East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Comments on Natural England's Deadline 5 Submissions

Applicant: East Anglia TWO and East Anglia ONE North Limited
Document Reference: ExA.AS-16.D6.V1
SPR Reference: EA1N_EA2-DWF-ENV-REP-IBR-001244

Date: 24th February 2021
Revision: Version 1
Author: Royal HaskoningDHV

Applicable to East Anglia ONE North and East Anglia TWO

Revision Summary				
Rev	**Date**	**Prepared by**	**Checked by**	**Approved by**
01	24/02/2021	Paolo Pizzolla	Lesly Jamieson / Ian MacKay	Rich Morris

Description of Revisions			
Rev	**Page**	**Section**	**Description**
01	n/a	n/a	Final for Submission

Table of Contents

1 Introduction 6

2 Applicants' Comments on NE Appendix F5b (REP5-085) – NE's Comments on Outline *Sabellaria* Reef Management Plan [REP4-040] 7

3 Applicants' Comments on NE Appendix F8 (REP5-086) – NE's Comments on Offshore IPMP [REP3-040] 10

4 Applicants' Comments on NE Appendix A16 (REP5-083) - NE's comments on Offshore Ornithology Cumulative and In-Combination Collision Risk Update [REP4-042] 24

5 Applicants' Comments on NE Appendix G3 (REP5-087) - NE's Advice on Non-Material Changes and Headroom 27

6 Applicants' Comments on NE Appendix A15 (REP5-082) – NE's Further Comments on the Requirement for Compensatory Measures [REP3-054] and the Applicant's Derogation Case [REP3-053] 30

7 Applicants' Comments on NE Appendix C7 (REP5-084) – NE Terrestrial Ecology Update and Comments to [REP3-031, REP4-004, 005, 015, 043] 38

Glossary of Acronyms

AEoI	Adverse Effect on Integrity
AONB	Area of Outstanding Natural Beauty
APP	Application Document
AQMA	Air Quality Management Area
AS	Additional Submission
BLF	Beach Landing facility
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
kW	Kilowatt
LCA	Landscape Character Assessment
LCT	Landscape Character Type
LMP	Landscape Management Plan
LVIA	Landscape and Visual Impact Assessment
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
NE	Natural England
NGET	National Grid Electricity Transmission
NO2	Nitrogen dioxide
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NRMM	Non-Road Mobile Machinery
OLEMS	Outline Landscape and Ecological Management Strategy
OTE	Outer Thames Estuary
OWF	Offshore Windfarm
PD	Procedural Decision
PEIR	Preliminary Environmental Information Report
PMoW	Precautionary Method Statement
PRoW	Public Right of Way
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
SuDS	Sustainable Drainage System
UXO	Unexploded Ordnance

Glossary of Terminology

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

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

1 Introduction

1. This document presents the Applicants' comments on Natural England's (NE) Deadline 5 submissions as follows.

   - ***Section 2*** – NE's Comments on Outline Sabellaria Reef Management Plan [REP4-040];
   - ***Section 3*** – NE's Comments on Offshore IPMP [REP3-040];
   - ***Section 4*** – NE's comments on Offshore Ornithology Cumulative and In-Combination Collision Risk Update [REP4-042];
   - ***Section 5*** – NE's Advice on Non-Material Changes and Headroom;
   - ***Section 6*** – NE's Further Comments on the Requirement for Compensatory Measures [REP3-054] and the Applicant's Derogation Case [REP3-053]; and
   - ***Section 7*** – NE's Terrestrial Ecology Update and Comments to [REP3-031, REP4-004, 005, 015].

2. In addition, the Applicants note NE Appendix F7 - Advice on Cable Protection for OWF and Marine Licenses (REP4-093). The Applicants understand that the MMO will be providing detailed comments regarding the maintenance of cable and scour protection at Deadline 6 and therefore the Applicants will update the outline Offshore Operations and Maintenance Plan (OOMP) at Deadline 7 to take account of NE and MMO comments as appropriate. Additionally, the Applicants intend to update the draft DCO as appropriate at Deadline 7 to reflect NE guidance within REP4-093 and any additional points on this matter raised by the MMO at Deadline 6.

3. This document is applicable to both the East Anglia TWO and East Anglia ONE North DCO applications, and therefore is endorsed with the yellow and blue icon used to identify materially identical documentation in accordance with the Examining Authority's procedural decisions on document management of 23rd December 2019 (PD-004). Whilst this document has been submitted to both Examinations, if it is read for one project submission there is no need to read it for the other project submission.

2 Applicants' Comments on NE Appendix F5b (REP5-085) – NE's Comments on Outline *Sabellaria* Reef Management Plan [REP4-040]

Reference	NE Comment	Applicants' Comments
Summary		
001	Further to the advice provided by Natural England at Deadline 2 [REP2-056], Natural England provides the following advice noting that further consultation with all interested parties in particular the MMO, is required. Whilst, Natural England welcomes the inclusion of a 60m clearance buffer for UXO detonations Natural England notes that:- *' the Applicants would like to retain the ability to discuss reef buffer requirements on a case by case basis during the preconstruction period, where for example the proximity of several reefs makes micrositing with a minimum 50m buffer (or 60m for UXO clearance) challenging…'* However, we are concerned that such a request is not condition-able and therefore the mitigation remains unsecure, even if explained within a listed DCO/dML plan. Therefore, the mitigation measure would remain open to challenge.	The Applicants acknowledge NE's position however consider that the MMO would have the necessary control through the approval process to ensure significant impacts on *Sabellaria* reef are avoided. The Applicants have updated the text within the outline *Sabellaria* Reef Management Plan to clarify the intention of paragraph 12 to the following: *However, the Applicant notes that in some cases it may be necessary to impinge on these buffers, where for example the proximity of several reefs makes micrositing with a minimum 50m buffer (or 60m for UXO clearance) impractical. Therefore, exceptions to the full buffer may be required in some circumstances. These would be agreed in advance with the MMO.*
002	Natural England notes that the following text has been included within Table 1.1 under point 6: - *'…During preparation of the Design Plan Natural England will be consulted - It is anticipated that in discharging the aforementioned Design Plan conditions, the Sabellaria reef report submitted to discharge UXO clearance would be cross-referenced / re-submitted alongside diagrams describing the*	The In-Principle Monitoring Plan has been updated for Deadline 6 (document reference 8.13) to address NE concerns surrounding the timing of surveys to inform micrositing around *Sabellaria* reef. The Applicants have also updated the outline *Sabellaria* Reef Management Plan (document reference ExA.AS-4.D6.V3) and submitted at Deadline 6 to reflect this.

Reference	NE Comment	Applicants' Comments
	windfarm design and how Sabellaria reefs have been avoided where practicable…' However, dependent on the Applicant's project timelines, and because the UXO works are disassociated with the start of construction, and could happen at any time it is highly probable the Sabellaria reef report used to inform UXO clearance works will not also be able to be used to support the Design Plan and commencement of installation works. Natural England's standard advice is that an Annex I survey demonstrating presence/absence of biogenic reef should be undertaken no longer than 12 months prior to commencement of any works. This is because Sabellaria spinulosa reef can develop within a 12-month period. **Therefore, we advise that the In-Principle Monitoring Plan (IPMP) must secure the required monitoring. And unless both the UXO clearance and commencement of the OWF installation occurs within 12-18 months of the survey being undertaken a second Annex I reef survey and report will be required prior to construction commencing.**	
003	Whilst Natural England welcomes the Applicant attempting to address (in paragraph 20) our detail comment #2 [REP2-056] in relation to the potential requirement for cable protection in areas of reef where installation is unavoidable; it should be noted that the rationale presented to demonstrate the need for cable protection is flawed. Natural England advises that Sabellaria spinulosa reef is more often than not associated with mixed sediment and on leeward sides of sandbanks and not the sandier crests and more mobile areas of sandbanks as stated in the Outline Sabellaria Management Plan.	The outline *Sabellaria* Reef Management Plan has been updated and submitted at Deadline 6 (document reference ExA.AS-4.D6.V3). Paragraph 20 has been updated to reflect this statement from NE.

