EA2 Both	Natural England Comments	RAG Status	Applicants' Response
1.	33	MMMP and SIP Measures - 4.3.4	Both	The SNCB noise management guidance thresholds are 20% over of the relevant area of the site in any given day, not season as stated here.		The Applicants concur with NE
2.	66	Stage 2, matrix 7 - SNS SAC (alone) –	Both	Natural England is satisfied that there will be no adverse effect on integrity of the SNS SAC from the project alone.		The Applicants welcome NE's position



ID	Pg	Section	EA1N EA2 Both	Natural England Comments	RAG Status	Applicants' Response
3.	67	Stage 2, matrix 8 - SNS SAC (in-combo), 5.0.8 AND 7.0.11	Both	We note that the Applicant has agreed to have the commitments included as conditions on the DML. However, Natural England cannot exclude adverse effect on integrity of the SNS SAC until a mechanism is in place to manage multiple SIPs (as per our Relevant Representation). Therefore, this is considered to be a Regulator issue, rather than a project-specific one. The correct mechanism should mitigate in-combination impacts such that further compensatory measures are not required.		The Applicants reiterate that this is a question for the MMO but that the MMO are satisfied that the SIP provides the appropriate mechanism for management of underwater noise issues with regard to potential adverse effect on integrity of the SNS SAC.

6.3 All Other Matters

ID	Pg	Section	EA1N EA2 Both	Natural England Comments	RAG status	Applicants' Response
1.	38	Effects on Onshore Ornithology/ Terrestrial Ecology - 4.4.6	Both	Please be advised that the Local Planning Authority (LPA) concerns re disturbance are in regard to human receptors and not disturbance to designated site features.		The Applicants concur with NE and highlight that this is part of the consideration of the wider planning balance.
2.	48	Summary - 7.0.12	Both	Please be advised that Natural England believes that impacts to Sanderlings SPA can be mitigated, negating the requirement for compensation.		The Applicants welcome NE's position



7 Applicants' Comments on NE Appendix E4 [REP8-169] – NE Comments to the Applicants 'Think Piece' [REP6-049]

ID	NE Comment	Applicants' Comments
Introduction		
1	<p>1. At the request of the Examining Authority following Issue Specific Hearing (ISH) 8 held on the 18th February, the Applicant provided a 'think piece' [REP6-049] in relation to Action Points 1, 2 and 5. The 'think piece' set out the Applicant's position regarding the effects of Rampion Offshore Windfarm on the South Downs National Park (SDNP) and Sussex Heritage Coast and potential effects of Navitus Bay Offshore Windfarm on the Dorset Area of Outstanding Natural Beauty (AONB), Isle of Wight AONB and Purbeck and Tennyson Heritage Coasts.</p> <p>2. This document provides Natural England's comments on the Applicants 'think piece' [REP6-049].</p>	<p>The Applicant notes Natural England's comments on the Applicants 'think piece' [REP6-049] and provides comments as follows.</p>
Summary		
2	<p>As we set out in our comments at Deadline 6 [REP6-114], Natural England advises that it is unhelpful to make like for like comparisons between Rampion and EA2 and by association between the SDNP and Suffolk Coast and Heaths Area of Outstanding Natural Beauty (SCHAONB). As set out in this document, the visual relationship between Rampion / SDNP and EA2 / SCHAONB is fundamentally very different. Consequently, the manner and extent of the significant adverse effect on the statutory purpose of each designation is different and unique. For the same reason Natural England also advises that no comparison can be made between Navitus Bay Wind</p>	<p>The Applicants considers that the 'Think Piece' provides useful information on other projects and proposals that have impacted protected landscapes. While acknowledging some of the limitations of comparison between projects influencing different receiving environments, the Applicants consider they are useful precedents to provide a range of parameters to which the ExA should give consideration, in line with the suggestion in NPS-EN1 paragraph 5.9.19 that "<i>applicants draw attention... to any examples of existing permitted infrastructure... with a similar magnitude of sensitive receptors</i>", in order to frame the ExAs consideration of effects on the SCHAONB.</p>



ID	NE Comment	Applicants' Comments
	Park / New Forest National Park, Dorset AONB Isle of Wight AONB and EA2 SCHAONB.	
3	<p>Comments</p> <p>1. At paragraph 9 the Applicant states that the Rampion array is 14km away from the SDNP/Sussex Heritage Coast. This is incorrect. As the Applicant correctly states, at paragraph 32, the Sussex Heritage Coast is 22.1km from the array.</p>	<p>The Applicant notes Rampion is located approximately 14.4km from the South Downs National Park (at its closest point) (as stated in para 28 of the 'think piece') and 23.3km from the SDNP in the area coincident with the Sussex Heritage Coast (as noted at para 32 of the 'think piece'). The Applicant agrees that the Sussex Heritage Coast is 22.1km from the array (also noted at para 32 of the 'think piece').</p>
4	<p>2. At paragraph 11 the Applicant states that National Parks have a higher level of protection than Areas of Outstanding Natural Beauty (AONB). This is incorrect. The level of protection for National Parks and AONBs is the same as both National Planning Policy and primary legislation make clear. The primary statutory purpose of both National Parks and AONBs is the '<i>conserving and enhancing of natural beauty</i>'. At paragraph 5.9.9 EN-1 states that '<i>National Parks, the Broads and AONBs have been confirmed by the Government as having the highest status of protection in relation to landscape and scenic beauty</i>'. At no point does this or any other paragraph in National Planning Policy state that this status is higher in National Parks than it is in AONBs.</p>	<p>It is accepted by the Applicant that the protection given to Conserving and Enhancing the Natural Beauty is the same for both National Parks and AONBs, as stated by Natural England in their comments, but the applicant's reference in the paragraph related to the wider remit and additional statutory purpose of National Parks. The statutory purposes of National Parks are set out s5 of the National Parks and Access to the Countryside Act 1949 (as amended) and are follows:</p> <p><i>"(1)The provisions of this Part of this Act shall have effect for the purpose—</i></p> <p><i>(a) of conserving and enhancing the natural beauty, wildlife and cultural heritage of the areas specified in the next following subsection; and</i></p> <p><i>(b) of promoting opportunities for the understanding and enjoyment of the special qualities of those areas by the public."</i></p> <p>The purposes not only include Natural Beauty but also Wildlife and Cultural Heritage and "Promoting Opportunities for the Understanding and Enjoyment of the Special Qualities of those areas by the public". Recreation and access to the countryside to enjoy the qualities of parks has therefore been promoted within our National Parks in line with these purposes.</p>