Reference	NE Comment	Applicants' Comments
005	As submitted into examination for Hornsea Project 3, Norfolk Vanguard and Norfolk Boreas areas of mixed sediment have proven to be more challenging for cable installation. Case example is cable installation within the Wash and North Norfolk Coast SAC where cables have been sub-optimally buried in areas of mixed sediment and post installation requests have been submitted for cable protection. In order to commit with any certainty that cable protection can be avoided in areas of potential reef Norfolk Boreas utilised available geotechnical investigations to undertake a cable burial assessment which was submitted into examination to provide the necessary evidence to support the proposals. Therefore, we advise that something similar for these projects is submitted into examination to demonstrate that cables can be buried to the optimum depth in areas of unavoidable' reef. Or assures that that sub-optimally buried cables would not require external protection i.e. <1m	The Applicants note that the example of Norfolk Boreas to which NE refers, relates to cable installation within a SAC. The Projects' offshore development areas are not within or in close proximity to any site designated for *Sabellaria* reef. The request from NE is not proportionate to the Projects and their locations. The Applicants would also note that within the outline *Sabellaria* Reef Management Plan, the Applicant has recognised that the use of cable protection is to be avoided where it is necessary to route a cable through *Sabellaria* reef. Geotechnical investigations will be undertaken pre-construction as is standard practice to inform the cable routeing design. Detailed geotechnical information will therefore be available to inform the decision making process, which ultimately must be approved by the MMO through the design plan secured under Condition 17(1)(a) of the Generation DML and Condition 13(1)(a) of the Transmission DML.

3 Applicants' Comments on NE Appendix F8 (REP5-086) – NE's Comments on Offshore IPMP [REP3-040]

Reference	NE Comment	Applicants' Comments
Summary		
001	**Purpose of the IPMP Document** Natural England advises that a good IPMP should:	The Applicants agree with NE that the IPMP should be a framework document, which the Applicants consider the current document is. Given the evolving state of knowledge around some ecological concerns, the Applicants do not consider that it is appropriate to define the proposed monitoring in fine detail at this stage. In addition, the Applicants wish to note that the final project design will dictate some of the monitoring requirements and/or the extent of monitoring required. The Applicants consider that the IPMP previously submitted already meets the majority of the requirements set out by NE. However, where considered appropriate, the Applicants have updated the IPMP submitted at Deadline 6 (document reference 8.13) to address the points raised by NE.
	1. Provide a brief background/overview of the proposed OWF project at the start of the document, which will be updated as the project design is refined, to ensure that the monitoring remains fit for purpose.	***Sections 1.3*** and ***1.4*** provide this detail.
	2. Clearly set out what the uncertainties, residual concerns, and evidence gaps of the EIA are.	See the Applicants response to 002 and 003 below.

Reference	NE Comment	Applicants' Comments
	3. Provide outlines of questions/hypotheses that could potentially be answered/tested through monitoring.	This is provided within the receptor topic sections in ***section 1.7***, within the detailed tables and the preamble text which precedes them.
	4. Provide the reader of the IPMP with an indication – albeit in-principle at this consenting stage – of where the project considers their monitoring should be focussed (the 'what') and what this should achieve (the 'why').	This is covered in the preamble text for each receptor in ***section 1.7*** but also specifically in the Tables under '*Headline reason(s) for monitoring*' and '*Monitoring Proposal'* and *'Details'* columns.
	5. The IPMP should provide the framework for the monitoring i.e. outline numbers of surveys, timings and duration, but other topic-specific monitoring documents should provide the finer details regarding how the monitoring will be carried out e.g. Ornithological Monitoring Plan (OMP).	Some detail is provided within the *'Details'* columns of the Tables in ***section 1.7.*** However, the Applicants reiterate that this is an in-principle document and fine detail is not a reasonable expectation.
	6. The above should be clearly presented, for instance, with a table summarising the proposed in-principle monitoring for each topic. The inclusion of 'headline reasons for monitoring' and 'monitoring proposal' within the tables are helpful.	Noted.
	7. Where appropriate identify potential routes to achieving strategic level monitoring in collaboration with others i.e. ORJIP in order to address project specific concerns	This is provided where appropriate in the receptor topic sections in ***section 1.7***, within the detailed tables and the preamble text which precedes them.

Reference	NE Comment	Applicants' Comments
	8. Commit to looking for opportunities to maximise monitoring outputs through working with other developers/ projects/stakeholders.	
	9. Align with any monitoring associated with an compensatory measures. For example, there is a requirement for Hornsea Project 3 to design and deliver a Kittiwake Monitoring Plan (KIMP) in addition to the ornithology monitoring included with the IPMP.	If there is a requirement to implement compensatory measures, monitoring will be a necessary part of those proposals. The Applicants have noted this point within the updated IPMP.
	10. But most of all the IPMP should include monitoring options which are most likely to provide the required evidence to better understand uncertainties. It should also avoid monitoring for monitoring sake and learn lessons from monitoring at other projects rather than just repeating.	The Applicants concur.
Overarching Concerns with the IPMP		
002	11. Overall, we feel that much more detail is required than is provided in the IPMP in its current form. 12. The IPMP repeats the outcomes of the EIA. However, it does not set out what the uncertainties, and evidence gaps of the EIA are. Establishing the uncertainties and evidence gaps of the EIA is necessary to inform what monitoring should be undertaken.	The uncertainties and evidence gaps detailed within the ES are not repeated wholesale within the IPMP for all receptors. However, they were considered during the formulation of the monitoring proposals within the IPMP. Indeed, the importance of considering these is described in section 1.5 'General Guiding Principles for the Proposed Monitoring' of the document. Where considered appropriate by the Applicants, additional detail on the specific uncertainties/assumptions/evidence gaps that the monitoring proposals aim to address has been included in the updated IPMP submitted at Deadline 6.
003	13. It would be useful to set out what specific uncertainty/assumption the Applicant intends to target through the monitoring they have proposed, rather than merely stating that they aim to 'validate the predictions made in the Environmental	

Reference	NE Comment	Applicants' Comments
	Statement'. It would be helpful to know what predictions would be tested with a clearly defined hypothesis.	
004	14. The IPMP focuses on EIA and not on residual impact monitoring for HRA issues, which will also require monitoring.	The Applicants have included provision for monitoring of red-throated diver associated with the Outer Thames Estuary SPA within section 1.7.7 of the IPMP (document reference 8.13). Additional monitoring measures for harbour porpoise, kittiwake, lesser black-backed gulls and other bird species for which there is a collision risk has also been included within the updated IPMP submitted at Deadline 6. The Applicants therefore consider that the IPMP adequately covers HRA issues.
005	15. Limited detail is provided regarding marine mammals and ornithology. A table outlining monitoring for these topics needs to be included, as has been included for other topics such as Table 2 for Benthic Ecology (see Marine Mammal and Ornithology comments below). 16. We appreciate that the thematic specific monitoring plans like the OMP will be developed at a later date and that these will contain the finer details and methods of the monitoring. However, the thematic specific monitoring plans should use the IPMP as the foundation of what monitoring should occur. For example, the objectives of the marine mammals and ornithology monitoring need to be clearly defined in the IPMP.	Additional detail has been included in the updated IPMP submitted at Deadline 6.
Detailed Comments – Benthic Ecology		

Reference	NE Comment	Applicants' Comments
006	17. Please see Appendix F5b in relation to the requirement for two pre-construction Annex I surveys due to potential time lag between UXO clearance and commencement of construction. 18. We disagree with the proposed 'single post-construction survey' for monitoring impacts on Sabellaria reef. A single post-construction survey will determine the status of the reef, but will not provide information on recovery of Sabellaria. If a reef is predicted to be impacted by the development, then it is reasonable to expect more than a single survey of the area post-construction. 19. Furthermore, there are no details on the 'associated buffers' needed to consider an area of reef as being avoided – this should be made clear in the IPMP at what point.	The IPMP has been updated and submitted at Deadline 6 to address these points.
Detailed Comments – Marine Mammals		
007	20. Please be advised that the IPMP references the MMMP which is a Marine Mammal Mitigation Plan not a monitoring plan. Any monitoring included within the MMMP relates only to ensuring the successful delivery of the mitigation i.e. checking there are no marine mammals in the vicinity. It is not considered monitoring to address uncertainties or understand impacts. Therefore, we advise that a separate Marine Mammal Monitoring Plan (MMMoP) is submitted to demonstrate how the Applicant will address identified project specific concerns 21. We are disappointed that the only monitoring proposed relating to marine mammals is underwater noise monitoring of the first four piles during construction. This could this be amended to reflect the need to consider not just the first four piles, but some consideration of the worse-case piles/those that are predicted to be more	The Applicants have committed to a harbour porpoise monitoring programme within the updated IPMP submitted at Deadline 6 (document reference 8.13). The monitoring programme will use passive acoustic monitoring buoys to monitor the behaviour of harbour porpoise to construction noise. The Applicants note NE's comments regarding monitoring of 'difficult' piles (i.e. programming the monitoring of piling noise around locations with ground conditions which will make piling harder rather than simply monitoring at the first four piles of any pile type). The Applicants have therefore committed to ensuring that one of the first four piles to be installed will be within an area anticipated to generate the greatest noise emissions (see the updated IPMP submitted at Deadline 6 (document reference 8.13).

Reference	NE Comment	Applicants' Comments
	problematic. For example, an approach could be to consider monitoring the noise levels of an agreed consecutive four piles within the first x number of piles. This could result in the monitoring providing more meaningful noise data that better reflects the worst case noise predictions and determine if this matches the EIA/HRA assessments.	
008	22. We would like to see more of the Applicant's intentions regarding marine mammal monitoring beyond the first four piles. If the project wishes to participate in strategic marine mammal monitoring proposals, we suggest that the projects role in this is made clear, for example, 'EA1N/EA2 will contribute towards a strategic project by monitoring x, y, z…'.	See the Applicants' response to row 004.
Detailed Comments – Ornithology		
009	23. We have fundamental concerns that the EA2 IPMP does not propose to conduct any project specific bird monitoring, and that the in-principle monitoring only makes reference to supporting joint industry/strategic monitoring for ornithology. We have previously advised that ornithological monitoring needs to be undertaken for both EA1N and EA2, and we would like to re-iterate this here. Although, we do note that at ISH3 the Applicant said that this was an error on their part and Ornithology Monitory will be included for EA2.	The East Anglia TWO IPMP has been updated and submitted at Deadline 6 to include provision for monitoring of RTD (document reference 8.13).
010	24. We are aware of other OWF developers which in their draft IPMP state that they will support a strategic monitoring study/programme. This was not considered acceptable as the MMO require more concrete commitments from individual projects in	The Applicants have committed to project-specific monitoring for RTD and have updated and submitted the IPMP at Deadline 6. The Applicants have also committed to monitoring collision risk in the updated IPMP at Deadline 6 (document reference 8.13).

Reference	NE Comment	Applicants' Comments
	order to approve the IPMP. It would therefore be appropriate to consider this further. 25. The concern with proposing to only support strategic monitoring programmes is that there is not yet sufficient detail regarding these programmes and the roles that individual developers will have in contributing to the outcomes of such strategic programmes, nor is there currently any guarantee that these external/wider strategies will come to fruition. Developers should not commit to support something in the IPMP that does not yet exist without a corresponding proposal for something that they can directly deliver and be responsible for. 26. Examples of suitable ornithological monitoring objectives may include: • To validate the number of collisions at the offshore windfarm location • To validate the extent and distribution of birds in the array area • To validate the apportioning of birds back to SPA(s) • To detect any changes at the relevant colony(ies) which may arise at the colony as a result of the proposal.	
011	27. Natural England agrees the focus of monitoring should be the extent of displacement on red-throated diver; this should be undertaken as part of a pre- and post-construction monitoring programme. This will be particularly important if a design is consented where the buffer is less than 10km or less than the modelled extent of displacement (once issues such as considering change in survey platform have been considered).	The Applicants consider that the wording of the IPMP could be amended to be more specific, and therefore has been updated to the following: • To determine the level of displacement from the EA1N and EA2 windfarm sites, and specifically to determine the area of the Outer Thames Estuary SPA affected by EA1N and EA2 displacement.

Reference	NE Comment	Applicants' Comments
	28. The first reason the applicant provides for monitoring is : "Displacement of red-throated divers from operational wind farms has been observed in multiple geographies" is not very clear. Natural England advise the reason for monitoring is: • To determine the extent of displacement from EA1N windfarm, and specifically to determine the total area of the Outer Thames Estuary SPA subject to displacement • To determine if there has been any re-distribution of red throated divers within the Outer Thames Estuary	The Applicants note that NE's suggested wording seems to propose that the Applicants undertake wholesale monitoring of the OTE SPA to consider the question of displacement. The Applicants consider that this is not proportionate and that the Applicants cannot be responsible for monitoring of other, existing projects. Such a survey effort would be better suited to a strategic effort.
012	29. The monitoring proposal currently included in the plan is: "Determine whether there is a change in abundance and distribution within the windfarm site and appropriate buffer zones in relation to a suitable reference site." Natural England's advice is that the monitoring should primarily focus on the extent and strength on displacement within the Outer Thames Estuary SPA. We are not clear what is meant by a suitable reference site, but for clarity we advise that monitoring is based on before and after of the area of SPA which is of sufficient size to detect the full extent of displacement. Based on the evidence from the London Array post construction monitoring, we advise that this should be at least 12km from the array. 30. Natural England agree with the analysis of pre and post construction digital aerial survey data, although the number of surveys required should be based on a power analysis.	The IPMP has been updated and submitted at Deadline 6 to address these points (document reference 8.13).
Specific Comments on the EA1N/EA2 IPMP		

Reference	NE Comment	Applicants' Comments
013	Inconsistency in number of turbines – the glossary and Section 1.4.1 states up to 75 turbines, and Section 1.4 states up to 67 turbines. Recommendation: Amend to correct maximum number of turbines	The East Anglia TWO IPMP has been updated and submitted at Deadline 6 to correct this error.
014	Page 2 Section 1.4.1 We would like to know when it will be determined if the northern or southern offshore cable route will be selected, and what this decision depends. We believe the row labelled 'Maximum offshore cable corridor area (northern and southern route options combined)* should be removed from the list of key project characteristics. This area may be referenced incorrectly as a MDS, and used for a 'headroom' argument at a later date. This inclusion of this line is unnecessary given that 'this area is for both the northern and southern offshore cable corridor route options. In practice, only one of the route options would be chosen following detailed project design', both of which are already captured in the characteristics table. Recommendation: Remove the row labelled 'Maximum offshore cable corridor area (northern and southern route options combined)'	It has always been the Applicants intention to choose the southern or northern offshore cable corridor route option post-consent once detailed geophysical and geotechnical information is available. The row with 'Maximum offshore cable corridor area (northern and southern route options combined)' has been removed from the East Anglia TWO IPMP submitted at Deadline 6.
015	Page 4 Section 1.5 Where there is potential for a significant environmental impact this should not, on its own, necessarily lead to the requirement for monitoring.'	The IPMP submitted at Deadline 6 has this sentence removed.