ID	NE Comment	Applicants' Comments
		<p>The statutory purpose of AONBs is set out in Section 82(1) of the Countryside and Rights of Way Act 2000 England as:</p> <p><i>(1)Where it appears to Natural England that an area which is in England but not in a National Park is of such outstanding natural beauty that it is desirable that the provisions of this Part relating to areas designated under this section should apply to it, Natural England may, for the purpose of conserving and enhancing the natural beauty of the area, by order designate the area for the purposes of this Part as an area of outstanding natural beauty.</i></p> <p>Therefore, (aside from the policy protections), the statutory duty to have regard to the purposes of an AONB does not include any duty to have regard to any purpose of “<i>promoting opportunities for the understanding and enjoyment of the special qualities of those areas by the public</i>”, as would apply in the context of a National Park, and therefore in this sense AONBs do not enjoy the same extent of protection as do National Parks.</p> <p>The NPPF 2019 is also informative with regard to the additional weight to be given to aspects of the protection of National Parks where it states (Paragraph 172):</p> <p><i>172. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads</i></p> <p>The NPPF makes it clear that in addition to the great weight to be given to Conserving the Natural Beauty, National Parks also attract great weight in relation to additional matters with respect to the conservation and enhancement of wildlife and cultural heritage, which it does not direct to</p>



ID	NE Comment	Applicants' Comments
		<p>AONB. The NPPF specifically states that great weight should be given to conserving and enhancing the natural beauty of AONB but not in any other regard.</p> <p>The point is relevant largely because the consented Rampion Offshore Windfarm is an example not simply of consented infrastructure which has a similar level of impact (to which applicants are encouraged to draw attention in NPS EN1 para 5.9.19), but in fact, of consented infrastructure with greater impacts. . It is the further functions and purposes of National Parks that also need to be given great weight in any planning balance that was the reason for the statement made in the Applicants' report, as Rampion was tested against these wider purposes.</p>
5	<p>3. At paragraph 13 we note that the Applicant considers the apparent height of the Rampion turbines will be <i>'highly comparable to those proposed for EA2'</i> when viewed from SDNP in the vicinity of Rottingdean. However, Natural England reminds the ExA that the mitigation measures, the 'Exclusion Zone' and Design Principals, contained within the Rampion DCO were never intended to provide benefit for this location. These measures and principals were aimed at key locations within the SDNP and Sussex Heritage Coast; Beachy Head, Birling Gap and Cuckmere Beach (see paragraphs 43 and 64). The portion of the SDNP located near Rottingdean is outside of the Sussex Heritage Coast. From Beachy Head, Birling Gap and Cuckmere Beach the apparent height of the Rampion turbines is considerably less than that calculated for EA2 at the (equally) key locations on the coastline of Suffolk Coast and Heath AONB (SCHAONB) and the Suffolk Heritage Coast.</p>	<p>The Applicants note that this comparison of apparent height is stated in para 13 as applying to the closest parts of the coast i.e. the SDNP coastline near Rottingdean, which is approximately 14.4km from Rampion. The Applicants have calculated the apparent height/vertical angle from the three viewpoints referred to in the SDNP/Sussex Heritage Coast as follows: Beachy Head (0.19°); Birling Gap (0.23°) and Cuckmere Beach (0.27°) to allow the ExA to consider the comparison to the vertical angle/apparent heights of East Anglia TWO from the coastline of the SCHAONB.</p>
6	<p>4. In Table 1 the Applicant states, under 'Geographical Relationship with Designated Landscape', that both the Rampion array and EA2 project</p>	<p>The Applicants would refer the ExA to the Secretary of State's Decision Letter for Navitus Bay, which notes at paragraph 18 that</p>



ID	NE Comment	Applicants' Comments
	<p>are orientated 'parallel to the coast'. Whilst there is some commonality in the way these two designations align to the coast this summary omits the following key information;</p> <ul style="list-style-type: none"> i. the coastline of the SDNP extends to 18.1km. The coastline of the SCHAONB extends to over 70km. ii. the SCHAONB is predominately a coastal landscape, the landscape of the SDNP is not. Consequently, the natural beauty is expressed very differently in the SCHAONB than it is in the SDNP. iii. the SCHAONB is orientated to the coastline, from Rottingdean the SDNP steady divagates away from the coastline in a north-westerly direction. iv. the coastline of the SCHAONB contains few settlements (Southwold, Thorpeness, Aldeburgh) the intervening, non-designated coastal strip between the non-coastal portion of the SDNP and the sea includes the urban settlements of Newhaven, Peacehaven, Saltdean, Rottingdean, Brighton, Hove, Portslade-by-Sea, Shoreham, Lancing, Worthing, Rustington, Littlehampton, Middleton on Sea and Bognor Regis. See paragraph 49 and the reference to 'intervening landscape influences'. v. views out to sea from the non-coastal portions of the SDNP also take in the above urban area views out to sea, but this only happens intermittently for SCHAONB. 	<p><i>'The ExA decided that the two wind farms (Navitus Bay and Rampion) were not comparable as <u>Rampion's location was set against a section of the coast which, while under a national landscape designation, ran parallel to the wind farm</u> and not, as at Navitus, at the apex of a sector which had as its circumference the Dorset and Isle of Wight coastlines. The Secretary of State agrees with the ExA's conclusion in this matter for both the Application development and the TAMO'.</i></p> <ul style="list-style-type: none"> i. The Applicant notes that while the coastline of the SDNP is shorter than that of the SCHAONB, Rampion was assessed as having significant effects over the majority of the SDNP coastline (14.7km of its 18.1km coastline). The Applicant would also highlight, as noted at para 37 of the 'think piece', that there is an extensive and wider area of open south facing downs of the SDNP that extend across the inland backdrop that afford open views across the coastal plain to Rampion and its associative seascape setting (approximately 50km of open downs of the SDNP across the inland backdrop between Seaford, Brighton and Arundel). ii. The Applicant notes the natural beauty of the SCHAONB is expressed differently to the SDNP, however it would highlight that <i>'stunning, panoramic views to the sea'</i> (SDNP Special Qualities Report) are also integral to some of its special qualities, as they are for the SCHAONB, particularly Special Quality 1 <i>'Diverse, inspirational landscapes and breath-taking views'</i>. These 'breath-taking' and 'panoramic' views of the sea are appreciated both at the SDNP coastline (within the Sussex Heritage Coast), but also from at greater 'depth' inland from the SDNP due to the elevation of the downs, which provide an amphitheatre for sea views, unlike the SCHAONB that is low lying and often backed by forests and heathland, such that effects are contained to the immediate coastal edge.