Reference	NE Comment	Applicants' Comments
	We disagree with this statement. Where there is potential for significant environmental impact, monitoring should be conducted to determine if there was a significant impact or not. And inform any adaptive management Recommendation: Remove this sentence from the IPMP	
016	Page 4 Section 1.5 The Applicant is supportive of appropriate strategic monitoring issues' It is not our remit to discuss the applicant's 'business goals' except to say that this should not come at the cost of cutting corners with regards to environmental monitoring.	No further comment.
017	Page 4 Section 1.5 Adaptive approach: 'Where it has been agreed that there are no significant impacts, monitoring need not be conditioned through the DMLs.' This seems reasonable, however, this should not provide justification for the applicant not to do the fully surveys they have committed to.	Noted.
018	Page 5 Section 1.6 Para 12 'The significance of the residual impact should not in its own right necessarily lead to the requirement for monitoring'. If there are residual impacts, it will be necessary to understand (amongst other things): - The size of the area impacted	No further comment.

Reference	NE Comment	Applicants' Comments
	- The species/habitats impacted and their ecological importance - How long the residual impact lasts for – will the impact reduce over time? Long/ short term/permanent residual impact? These questions could be answered through appropriate monitoring.	
019	Page 5 Section 1.6 Para 13 'Only where moderate or major adverse impacts are predicted, or significant uncertainty remains in the assessment has monitoring been deemed necessary' What happens in instances where there are disagreements between the applicant and the relevant interested party on the significance of the predicted impacts Recommendation: Better to also consult the risks and issues log to capture all impacts to be monitored	The IPMP submitted at Deadline 6 has this sentence amended to: *Monitoring has been deemed necessary and required as part of the DML where moderate or major adverse impacts are predicted in the assessment or where uncertainty remains at an industry-wide level.*
020	Page 5 Section 1.6 Para 15 We agree with the use of other relevant studies carried out from EA1 and EA3 to provide the most relevant and up-to-date information/evidence. It is worth considering other publically available publications and data gathered from other OWFs, and if this could also be used/referenced where appropriate and relevant.	Noted.
021	Page 5 Section 1.7.1 Para 17 In general, we agree with combining surveys for monitoring purposes, as long as they don't conflict or influence each other.	Noted.

Reference	NE Comment	Applicants' Comments
	For instance if there are vessels conducting noisy activities then this may influence the results of any marine mammal observations.	
022	Page 10 Table 2 (Benthic Ecology) There is not sufficient detail presented on the buffers for avoiding Sabellaria reef. Recommendation: Provide additional information on the 'associated buffer' ranges for avoidance of Sabellaria reef	The IPMP updated and submitted at Deadline 6 now includes this.
023	We believe that one single post-construction survey if Sabellaria reef is impacted is not sufficient. Recommendation: Commit to more than one post-construction survey if areas of reef are impacted and not able to be avoided	The IPMP updated and submitted at Deadline 6, commits to agreeing the number of post-construction *Saballeria* reef surveys with the MMO post consent.
024	The geophysical survey is going to be conducted to inform the benthic surveys. However, the time period for submission of the methodologies is both 6 months prior to undertaking any survey. This may lead to conflict as the benthic scope and methodologies are to be based on results of the geophysical survey. Currently, the timing implies they will both be submitted at the same time. Recommendation: Amend/clarify timings of geophysical and benthic surveys	The IPMP updated and submitted at Deadline 6 addresses this point.
025	Page 13 Section 1.7.6.2 (Marine Mammals) This paragraph effectively states the Marine Mammal monitoring is proposed in the SIP and MMMP. All monitoring should be recorded in the IPMP.	The Applicants have committed to ensuring that one of the first four piles to be installed will be within an area anticipated to generate the greatest noise emissions (see the updated IPMP submitted at Deadline 6 (document reference 8.13).

Reference	NE Comment	Applicants' Comments
	Further consideration of noise monitoring during piling may be required, for instance, monitoring could extend beyond the first four piles, and instead look to monitor the four 'worse case' piles. Natural England would be happy to discuss the feasibility of this with EA2. Recommendation: Explore the benefits of conducting underwater noise modelling for the four predicted 'worst case' piles	
026	Page 13 1.7.6.2 (Marine Mammals) There currently is no table showing the proposed monitoring for marine mammals. Recommendation: For clarity and ease of understanding, clearly set out the proposed marine mammal monitoring in a tabular layout, similar to Table 2 (Benthic Ecology)	The IPMP updated and submitted at Deadline 6, includes a monitoring table for marine mammals.
027	Page 14 Section 1.7.7.2 (Ornithology) No ornithological monitoring is proposed. It is not sufficient to 'support, in principle' joint industry projects/strategic monitoring programmes. Firm commitments and frameworks for monitoring should be included in the IPMP. Recommendation: The IPMP needs to state what monitoring they will conduct in relation to this project	Monitoring of red-throated diver was proposed in the East Anglia ONE North IPMP submitted at Deadline 3 (REP3-041) and as explained at ISH3 and acknowledged by NE above, was excluded from the East Anglia TWO IPMP in error and has now been included in the updated version submitted at Deadline 6. Additionally, the Applicant has committed to collision risk monitoring in the updated IPMP submitted at Deadline 6.
028	Page 14 Section 1.7.7.2 (Ornithology) There currently is no table showing the proposed monitoring for ornithology.	

Reference	NE Comment	Applicants' Comments
	Recommendation: For clarity and ease of understanding, clearly set out the proposed ornithological monitoring in a tabular layout, similar to Table 2 (Benthic Ecology)	

4 Applicants' Comments on NE Appendix A16 (REP5-083) - NE's comments on Offshore Ornithology Cumulative and In-Combination Collision Risk Update [REP4-042]

Reference	NE Comment	Applicants' Comment
Summary		
001	Overall, the updates presented do not alter Natural England's conclusions presented in our update on Offshore Ornithology submitted at Deadline 3 [REP3-117].	Noted
Collision modelling update (East Anglia One North alone)		
002	Natural England notes that the predicted collision figures for East Anglia One North alone have been recalculated on the basis of the introduction of a 2km buffer between East Anglia One North and the Outer Thames Estuary SPA. As Natural England stated in our Deadline 4 response [REP4–087], we do not consider that a 2km buffer provides adequate mitigation. Therefore, we would anticipate further updates will be necessary.	The Applicants have explained at ISH3 and in the Deadline 3 ***Project Update Note*** (REP3-052) that there are a number of constraints associated with achieving a 10km buffer and 2km is the maximum that the Project is able to accommodate in order for it to maintain target capacity and remain commercially viable. Also see row 012 of the table in ***section 6***.
Updated cumulative and in-combination collisions		
003	Kittiwake: We acknowledge that Hornsea Project Three has now been granted consent. We note that the Applicants have assumed that the compensation provided by Hornsea Project Three, for kittiwakes from the Flamborough and Filey Coast (FFC) SPA, fully compensates for the predicted collisions from this project, and hence zero kittiwake collisions are attributed to the FFC SPA from Hornsea Project Three. Natural England are still considering the implications of the Hornsea Project Three decision and hence our advice in relation to cumulative and in-	No further comment

Reference	NE Comment	Applicants' Comment
	combination figures when this project is included in the totals. However, it should be noted that the Hornsea Project Three decision does not change Natural England's conclusions in relation to in-combination collision effects of FFC SPA kittiwakes for EA1N and EA2. We have advised that an adverse effect on integrity (AEoI) could not be ruled out for in-combination collision risk to kittiwakes at the FFC SPA since Hornsea Project Two. Therefore, any additional mortality arising from further proposals would be considered adverse. Since Hornsea Project Two, further projects have been consented or waiting to be determined. Each project since Hornsea Two, including EA1N and EA2, makes a contribution to an in-combination total where AEoI cannot be ruled out. Therefore, even assuming the kittiwake mortality for Hornsea Project Three will be fully compensated, it does not change the fact that in-combination impacts with other projects remain.	
004	Hornsea Project 3 All species: We note for Hornsea Project 3 recognise that presently the numbers included for EIA cumulative for all species and for HRA in-combination, for all species except FFC SPA kittiwakes, do not take into account the mitigation and additional baseline data provided in Ørsted's post-examination submissions for Hornsea Project Three. Therefore, once these are available anticipate that all open applications will need to update their collision risk and displacement figures for the cumulative/in-combination assessment.	Noted.
005	Headroom: We welcome that the figures included in REP4-042 (for EA3 and EA1) have reverted to those for the consented projects rather than the figures for the Non-Material Changes. We note that the figures now included for these two projects in REP4-042 reflect those submitted at the end of the Norfolk Boreas Examination for all species. With the exception of those for great black-backed gull for EA3, the annual total	The Applicants acknowledge that the great black-backed gull collision estimate for East Anglia THREE included in the cumulative assessment in REP4-042 was incorrect (the NMC figure was retained in error). The Applicants will update REP4-042 within the examination, however this is unlikely to be until Deadline 8 (but will be submitted earlier if the information becomes available) to allow for a comprehensive update

Reference	NE Comment	Applicants' Comment
	included in REP4-042 for EA3 is 34.4 GBBG collisions. However, the annual total included for the same project in the Norfolk Boreas cumulative assessment was 39 collisions. We recommend the Applicants double check these figures.	should Hornsea Project Three or Four figures become available. This change will not affect the conclusions of the EIA or HRA or require any feedback from NE since they will have already received the information. The Applicants would just be ensuring this information is submitted into the public domain.
006	Hornsea Project 4: We welcome that figures from Hornsea Project Four are provided in the cumulative/in-combination assessments. However, we note that the figures included for this project are from the PEIR for the project and these represent the best available figures in the public domain for this project. These PEIR figures, and the methodologies to produce them, are subject to ongoing discussions through the evidence plan process and therefore have an element of uncertainty associated with them and a likelihood of being subject to change.	Noted. If updated numbers for Hornsea project 4 become publicly available by mid-March, then the Applicants will endeavour to update the collision numbers and submit these at Deadline 8.
007	Therefore, we welcome that the Applicants have presented cumulative and in-combination totals for both including and excluding Hornsea Project Four. This inevitable uncertainty around the Hornsea Project Four figures means that Natural England is not in a position to advise that a significant adverse impact for cumulative impacts at EIA scale or that an AEoI for in-combination impacts at HRA can be ruled out for any relevant species or feature of an SPA when Hornsea Project Four is included in the totals.	Noted.

5 Applicants' Comments on NE Appendix G3 (REP5-087) - NE's Advice on Non-Material Changes and Headroom

Reference	NE Comment	Applicants' Comments
Summary		
001	At Issue Specific Hearing 3, held on January 19th 2021, Natural England's advice regarding concerns on incorporating Non-Material Changes (NMC) to East Anglia Project ONE (EA1) and East Anglia Project THREE (EA3) was raised and a request for clarification of Natural England's position regarding whether these NMCs could be considered legally secured.	No response required.
Detailed Advice		
002	Firstly, Natural England would advise that we are currently working with industry to look at standardising the approach to headroom and into legally secured approaches to releasing headroom once projects have constructed. This work may conclude during the current examination process. If so, Natural England would advise that any standard approach agreed with industry at that point should be considered for East Anglia ONE North (EA1N) and East Anglia TWO (EA2). However, we would advise at this stage that we see this as unlikely during the current examination timetable.	Noted.
003	With regard to whether the NMC are considered legally secured, Natural England would advise that currently they are not legally secured as no determination has been made by the Secretary of State on the NMC for EA3 and that no NMC application has yet been made for EA1. The EA3 NMC could be refused, withdrawn or amended.	Noted. The collision risk figures have been reverted in ***Offshore Ornithology Cumulative and In-Combination Collision Risk Update*** [REP4-042] to not take account of forthcoming NMC

Reference	NE Comment	Applicants' Comments
	While the EA1 application may not in the end be submitted, or may be amended. As neither application has been determined the Secretary of State may decide the proposed changes are material and this would lead to requirement for a material change process. While Natural England notes the likely outcome for the proposed NMCs would be for them to be granted, until the decision is made there is uncertainty that this would be the case.	applications as acknowledged by NE in row 005 of the table in ***section 4***.
004	It should be noted that Case C-127/02 Waddenzee, the European Court spelled out that a national authority may authorise a plan or project "only where they have made certain it will not adversely affect the integrity of the site. That is the case where no reasonable scientific doubt remains as to the absence of such effects". Therefore, due to the uncertainty remaining in the NMCs, Natural England's advice remains that the in-combination assessment should include figures for EA1 and EA3 without reduction for the proposed NMCs.	
005	However, if the Secretary of State makes a determination on the EA3 NMC and the EA1 NMC is applied for and determination is granted then this would be considered legally secured and certain. However, this would also require the wording of the DCO and DMLs for EA3 and EA1 to be appropriately changed to reflect not just the number of turbines, but to reflect any changes to other parameters relevant to collision risk (such as blade length, minimum clearance height etc). If appropriate changes were made to the DCO and DML then they could be considered legally secured and certain.	
006	Furthermore, Natural England would advise that any reduction of impact from EA1 and EA3 should not be a simple proportional reduction based on the reduction of the number of turbines. A wide range of factors are used to model collision impacts, such as rota	The Applicants are in complete agreement on this point and can confirm that the method used to update the collision predictions for East Anglia ONE and East Anglia THREE involved re-estimation of collisions using all the relevant turbine parameters. However, it should

Reference	NE Comment	Applicants' Comments
	swept area, blade pitch, blade speed etc. The actual headroom created by these NMC should be based on updated collision risk modelling accounting for the actual turbines deployed.	also be stressed that in the case of East Anglia ONE, the *only* change required to the collision risk modelling is a reduction in turbine number from 150 to 102. This is because the previous estimates (submitted during the East Anglia THREE examination) used the parameters for the turbines which were actually installed on the windfarm.
007	If the applicant was to submit updated figures for EA1 and EA3 assuming the NMC are approved, Natural England could provide comment on a without prejudice basis. Thus, should EA3 and/or EA1 NMCs be granted prior to determination the Secretary of State could consider the legally secured figures at that time. We consider this a pragmatic way forward on this issue.	The Applicants do not consider that this is necessary given that the NMC figures have already been provided in ***Offshore Ornithology Cumulative and In Combination Collision Risk Update*** (REP1-047) and that the changes to overall mortalities would not change NE's positions on AEoI for the relevant species.