ID	NE Comment	Applicants' Comments
		<p>iii. The Applicant agrees that from Rottingdean the SDNP steadily deviates away from the coastline in a north-westerly direction, however as noted above at (ii), these elevated open downland areas of the SDNP afford open views across the coastal plain to Rampion and its associative seascape setting, providing views of Rampion 'within' its seascape. Effects of this nature will not occur for the East Anglia TWO windfarm site which is viewed from the SCHAONB as 'horizon' development due the low-lying coastline and its longer distance offshore, as described in the submitted SLVIA in Chapter 29 of the ES (APP-076) and subsequent written representations submitted during the Examination.</p> <p>iv. The Applicant agrees that much of the SDNP is separated from the coast by an undesignated and well-developed coastal strip and that the SCHAONB has limited built development in comparison, incorporated within the designated area. As noted above at (iii) there are open views from the tops of the downs across the developed coastal plain to Rampion within its associative seascape setting, the nature of such effects will not result from East Anglia TWO on the SCHAONB due to its longer distance offshore and its appearance as 'horizon' development when viewed from the low-lying SCHAONB coastline.</p> <p>v. As noted above, it is acknowledged that views out to sea from the non-coastal portions of the SDNP also take in views across the developed urban coastline in views out to sea, however views from the 18.1km of SDNP coastline are directly over the seascape setting of the SDNP and do not contain urban development influences in the offshore component of the view, in which the existing Rampion Wind Farm is visible in offshore views from the SDNP/Sussex Heritage Coast.</p>
7	5. In Table 1, under 'Identified Effects on Designated Landscapes' the Applicant refers to 'indicators' of specific qualities' for the SCHAONB.	The term 'indicators' of special qualities derives directly from the AONB Special Qualities report and was not intended in any way to downplay their



ID	NE Comment	Applicants' Comments
	This is incorrect. The SLIVA considered the likely effect of EA2 on some of the special qualities of the SCHAONB and not a list of signposts to these special qualities.	importance but was intended to highlight that the effects of the East Anglia TWO windfarm site occur on certain (visual) aspects of these defined special qualities.
8	6. At paragraph 51 the Rampion ES concluded that 'views out to sea' were a 'defining feature' of the 'coastal extents' of the SDNP and Sussex Heritage Coast. As set out in the SCHAONB Management Plan views out to sea are also a defining feature of this designation and help define the natural beauty of the area.	The Applicant notes it is a commonality of both designations that views out to sea are a defining feature of the coastal extents of both the SDNP and SCHAONB and points to fact that the Examining Authority found that Rampion would give rise to significant effects on these views out to sea forming a defining feature of the coastal extents of the SDNP and some change to its special qualities of ' <i>diverse, inspirational landscapes and breath-taking views</i> ', however consent was granted notwithstanding these effects on the SDNP, on the basis that any such effect had been mitigated to an acceptable degree.



8 Applicants' Comments on NE Appendix G5 [REP8-163] - NE's Comments on EA1N/EA2 DCO Application Version 5

ID	Document section	NE Comment	Risk	Applicants' Comments
Schedule of Changes to Draft DCO Version 4				
1	Schedule 13, Part 2, Condition 16 and Part 2 Condition 17 (2)	<p>It is noted that the SIP condition has been removed from within these conditions and added as a separate condition. Our comment on this will be made below with our comment on the updated condition on the new condition.</p> <p>However, it is noted that a condition requiring the submission of a close out report has been added. Natural England supports the inclusion of this condition. However, would also like to be named as recipients of this report.</p>		<p>Noted.</p> <p>The Applicants have included provision for the UXO close out report to be provided to Natural England and this is reflected in the draft DCO (REP8-004) submitted at Deadline 8.</p>
2	Schedule 13, Part 2, Condition 21 (3)	Natural England notes the updated wording. However, we have been advised by the MMO that there has been an agreement that the wording will revert to its original form. Natural England supports the original wording and once this change is made consider this issue closed.		The Applicants welcome this position.
3	Schedule 13, Part 2, Condition 24	<p>Natural England notes the changes to this condition and that after a period of 5 years a new marine licence will be needed for additional scour or cable protection. On a without prejudice basis to our position regarding the deployment of new areas of cable and scour protection, we consider the wording used here appropriate and have no further comment to make.</p> <p>However, as noted in our covering letter, and our relevant and written representation [RR-59] Natural England do not support the use of new cable protection, or scour protection during the</p>		<p>The Applicants welcome agreement from NE on a without prejudice basis.</p> <p>Regarding the outline OOMP, the Applicants do not consider that this should be updated to reflect that a separate marine licence should be required for the installation of cable or scour protection in areas where it was not installed previously prior to a period of five years post completion of construction having</p>



ID	Document section	NE Comment	Risk	Applicants' Comments
		Operations and Maintenance phase and therefore cannot agree to the Offshore Operations and Maintenance Plan (OOMP) until this issue is resolved.		<p>elapsed because the outline OOMP should reflect the draft DCO.</p> <p>The Applicants would be grateful if NE could consider agreeing to the outline OOMP on a 'without prejudice' basis as they have done for the condition wording given that the OOMP covers a variety of matters and it is understood that it is only this aspect of the OOMP that is not agreed.</p>
4	Schedule 13, Part 2 Condition 25	Natural England notes the updated co-operation condition and supports the changes that have been made.		The Applicants welcome this position.
5	Schedule 13, Part 2, Condition 26	Natural England notes the updated wording and the inclusion of the SIP requirement as a separate condition. While we support most of the wording, we would request clarification on if the wording would allow for multiple SIPs to be submitted and approved. As it is our understanding that the UXO activity may take place a significant period of time prior to the piling and that, therefore, there may not be enough information to support consideration of the impacts to the SAC from piling 6 months prior to the commencement of UXO detonation works.		The Applicants consider that the previous wording of the condition allowed for the production of more than one SIP if that is required however in order to address comments raised by the MMO and NE immediately prior to Deadline 8, the Applicants updated the DMLs to provide separate SIP conditions for piling and UXO clearance activities. This change is reflected in the draft DCO submitted at Deadline 8.
6	Schedule 13, Part 2, Condition 27	Natural England notes and supports the inclusion of these conditions. However, following a meeting with the applicant on the 22 nd of March, a few minor changes to the wording were agreed and are expected to be submitted into examination. It is also noted that during this meeting the applicant confirmed that they would not be submitting information to support the use of a cluster approach of detonating UXO's and the wording would be		Prior to Deadline 8, the Applicants agreed with the MMO and NE that it was not necessary or appropriate to update the condition wording to include a definition of UXO detonation and instead further detail would be provided within the draft MMMP and in-principle SIP to provide clarity in respect of what is meant by the term "UXO detonation" and which takes into account the



ID	Document section	NE Comment	Risk	Applicants' Comments
		<p>amended to ensure clarity on this issue. Once these amendments are submitted, we expect our issues to be resolved.</p> <p>Natural England notes the action to review this condition following ISH 14 and considers the above.</p>		<p>potential for natural clustering of UXO devices e.g. where two devices are found in such close proximity that detonation of one would likely result in detonation of the other. Updated versions of the draft MMMP and Outline SIP which address this matter were submitted at Deadline 8.</p> <p>The Applicants understand that the MMO and NE are now content with the condition wording and that this matter is resolved.</p> <p>Also see ID 4 of section 3</p>
7	Schedule 14	Comments above on conditions repeated in Schedule 14 should be considered submitted in respect of both schedules and for brevity will not be repeated here.		Noted.
8	Schedule 17 and 18	Natural England notes the inclusion of these new schedules and will provide comment on them as part of our response to the updated draft DCO.		Noted
9	Schedule 1, Part 3 Requirement 22	It appears that this issue was closed in error on our Risks and Issues Log. Natural England reiterates our request to be named as a consultee within this requirement. It is also noted that throughout the outline code of construction practice there is limited reference made to consulting the statutory nature conservation body, however, when and on what remains unclear. To ensure clarity the requirement should be updated to include consultation with the relevant statutory nature conservation body.		As detailed with section 1.2.1 of the Outline Code of Construction Practice (OCoCP) submitted at Deadline 8 (REP8-018), where management plans are applicable to works within the Sandlings Special Protection Area (SPA) or the Leiston – Aldeburgh Site of Special Scientific Interest (SSSI) the Applicant will consult with the relevant statutory nature conservation body (Natural England) on the contents of the plan.



ID	Document section	NE Comment	Risk	Applicants' Comments
				Subsequent to further discussions with NE, the Applicants will update Section 1.2.1 of the OCoCP (REP8-018) to specifically list those plans which the Applicants' will consult the relevant statutory nature conservation body during their preparation, and over what geographic area (i.e. Work Nos.) this consultation relates to (to include areas within the Sandlings SPA and Leiston-Aldeburgh SSSI and areas which could affect the Sandlings SPA and Leiston-Aldeburgh SSSI).
10	Schedule 17	Natural England notes and supports the inclusion of this schedule. However, advises that it may need to be updated should further assessment documentation or updated documentation be provided.		Noted
11	Schedule 18, General Point	It is noted that the compensation secured within each part is limited to an attempt, at one compensation measure, such as nesting sites or predator control. However, this limits the options for the Secretary of State to those specific compensatory measures. As advised in our response on the compensatory measures [REP7-071] other potential compensatory measures should be kept in consideration. This could be achieved through a change in wording, or through provision of alternative wording, on a without prejudice basis, including the other options. This would allow the Secretary of State to pick which compensatory measure and thus which wording to include within this schedule.		<p>Schedule 18 was updated in the draft DCO submitted at Deadline 8 to make provision for ornithology by-catch measures to be considered for species where this is considered appropriate (i.e. gannet, guillemot, razorbill and lesser black backed gull) as an alternative, or in addition to the primary measure proposed.</p> <p>With regard to kittiwake, whilst the by-catch measure could be considered as an alternative, it was not included because, as stated, there is limited evidence of by-catch of the species in the North Sea.</p> <p>The by-catch measure could be applicable to red-throated diver as there is evidence of by-catch. This was excluded because the effect is displacement not</p>



ID	Document section	NE Comment	Risk	Applicants' Comments
				mortality and therefore inclusion of by-catch would not be 'like-for-like'. If the approach to compensation is changed in future to be more flexible, then it may be possible to add further measures. The Applicants have previously stated that NE's suggestion of decommissioning operational projects within the Outer Thames Estuary SPA is not practical and is in conflict with the Government's 2030 targets.
12	Schedule 18, Parts 1-6 Condition 3	Reference to Natural England should be amended to the relevant Statutory Nature Conservation Body, as per the rest of the DCO.		Noted, the Applicants will update this in the next version of the draft DCO.
13	Schedule 18, Part 1-4 and 6 Condition 3 (a)	Within this condition is a requirement to provide information on the location of compensatory measures. These sections should be amended to note that within this information details need to be provided that explain ecologically why this location is appropriate and likely to support successful compensation (e.g. for nesting sites a site that the target species will colonise with adequate access to prey resource).		In drafting DCO schedule 18, the Applicants have ensured that the compensation measures proposed are appropriately secured at a level that provides adequate levels of compensation to offset the impacts of the Projects (noting that the extremely low numbers required to be offset for the Projects means that over-compensation is inevitable) whilst providing the necessary flexibility to allow for refinements in detail as the specifics of the measures are developed and agreed with stakeholders, Government, partners etc.
14	Schedule 18, Part 1-6 Condition 4	It is not sufficient for compensatory measures to just be in place. They need to be fully functioning and effectively compensating prior to construction/operation. Natural England notes that within the Hornsea 3 compensatory measures schedule a period of 4 full breeding seasons is specified.		The Applicants note that identifying suitable candidate locations, obtaining the necessary rights (land, access, etc.) and installing a suitable colony structure are all considered to be feasible