6 Applicants' Comments on NE Appendix A15 (REP5-082) – NE's Further Comments on the Requirement for Compensatory Measures [REP3-054] and the Applicant's Derogation Case [REP3-053]

Reference	NE Comment	Applicants' Comment
Summary		
001	i. Interim Advice 1. Further to Natural England's interim advice on the proposed compensatory measures provided at D4 [REP4-088] we would like to expand on certain aspects of our advice to help inform the Examining Authorities (ExA) recommendations and project determination phase. However, please be advised that our previous advice still stands, especially in relation to ensuring that every effort has been made to avoid, reduce and mitigate the impacts from the two project thus demonstrating that there are not alternative solutions to having to consider compensatory measures for the impacts. Please note that the Norfolk Boreas project is a better example of how a derogations case could be progressed and presented. Therefore, the focus of this document is on how the derogation processes should be improved, rather than whether or/not the compensation measures have offset the impacts	Noted.
002	ii) Compensation packages **The East Anglia ONE North (EA1N) and East Anglia Two (EA2) outline compensation packages submitted at Deadline 3 [REP3–**	The Applicants have submitted an ***Offshore Ornithology Without Prejudice Compensation Measures*** document (document reference ExA.AS-8.D6.V2) at Deadline 6 which provides greater detail on compensation.

Reference	NE Comment	Applicants' Comment
	054] is insufficient and therefore cannot be classed as a complete compensation package. We advise that without detailed descriptions of the proposed compensatory packages, which are evaluated in a way that demonstrates that the adverse effects will be offset, including detailed information on how they will be secured and delivered; there is a significant risk that the packages will not be robust enough to satisfy the compensatory measures derogation. We advise that under the Habitat Regulations the onus is on the Applicant and the wider offshore windfarm sector to identify and deliver through innovation the best ecological options for compensation either at a project specific or strategic level, doing so in a way that addresses the difficulties and uncertainties associated with compensation for mortality and displacement impacts. In addition, regulators also need to ensure that all appropriate mechanisms needed to enable delivery of the most ecologically advantageous compensation options are in place. Therefore, using lessons learnt from the Hornsea Project Three decision and requirements for delivery of that project's compensation packages, if clarity , could please be provided on what a comprehensive package must include to allow certainty in the consenting and implementation phase that impacts can be fully offset and delivered either at a project specific or strategic level. For example, if required, what are the Terms of Reference for Compensation Steering Groups, the roles of members and what is the approval process for measures? There are also questions such as to how long will measures need to be delivered for before progression to the next project phase?	
Previous Decisions		

Reference	NE Comment	Applicants' Comment
003	Natural England notes that the Applicant's arguments in both the REP3–053 and REP3-054 often reference the Norfolk Vanguard decision. However, we urge caution in assuming that similar approaches will be followed, particularly given the incremental increase in mortality impacts as projects continue to come forward. For example; the subsequent Hornsea Project 3 decision has taken a different approach, particularly in relation to consideration of in-combination impacts on Flamborough and Filey Coast SPA kittiwakes where an adverse effect on integrity (AEoI) was identified and all of that project's impacts on kittiwake had to be compensated for.	The Applicants note NE's point but would highlight that the kittiwake collisions apportioned to the Flamborough and Filey Coast SPA from the Projects is only 2.4 combined while for Hornsea Project Three it is 73. The Applicants therefore consider that the SoS decision on Norfolk Vanguard is more representative of the considerations required when the SoS comes to make a decision on the Projects and therefore reference to Norfolk Vanguard is justified.
004	In preparation for the Secretary of State (SoS) potentially requiring compensation, the Applicants for Hornsea Project 3, Norfolk Vanguard and Norfolk Boreas were required to provide, in consultation with Natural England, a much more comprehensive package for each species than the ones currently presented for EA1N and EA2. Furthermore, despite provision of these packages, for Hornsea Project Three there remain considerable post consent challenges in delivering the required compensation measures. For example, investigations remain ongoing to identify and secure appropriate locations for artificial nest sites that will offset the impacts to kittiwake with any degree of certainty. **Therefore, we advise that a complete, detailed, deliverable, and secured compensation package must be provided during the examination phase to provide the required confidence to the Secretary of State that the measures are feasible and likely to prove effective.**	The Applicants have submitted an ***Offshore Ornithology Without Prejudice Compensation Measures*** document (document reference ExA.AS-8.D6.V2) at Deadline 6 which provides greater detail on compensation. While the Applicants acknowledge NE's advice on this matter, it remains the case that the combined collision prediction for kittiwake from the Flamborough and Filey Coast SPA for the Projects is only 2.4 individuals per year. NE's position is that there is a requirement to compensate for any addition to the existing in-combination total (i.e. no matter how small). However, the Applicants consider that the scale of impacts at the Projects is a material factor in any review of proposed compensation, since the ability to deliver such a small amount of compensation is much more attainable than for a larger amount (such as that required for the Hornsea Project Three windfarm).
005	In addition, should the Secretary of State require that all ornithology impacts are fully compensated for; then we would expect as a minimum, timeframes for delivering any compensatory measures for breeding	The Applicants note that the requirement for compensation to be in place in advance of the predicted impacts occurring is a reasonable one, however as with the Applicants' response to row 004, the scale of impact

Reference	NE Comment	Applicants' Comment
	seabirds (prior to construction) to be similar to Hornsea Project 3 i.e. four full breeding seasons.	is a material consideration in this matter. The situation facing Hornsea Project Three, with a requirement to compensate for 73 adult collisions per year is such that each year for which there is a delay in the delivery the Project acquires a mortality 'debt' which subsequently needs to be repaid through compensation. While this is of concern for Hornsea Project Three, should compensation be required for the projects, a debt of 2.4 mortalities per year to be recouped in later years does not represent the same magnitude of concern. Indeed, it may very well be that a successful new colony (if required) could pay off any such 'mortality debts' within a single year and within several years could also have made large contributions towards future compensation requirements. Thus, in summary, the scale of compensation required for the Projects is a material factor which should be given due consideration in determinations of the suitability and deliverability of the proposals.
Flamborough and Filey Coast SPA - Kittiwake Nest Sites		
006	Natural England continues to advise that whilst the Applicant has focused on one project specific compensation option for kittiwake i.e. artificial nest sites, other options should still be considered e.g. increasing prey availability and prey enhancement [REP4 – 088] to allow the SoS to consider a range of compensation options.	Appendix 1 of the ***Offshore Ornithology Without Prejudice Compensation Measures*** (document reference ExA.AS-8.D6.V2) considers the feasibility of increasing prey availability through fisheries management. This work supplements that done for Hornsea Project 3 and reaches the same conclusions that it is currently not feasible for offshore windfarm developers to increase prey availability through fisheries management. Other options are considered within the ***Offshore Ornithology Without Prejudice Compensation Measures*** document however the provision of additional nesting habitat in southern North Sea coastal locations where natural (or existing artificial) nesting opportunities are limited is considered the only realistic option.

Reference	NE Comment	Applicants' Comment
007	As more offshore windfarm NSIPs propose 'without prejudice compensation measures' for Flamborough and Filey Coast SPA kittiwake, the ability to deliver similar measures i.e. provision of artificial nest sites to increase the overall productivity of the population sufficient to offset the predicted impact is increasingly likely to become limited. This may arise as a consequence of various factors such as limited availability of appropriate locations or a limit to the availability of birds needed to recruit to the new structures. For example: Natural England has recently advised the MMO on the Lowestoft Eastern Energy Facility outer harbour redevelopment scoping EIA (works planned for 2021/2022), and based on the proposals it appears highly unlikely that the progression of kittiwake structures at Lowestoft Harbour is feasible at this time for compensation measures. Furthermore, the Lowestoft – Aldeburgh coastline has soft, rapidly eroding cliffs which are protected and therefore structures that could affect natural coastal processes should be avoided along the coastal strip. These issues present significant challenges in the ability to deliver compensatory measures in these locations, and emphasise the need to bring forward detailed, deliverable and secured measures prior to consenting decision. Even with unlimited appropriate nesting sites, the efficacy of this as a compensation measure is not without limit as there are other pressures on the population such as prey availability. There is also ongoing uncertainty regarding the presence of a pool of breeding-age kittiwakes that would otherwise not breed (or experience no or low productivity) that can recruit into a new nest site.	See Row 004.
010	Therefore, Natural England advises that artificial nest site provision remains untested as a Habitats Regulations compensatory measure for	See Row 004.

Reference	NE Comment	Applicants' Comment
	this species in the UK. It will remain so until such time as the structures planned to be constructed by way of compensation in relation to the Hornsea 3 project are built, operational and shown by monitoring over several years to have delivered the required increase in population level reproductive output. At present, experience shows that only 50% of artificial nesting structures for kittiwakes are occupied at all and none of those were fully occupied[1], which is further compounded by availability of appropriate sites in which to locate such structures.	
011	However, given the point raised above about timescales for delivery of nest site compensation prior to project commencement i.e. four full breeding seasons, it is highly likely that other strategic options could become available during this time. Therefore, if the SoS identified that prey enhancement (or similar) should be taken forward as compensation for this project, it would be fitting to expect industry and regulators to implement the delivery of the compensation measure within a four year period (or sooner) prior to the commencement of the projects. Therefore, we would welcome further wider consideration of compensation options and mechanisms for delivery.	No further comment.
Outer Thames Estuary SPA – Red-throated Diver (RTD)		
012	Natural England notes that if mitigation of a 10km buffer is adopted to remove an Adverse Effect on Integrity on OTE SPA, then ~40-50% of the array footprint of EA1N would no longer be available. However, the remaining ~100km2 would still represent a large footprint for OWF development, which is greater than most Round 2 Offshore Windfarms (OWFs) and current pre-application consultations on extensions to those projects namely Dudgeon and Sheringham Shoal extensions. It is	The Applicants can clarify that no further buffer distance mitigation will be implemented at the East Anglia ONE North or East Anglia TWO projects. While 100km^2 may represent a large footprint for OWF development compared to most Round 2 OWF's, those projects targeted smaller overall generating capacities and are constructed using smaller sized turbines than those proposed at the Projects.

[1] Ørsted post examination submission to SoS updated to PINs website 2 October 2020

Reference	NE Comment	Applicants' Comment
	also acknowledged that like with all OWFs, the constructed Race Bank OWF[2] with an array footprint of 75km2 has areas within it which have 'constraints' which make them unsuitable for infrastructure, so not all the 75km2 has been used.	While fewer larger turbines will be utilised at the Projects, the spacing required between them to avoid wake effects is much larger than that required for windfarms with smaller turbines. Additionally, there is the potential requirement in order to address safety of navigation concerns to align wind turbines with those at East Anglia ONE, which significantly reduces the flexibility with regard to turbine installation locations. The Applicants would highlight that the Government now has a target for delivery of 40GW of offshore wind by 2030. Reducing the capacity of East Anglia ONE North (irrespective of any financial viability issues) is not in line with Government policy.
013	Therefore, we encourage the Applicant to explore further the option of a smaller array to enable a 10km buffer between the Outer Thames Estuary SPA to be accommodated and thereby reduce the predicted impact to a point at which compensatory measures may no longer be necessary to ensure the integrity of this site.	
014	If it is demonstrated that the above mitigation option would result in the project no longer being viable, then a comprehensive compensation package would need to be provided to fully offset the AEoI on OTE SPA Red-throated Diver.	The Applicants wish to note that they do not consider that an AEoI of the OTE SPA would occur due to effects upon red-throated diver. However, the Applicants have submitted on a without prejudice basis an ***Offshore Ornithology Without Prejudice Compensation Measures*** document (document reference ExA.AS-8.D6.V2) at Deadline 6 which considers potential compensation options for red-throated diver.
015	As set out in our interim advice [REP4- 088] management of vessel traffic was provided as an example of reducing anthropogenic influences and impacts from disturbance. However, this measure would be dependent on being able to deliver navigational management of established shipping lanes for the purposes of compensation. It is our current understanding that the only other compensatory measure with a high degree of certainty in 'reducing anthropogenic influences', would be the removal of existing turbines from within the Outer Thames SPA. But, there may be other compensatory options to offset the displacement of non- breeding RTD which could be adopted alone or as part of a package at both a project and strategic level to ensure the integrity of the SPA. Therefore, the onus is on the Applicant to consider	

[2] Race Bank is a 575MW Round 2 offshore windfarm project located 17km off the North Norfolk Coast which became operational in 2018

Reference	NE Comment	Applicants' Comment
	this further to meet the SoS requirements as set out in the Hornsea Project 3 decision letter where there is ongoing debate about AEoI.	
Alde Ore Estuary SPA - Lesser Black-backed Gull		
016	Natural England broadly agrees that a potential compensatory measure is addressing predation issues through the provision of predator exclusion fencing of the kind previously proposed by Norfolk Vanguard and Norfolk Boreas at strategic locations. Although this is feasible in principle there needs to be clarity where other projects have identified this option as a potential measure and whether this is also a valid option for this project. **We would therefore expect at least the same level of detail and consideration as undertaken by Vattenfall for the Norfolk Boreas Project with additional information on how this compensation measure will be different/additional to that project and secured.**	The Applicants have submitted an ***Offshore Ornithology Without Prejudice Compensation Measures*** document (document reference ExA.AS-8.D6.V2) at Deadline 6 which considers potential compensation options for lesser-black-backed gull.

7 Applicants' Comments on NE Appendix C7 (REP5-084) – NE Terrestrial Ecology Update and Comments to [REP3-031, REP4-004, 005, 015, 043]

ID	NE's Deadline 5 Comment	Applicants' Response
Summary		
1	This document provides an update on Natural England's position in relation to • The Sandlings SPA Crossing Method Statement • The Hundred River Crossing in relation to the area of Priority Woodland and Hairy Dragonfly.	Noted.
2	This document also provides advice on the following documents submitted by the Applicant at Deadline 3 and 4 in relation to terrestrial ecology: • Outline Landscape and Ecological Management Strategy [REP3-30 clean and REP3-031 tracked] • Outline Operational Drainage Management Plan [REP4-003 Clean and REP4-004 Tracked] • Deadline 4 Onshore Ecology Clarification Note [REP4-005] • Outline Landscape Mitigation Plan [REP4-015] • Noise Modelling Clarification Note [REP4-043]	Noted.
Natural England's Update Position and Advice on the Sandlings SPA Crossing Method Statement		
3	1. Natural England has reviewed all submitted documents in relation to the Sandlings Special Protection Area (SPA) crossing. Whilst our	Noted.