ID	Document section	NE Comment	Risk	Applicants' Comments
				<p>undertakings that the Applicants could achieve within a relatively short time-frame.</p> <p>Given the very small number of predicted mortalities for all of the species considered in the compensation measures document, the Applicants consider that while this risk of incurring a 'mortality debt' exists, the size of debt for a delay of 1 to 2 years remains extremely small and would readily be recouped within a year or two of measures becoming operational. Therefore, since the requirement for a long lead-in time is a lower concern for the Projects than, for example Hornsea Project Three, it follows that there is also no requirement for the current compensation schedule to contain detailed designs and site locations. Instead, these aspects can be addressed once a decision on the need to compensate for the Project(s) has been made by the SoS.</p>
15	Schedule 18, Part 5 Condition 3	This condition is incomplete and therefore we are unable to comment on its sufficiency. However, if similar wording that is used in parts 1-4 and 6 were to be included our comments above on condition 3 would be relevant.		This was a formatting error. The full text of paragraph 3 was included in Part 5 but paragraph (a) was showing as paragraph 4. This formatting error was corrected in the draft DCO submitted at Deadline 8.



9 Applicants' Comments on NE Appendix K7 [REP8-166] – NE Response to Rule 17 Letter

3. It should be noted that the Applicants have only selected NE responses which they consider require a response.

R17Q	To	Question	NE Response	Applicants' response
R17QB.8	NE	1 2 Favourable conservation status Please explain your position on the conservation status of the OTE SPA, with relevant cross-references to submitted evidence and to new evidence as required. Is the conservation status of the SPA considered to be favourable or unfavourable? If it is considered to be unfavourable, why is this?	<p>Whilst there is not condition assessment for the site, we advised at Deadline 1 Appendix A4 [REP1-172] that there is currently an in- combination AEoI, with the conservation objectives for the site being hindered by the presence of operational windfarms. Post-construction monitoring within the SPA has indicated there are significant levels of displacement both within and beyond those arrays, resulting in considerable areas within the SPA being no longer able to support the number of divers that they would otherwise be able to, thereby affecting the distribution of the qualifying features within the site. Therefore, the logical conclusion is that the site is in unfavourable condition.</p> <p>This has been referenced in our Appendix A4 [REP1-172], A12 [REP4- 087], A14 [REP4-089] and A14b [REP7-070].</p>	See ID 27 of section 6.1 .



R17Q	To		Question	NE Response	Applicants' response	
R17QB.12	NE	1	2	<p>Kittiwake: Hornsea Project Three contribution to in-combination collision totals Does NE agree with the Applicant's view in section 5.3.2 of [REP6-045] that the in- combination annual kittiwake collisions apportioned to the FFC SPA should exclude the estimated collisions at Hornsea Project Three since that windfarm has been consented on the basis that it fully compensates for its predicted 73 collisions? If not, please explain your reasons.</p>	<p>Natural England confirms that the SoS decision is clear that the impacts from the project will be fully compensated for [REP5-083]</p>	<p>The Applicants request clarity on whether the NE position reflects that of the SoS.</p>
R17QB.16	NE	1	2	<p>Imperative Reasons of Overriding Public Interest (IROPI): Public interest In its response to EXQ2.2.8 and in section 5.2.4 of its derogations case [REP6-044], the Applicants contend that the strongest influence on seabird populations in coming years is climate change. How does NE respond to the argument that climate change could be a greater driver of seabird population reduction than the effects from offshore wind farms? What is the basis for your position?</p>	<p>Please be advised that as a Statutory Nature Conversation Body (SNCB) our remit as regard the derogations doesn't extend beyond advising on the ecological of compensatory proposals, thus excluding us from making comment on IROPI cases.</p>	<p>The Applicants maintain that climate change is likely to have the strongest influence on seabird populations in the coming years and consider that decision making must balance potential localised small scale impacts against the broadscale impacts from climate change.</p>



10 Applicants' Comments on NE Appendix A19 [REP8-159] – NE's Comments and Conclusions on EIA Scale Impacts

10.1 Introduction

4. This section provides the Applicants' responses to NE's deadline 8 submission Appendix A19 (REP8-159). The Applicants have not reproduced the entirety of REP8-159 with a response to each point but instead have summarised comments using the submission headings.

10.1.1 Summary of Natural England EIA scale advice (alone & cumulative)

5. NE provided a table summarising their conclusions on seabird impacts at the EIA scale for the projects alone and cumulatively. This table has been reproduced here with the addition of a column with the Applicants' position.

Table 1 of NE REP8-159 'Summary of conclusions for operational collision and displacement assessments of the EA1N and EA2 projects alone and cumulatively with other plans and projects for relevant species for EIA based on the Applicant's collision assessments in REP1-047 for EA2 and REP4-042 for EA1N and displacement assessments in APP-060, APP-471 and REP2-006' with an additional column setting out the Applicants' position.

EIA species	EA1N Alone and EA2 Alone	EA1N and EA2 cumulatively with other plans & projects	Applicants' position on cumulative assessment
Gannet: collision	No significant adverse impact	Unable to rule out significant adverse impact excl. & incl. H3, H4 & Norfolk Vanguard (NVG)	Minor adverse effect irrespective of inclusion of H3, H4 and NVG
Gannet: displacement	No significant adverse impact	No significant adverse impact excl. H3, H4 & NVG Unable to rule out significant adverse impact incl. H3, H4 & NVG	Negligible effect irrespective of inclusion of H3, H4 and NVG
Gannet: collision + displacement	No significant adverse impact	Unable to rule out significant adverse impact excl. & incl. H3, H4 & NVG	Minor adverse effect irrespective of inclusion of H3, H4 and NVG
Kittiwake: collision	No significant adverse impact	Unable to rule out significant adverse impact excl. & incl. H3, H4 & NVG	Minor adverse effect irrespective of inclusion of H3, H4 and NVG
Lesser black-backed gull: collision	No significant adverse impact	No significant adverse impact excl. H3, H4 & NVG Unable to rule out significant adverse impact incl. H3, H4 & NVG	Minor adverse effect irrespective of inclusion of H3, H4 and NVG
Herring gull: collision	No significant adverse impact	No significant adverse impact excl. & incl. H3, H4 & NVG	Minor adverse effect irrespective of inclusion of H3, H4 and NVG



EIA species	EA1N Alone and EA2 Alone	EA1N and EA2 cumulatively with other plans & projects	Applicants' position on cumulative assessment
Great black-backed gull: collision	No significant adverse impact	Unable to rule out significant adverse impact excl. & incl. H3, H4 & NVG	Minor adverse effect irrespective of inclusion of H3, H4 and NVG
Red-throated diver: displacement	No significant adverse impact	Unable to rule out significant adverse impact excl. & incl. H3, H4 & NVG	Minor adverse effect irrespective of inclusion of H3, H4 and NVG
Guillemot: displacement	No significant adverse impact	Unable to rule out significant adverse impact excl. & incl. H3, H4 & NVG	Negligible effect irrespective of inclusion of H3, H4 and NVG
Razorbill: displacement	No significant adverse impact	Unable to rule out significant adverse impact excl. & incl. H3, H4 & NVG	Negligible effect irrespective of inclusion of H3, H4 and NVG

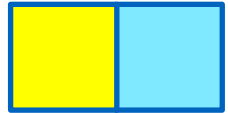
6. As can be seen in **Table 1**, NE has concluded there will be no significant adverse impacts due to either of the two Projects alone, with which the Applicants are in agreement. However, NE has been unable to rule out significant cumulative impacts for several species, some when Hornsea Projects Three and Four and Norfolk Vanguard are included and some both with and without their inclusion. The Applicants disagree with these conclusions of significant impacts and present their position on these specific cumulative impacts in the following sections.

7. NE also requested collision estimates for East Anglia TWO using the 95%⁷ confidence intervals for the seabird density estimates. These are provided below.

Table 2 East Anglia TWO annual collision estimates with 95% confidence intervals.

Species	Mean estimate	Confidence intervals (lower-upper 95%)
Gannet	39.6	22.0 – 63.5
Kittiwake	42.3	16.4 – 73.5
Lesser black-backed gull	4.7	1.0 – 10.5
Great black-backed gull	6.9	0 - 18.7
Herring gull	0.5	0 – 1.4

⁷ Note that estimates for East Anglia ONE North were provided within REP4-042 when that Project's boundary was updated.



10.2 EIA impacts (projects alone)

10.2.1 Collision risk from the EA1N and EA2 projects alone

8. NE have advised that *'the collision risk from EA1N alone and EA2 alone would have no significant adverse impact at the EIA scale for all species'*.
9. The Applicants are in agreement with this statement.

10.2.2 Operational displacement from the EA1N and EA2 projects alone

10. NE have advised that:
 - *'we would agree with the Applicant that a significant adverse impact can be ruled out for operational displacement of RTD [red-throated diver] from EA1N alone.'*
 - *'we advise that operational displacement from EA2 alone would have no significant adverse impact at the EIA scale for RTD.'* and,
 - *'we advise that operational displacement from EA1N alone and EA2 alone would have no significant adverse impact at the EIA scale for gannet, razorbill and guillemot.'*
11. The Applicants are in agreement with these statements.

10.2.3 Operational collision risk + displacement for gannet from the EA1N and EA2 projects alone

12. NE have advised that:
 - *'the predicted impacts of operational collision combined with displacement from EA1N alone would have no significant adverse impact at the EIA scale for gannet.'* and,
 - *'the predicted impacts of operational collision combined with displacement from EA2 alone would have no significant adverse impact at the EIA scale for gannet.'*
13. The Applicants are in agreement with these statements.

10.3 EIA impacts (cumulatively)

10.3.1 Collision risk

14. NE has assessed the cumulative impacts using the population viability analyses (PVA) results presented for the equivalent impacts in a submission for the Norfolk Boreas assessment (MacArthur Green 2019a). This submission presented the PVA outputs as the relative change in the population size and the relative change in the population growth rate, referred to as counterfactuals, which are NE's preferred metrics. The counterfactuals are a comparison of the predicted population size and growth rate with and without the impacts. Outputs were also provided using density independent and density dependent models. The latter



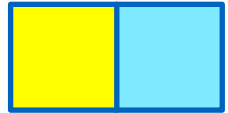
incorporates a feedback mechanism which regulates the population size, for example by reducing the rates of survival or productivity as the population increases in size. In the absence of these (density independence) the modelled population can grow indefinitely. NE consider the latter, unregulated, density independent formulations to be more appropriate on the basis that there is insufficient empirical data to define the mechanisms involved in population regulation, whilst also acknowledging that density-dependent regulation does operate in the actual populations.

15. The Applicants disagree with NE's position on this matter, but also consider that it is important to consider the different types of population growth generated by the two forms of model, which are either exponential (density independent) or stable (density dependent), when interpreting the two counterfactual measures. In a density dependent model, which will generate level predictions, it makes little sense to base conclusions on counterfactuals of population growth rate, since both the impacted and non-impacted populations will have effectively zero growth (i.e. stable sizes). However, the impacted population will be expected to be smaller, and therefore the counterfactual of population size is a relevant output.
16. Conversely, a density independent population (with a positive growth rate) will grow indefinitely at an exponential rate. The difference between the impacted and non-impacted populations will be in the rate of growth, and this measure (the counterfactual of growth rate) is therefore the most informative metric. It is also time invariant (i.e. effectively constant). In contrast the value for the counterfactual of population size is highly sensitive to the number of years over which the model is run, with the two growth curves diverging by an increasing amount as the time increases.
17. Thus, density independent PVA should be assessed on the basis of the counterfactuals of the population growth rate, and density dependent PVA should be assessed on the basis of the counterfactuals of population size.
18. NE prefers density independent PVA and therefore the following sections present interpretation of the counterfactuals of population growth rate. It is also informative to compare the counterfactuals of population growth (i.e. the predicted reduction in growth) with recent historical trends in the populations actual growth rates as this provides a benchmark against which to assess the predicted reduction in growth rate.

10.3.1.1 Gannet cumulative impacts

10.3.1.1.1 Operational collision risk

19. In REP8-159 NE states that the gannet cumulative collision total will reduce the density independent population growth rate by 0.77-0.8% when assessed against



the smaller BDMPS (Biologically Defined Minimum Population Scale) population and by 0.3-0.31% when assessed against the larger biogeographic population.

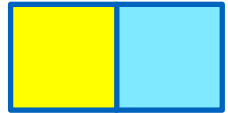
20. As NE state, the current population trend for gannet in the UK is growth at 2-3% per year, and NE also note that reducing this by a maximum of 0.8% would not result in a significant impact. However, NE go on to state that if the population baseline growth rate decreases from 2-3% then a 0.8% decline could become significant and, on this basis, consider that a significant cumulative impact cannot be ruled out.
21. However, while the gannet population growth may slow in future, there is nothing in the recent (or indeed long-term) trends for this species to indicate this will occur (i.e. a slowing of growth). Therefore, NE appear to have based their conclusion on a speculative assessment that future growth may be lower, while the evidence from the recent trend is of continued growth.
22. For this reason, the Applicants consider that NE has applied an overly precautionary approach to this assessment and disagree that the cumulative collision mortality will result in a significant impact.

10.3.1.1.2 Operational Displacement

23. NE has stated that cumulative displacement of gannets will not be significant when Hornsea Projects 3 and 4 and Norfolk Vanguard are excluded, but that due to uncertainty about the impact levels at those windfarms they are unable to advise that a significant impact can be ruled out with those windfarms included. However, the differences in the predicted impact magnitude for these two cumulative scenarios is modest (a maximum reduction in growth of 0.46% compared to 0.37% when assessed for the smaller BDMPS population).
24. Therefore, the Applicants disagree with NE's assessment and consider that even including the Hornsea projects and Norfolk Vanguard a significant impact due to cumulative displacement can be ruled out.

10.3.1.1.3 Operational collision risk plus displacement

25. The combined impact of displacement and collisions, assessed in the same manner as above, would reduce the population growth rate for the smaller BDMPS population by up to 0.9% and for the larger biogeographic population by up to 0.35%.
26. As discussed above, against a population growth rate of 2-3% these reductions would not result in a decline in the gannet population and therefore the Applicants disagree with NE's conclusions (that a significant cumulative effect of displacement and collisions cannot be ruled out) and consider that the evidence strongly supports a conclusion that there is no risk of a significant cumulative impact.



10.3.1.2 Kittiwake cumulative operational collision risk

27. In REP8-159 NE states that the kittiwake cumulative collision total will reduce the density independent population growth rate by 0.56-0.63% when assessed against the smaller BDMPS population and by 0.09-0.11% when assessed against the larger biogeographic population.
28. As stated in MacArthur Green (2019a), the kittiwake population has changed by considerably larger amounts than this over the last 50 years as measured between the censuses for this species⁸: +24% (1969 to 1985), -25% (1985 to 1998) and -50% (2000 to 2018). Changes of between 0.11% and 0.63% across a longer (30 year) period against a background of natural changes up to two orders of magnitude larger would almost certainly be undetectable. When additional sources of precaution in the collision assessments are considered (e.g. over estimated nocturnal activity rates, as-built vs. consented predictions), adjustment for which would reduce collision predications across all windfarms, the predicted reduction in the population growth rate would be smaller still.
29. Thus, the Applicants consider that NE has applied an overly precautionary approach to this assessment and disagree that the cumulative collision mortality will result in a significant impact.

10.3.1.3 Lesser black-backed gull cumulative operational collision risk

30. In REP8-159NE states that the lesser black-backed gull cumulative collision total will reduce the density independent population growth rate by 0.33% when assessed against the smaller BDMPS population. No PVA outputs are discussed with respect to the biogeographic population as the cumulative impact would not increase the background mortality rate by more than 1%, and this would therefore be undetectable against natural changes and no further assessment is justified (following NE guidance). This fact alone provides useful guidance to the low magnitude of predicted cumulative collision impact for this species.
31. As NE state, the most recent population trend for lesser black-backed gull in the UK is growth at 1.8% per year, and NE also note that reducing this by a maximum of 0.33% (which includes the mortality estimates for Hornsea 3, Hornsea 4 and Norfolk Vanguard) would not result in a significant impact. NE go on to state that even if the population baseline growth rate is only 1-2% then this level of mortality would be unlikely to be significant. NE also acknowledge there is '*some degree of precaution in the cumulative total regarding the nocturnal activity rate and build out*' (the Applicants note that these considerations apply equally to all the species assessed for collision risk and it is not clear why NE has only raised this for lesser black-backed gull). On this basis NE has concluded there will be no significant impact if the Hornsea windfarms are excluded, but that due to the uncertainties

⁸ <http://jncc.defra.gov.uk/page-3201> (accessed 30th March 2021)



associated with these windfarms they cannot advise a significant cumulative impact can be ruled out with them included.

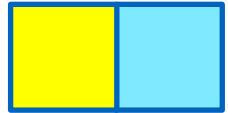
32. The Applicants disagree that the inclusion of the Hornsea projects and Norfolk Vanguard would make a material difference to the cumulative totals, especially in the light of the precaution that NE has acknowledged. Therefore, the Applicants consider there will be no significant cumulative collision impact for lesser black-backed gull.

10.3.1.4 Herring gull cumulative operational collision risk

33. NE has concluded that there will be no significant cumulative collision risk for herring gull irrespective of which windfarms are included. The Applicants agree with this conclusion.

10.3.1.5 Great black-backed gull cumulative operational collision risk

34. In REP8-159 NE states that the great black-backed gull cumulative collision total will reduce the density independent population growth rate by 1.18-1.30% when assessed against the smaller BDMPS population and by 0.46-0.50% when assessed against the larger biogeographic population.
35. NE state that this species '*is classed as 'Least Concern' of global extinction by IUCN. The overall population trend across its range is stable, although at a UK level the species is Amber listed in BoCC 4 (Eaton et al. 2015) due to moderate declines in both the breeding and non-breeding populations.*' And on this basis NE consider that due to the predicted impacts they are unable to rule out a significant cumulative impact.
36. However, the same precautionary considerations noted by NE for collision risk of lesser black-backed gull also apply to this species (e.g. over-estimated nocturnal activity, as-built vs. consented predictions).
37. As noted in Macarthur Green (2019a), the UK great black-backed gull population has remained relatively stable since 1970, with reductions between the approximate 15 year seabird censuses of 7% (1969 to 1985), 4% (1985 to 1998) and 11% (2000 to 2015). Against these natural changes, the maximum change in the growth rate of 1.3% is not considered likely to result in any significant, nor detectable effects on the BDMPS or biogeographic populations. Furthermore, collision predictions for this species in North Sea windfarms are heavily skewed to winter months when large numbers of birds from Norway and Russia are present (Furness 2015). Thus, the trend in the UK population is less relevant to this assessment (since it reflects UK breeding birds) than the IUCN classification of 'least concern', reflecting the healthy population status of this species. Consequently, the Applicants disagrees with NE that the population is '*stable to possibly declining*' since this relates to the UK breeding population, which



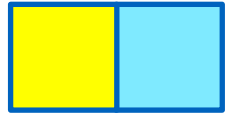
comprises less than a third of the North Sea wintering population (Furness 2015), and therefore the Applicants consider that the level of predicted cumulative collisions, especially when over-precaution is taken into account in the calculation of those estimates, is not sufficient to result in a significant cumulative impact.

10.3.1.6 Red-throated diver (RTD) cumulative operational displacement

38. NE has based their assessment of cumulative displacement of red-throated diver on the tables presented in APP-471 for each project. Notably these tables included Thanet Extension, which was subsequently refused consent and which reduces the cumulative total by 69 individuals (17% of the total impact), which is almost the same as the total predicted across both the Projects (42 and 28). The total also includes Norfolk Vanguard, for which there is lower certainty, and this project accounts for another 79 individuals (19%) of the total displacement impact. NE has also commented that windfarms further offshore are not included in the cumulative total. The Applicants considers it important to stress that this is not an omission in the assessment, but rather reflects the fact that this species is rarely if ever recorded further offshore and therefore these windfarms do not in fact contribute to the cumulative impact.
39. NE has concluded that '*we consider that the predicted figures are significant*' but has provided no further discussion for how this conclusion was reached.
40. The red-throated diver population has remained stable or increased over the last 15 years in the Outer Thames Estuary SPA (as discussed in the red-throated diver assessments) and that this status corresponds with that reported by the European Environment Agency in an Article 12 report for 2008-2012 which shows that the EU breeding population of red-throated divers is stable over the recent short-term, and increasing over the long term. The winter (nonbreeding) population in the EU has been increasing over the recent short-term, but the trend is unknown over the long term due to a lack of historical survey data (EU 2021). Overall, the threat to red-throated divers in the EU is categorized as "least concern" and the population status is defined as Green "Secure".
41. The Applicants consider there is no justification for NE's conclusion that cumulative displacement represents a significant impact. When the status of the population is taken into account, and the fact that this status has been maintained whilst inshore windfarms located within their favoured habitat have been constructed, there are no grounds to conclude a significant impact.

10.3.1.7 Razorbill cumulative operational displacement

42. NE has acknowledged that the windfarms in the cumulative razorbill assessment are located in areas of low to medium density, that these are indicative of regions of lower importance for this species and that displacement from these sites is therefore likely to have a lower impact. At the precautionary levels of predicted

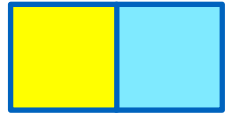


displacement and mortality proposed following a review of evidence conducted by MacArthur Green (2019b) of 50% and 1% respectively, the increase in background mortality would be no more than 0.65%, comfortably below the 1% threshold at which effects are considered detectable (and it should be noted that even when an impact exceeds 1% of background mortality this does not automatically confer significance, only a requirement for further analysis and assessment).

43. Therefore, the Applicants disagree with NE that a significant cumulative impact cannot be ruled out, and consider that from the available evidence there is no risk of a significant cumulative impact.

10.3.1.8 Guillemot cumulative operational displacement

44. NE has acknowledged that the windfarms in the cumulative guillemot assessment are located in areas of low to medium density, that these are indicative of regions of lower importance for this species and that displacement from these sites is therefore likely to have a lower impact. At the precautionary levels of predicted displacement and mortality proposed following a review of evidence conducted by MacArthur Green (2019b) of 50% and 1% respectively, the increase in background mortality would be no more than 0.75%, comfortably below the 1% threshold at which effects are considered detectable (and it should be noted that even when an impact exceeds 1% of background mortality this does not automatically confer significance, only a requirement for further analysis and assessment).
45. Therefore, the Applicants disagree with NE that a significant cumulative impact cannot be ruled out, and consider that from the available evidence there is no risk of a significant cumulative impact.



10.4 References

Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. & Gregory, R. (2015) Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds, 108: 708-746.

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Furness, R.W. 2015 Non-breeding season populations of seabirds in UK waters: Population sizes for Biologically Defined Minimum Population Scales (BDMPS). Natural England Commissioned Report Number 164. 389 pp.

MacArthur Green 2019a Norfolk Boreas Offshore Wind Farm: Deadline 2 Offshore Ornithology Assessment Update. Document Reference ExA; AS-1.D2.V1. Available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010087/EN010087-001420-Offshore%20Ornithology%20Assessment%20Update.pdf>

MacArthur Green 2019b. Norfolk Vanguard Offshore Wind Farm. The Applicant Responses to First Written Questions Appendix 3.3 - Operational Auk and Gannet Displacement: update and clarification. <https://infrastructure.planninginspectorate.gov.uk/wpcontent/ipc/uploads/projects/EN010079/EN010079-002249-Womble%20Bond%20Dickinson%20on%20Behalf%20of%20Norfolk%20Vanguard%20-%20Appendices%20to%20written%20Questions-%20Email%204.pdf>