ID	NE's Deadline 5 Comment	Applicants' Response
	default position remains in support of a trenchless option to avoid impacts to SPA supporting habitats and minimise disturbance; we acknowledge that the Applicant, through project design, has chosen a crossing location that would be the least impactful i.e. the narrowest part and currently of lower ecological value than the surround areas of the SPA.	
4	2. We also note that if done correctly an open trench option, which involves installing ducts for both cables simultaneously, could enable the SPA habitats to recover within the short to medium term. This could also potentially further reduce disturbance to breeding birds and notified features of the Aldeburgh to Leiston Site of Special Scientific Interest (SSSI) when compared to the greater temporal and spatial impacts of the trenchless techniques.	Noted.
5	3. Therefore, Natural England would advise that an Adverse Effect on Integrity (AEoI) 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: - a. 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 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. Reason: As this this mitigation is fundamental and immutable to preventing an AEoI 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	a) The Applicants consider that it is inappropriate to prevent the construction of the Projects until Work No. 12A is in functioning condition, as it is outside the Applicants control as to whether the area is used by nightingales. The Applicants consider it appropriate to ensure that the final SPA Crossing Method Statement includes the detailed measures to be adopted in the preparation of Work No. 12A to ensure it is prepared to the best possible standard to encourage nightingale use. It is noted that the preparation works relate to the thinning and management of existing scrub and management of existing grassland, therefore no new woodland areas etc. are required. The preparation of Work No. 12A is therefore capable of being planned in advance and implemented to an acceptable standard. b) Monitoring proposals are included within the ***Outline SPA Crossing Method Statement*** (an updated version has been

ID	NE's Deadline 5 Comment	Applicants' Response
	requirement, appropriately worded, would meet all five tests for a planning condition. b. 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. Reason: Maintaining/Restoring supporting habitat is a conservation objective of the Sandlings SPA c. 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. 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. d. 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 improvements to the habitats be	submitted at Deadline 6, document reference ExA.AS-3.D6.V2); the resultant annual monitoring reports will be provided to NE. c) The Applicants commit to undertaking habitat management within Work No. 12A for a period of 10 years from the end of the relevant construction period, save for the horse paddock area which shall be for five years to allow its return to its existing use. d) Measures presented within the ***Outline SPA Crossing Method Statement*** (an updated version has been submitted at Deadline 6, document reference ExA.AS-3.D6.V2) will provide improvement for the habitats during the management periods.

ID	NE's Deadline 5 Comment	Applicants' Response
	included in the Outline SPA Crossing Method Statement plan with full details submitted prior to construction. 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.	
The Hundred River Crossing in Relation to the Area of Priority Woodland and Adjacent Meadow		
6	4. During the Issue Specific Hearing 3 on 19th January 2021, Natural England noted that other interested parties raised the issue of potential impacts to wet woodland and non-arable land suitable for the Hairy Dragonfly adjacent to the Hundred River Crossing.	Noted.
7	5. Natural England took an action to investigate this further and re-review the survey data presented in the Environmental Statement, which was submitted in Autumn 2019.	Noted.
8	6. Please accept this advice in addition to that provided at Deadline 4 [REP4- 092] noting that there is no change in relation to our request for the Applicant to include assessment of impacts to designated sites in any river crossing documentation.	Noted.
9	7. Subsequent to the submission of the EA1N and EA2 applications the area of woodland on the west side bank adjacent to the proposed Hundred River crossing location has been identified, in 2020, as Priority deciduous woodland. Unfortunately the mapping software MAGIC.gov.uk doesn't differentiate between the different types of priority deciduous woodland. If this is confirmed as wet woodland, it is a priority habitat under the UK biodiversity Action Plan (UK BAP),	Whilst it is acknowledged that 'www.magic.defra.gov.uk' does not differentiate the different types of priority deciduous woodland, the area of woodland to the east and west of the Hundred Rover was not recorded as wet woodland during the 2018 Extended Phase 1 Habitat Survey. Wet woodland typically occurs on poorly drained or seasonally wet soils. It can be found on floodplains, as successional habitat on fens, mires

ID	NE's Deadline 5 Comment	Applicants' Response
	which are considered the habitats that are most threatened and requiring conservation. Therefore, Natural England would advise that mitigation measures are required to avoid impacts to this woodland. Please be advised that wet woodlands are sensitive to changes in climate conditions and therefore this woodland is unlikely to recover from the removal of a section of trees, disturbance to soils and changes to hydrological conditions. 8. Please be advised that based on oral submissions provided at ISH3 and photographs provided to Natural England we would agree that the required attributes for this woodland to be considered as Wet Woodland are present.	and bogs, along streams and hill-side flushes and in peaty hollows. It occurs on a range of soil types, including nutrient-rich mineral soils and acid, nutrient-poor organic soils. Predominant tree species usually include alder, birch and willow, but ash, oak, and beech can be present on the drier riparian areas. Semi-natural broadleaved woodland is characterised by trees that are typically deciduous with broad and varied leaf shapes. The pattern of losing and gaining leaves allows for the woodland floor and understorey to be as varied as the canopy. The key ground fauna species recorded during the 2018Extended Phase 1 Habitat Survey include bramble, bracken and gorse. The tree species recorded include oak, silver birch, hawthorn, holly, creeping willow and horse chestnut. Whilst some of the species recorded can be associated with wet woodlands, when assigning the classification of semi-natural broadleaved woodland this has been determined using a site wide understanding of the species recorded during the surveys (i.e. a classification of semi-natural broadleaved woodland was considered the most appropriate). The Applicants have since revisited the site (15th – 16th February 2021) and verified that the woodland within the Order limits does not comprise species associated with wet woodland; a full survey report has been submitted at Deadline 6 (document reference ExA.AS-26.D6.V1). During Issue Specific Hearing 7, East Suffolk Council (ESC) and Suffolk County (SCC) (the Councils) also confirmed that following their own independent site visit they are in agreement with the Applicants that it is not wet woodland. As such, the Applicants maintain its original identification of this habitat as broadleaved semi-natural woodland in

ID	NE's Deadline 5 Comment	Applicants' Response
		line with the Handbook for Phase 1 Habitat Survey (Joint Nature Conservation Committee). Although crossing the Hundred River will require the removal of a section of woodland, the mitigation measures (as presented in the ***Outline Watercourse Crossing Method Statement*** (an updated version has been submitted at Deadline 6, document reference ExA.AS-5.D6.V2) that will be implemented will not result in a change in the hydrological conditions of either the river or the surrounding land. The Applicants' woodland planting at the Hundred River will be managed for a period of 10 years as per the ***Outline Landscape and Ecological Management Strategy*** (OLEMS) submitted at Deadline 6 (document reference 8.7).
10	9. Natural England has received communications from another interested party which support submissions that the area adjacent to the Hundred River hasn't been cultivated for some time and it is not only likely to be suitable habitat for the hairy dragonfly, but also of high ecological value. This is contradictory to the evidence submitted in Applicants Environmental Statement. Therefore, we request that both the Applicant and the other interested party submit relevant evidence to properly characterise this area of land. Once this is provided Natural England will be able to provide further advice. 10. However, Natural England's current advice based on the evidence presented is that mitigation measures should be adopted for the meadow and therefore we would support the extension of the mitigation measures for the wet woodland.	The hairy dragonfly is typically found around waterbodies where there are a variety of different plants (e.g. ditches in grazing marshes, gravel pits and canals). No evidence of suitable habitat was found during the 2018 or 2019 surveys and therefore no invertebrate (terrestrial or aquatic) survey was undertaken for the Applications (***section 22.5.3.8*** of ***Chapter 22 Onshore Ecology*** (APP-070)). Embedded mitigation measures (e.g. areas where invertebrates have been recorded (predominately around the habitats along the coastline) will be avoided wherever possible) would reduce impacts on invertebrates should their presence or suitable habitat be identified by pre-construction surveys. The Applicants have since revisited the proposed Hundred River crossing location (15th – 16th February 2021) and assessed the habitat conditions at the Hundred River itself, as well as of the adjoining grazing land. No emergent vegetation was identified and limited bankside vegetation (key species being bramble (*Rubus spp.*), nettle

ID	NE's Deadline 5 Comment	Applicants' Response
		(*Urtica dioica*), teasel (*Dipsacus*) and perennial rye grass (*Lolium perenne*)) was recorded. Cattle were present on the grazing land and key species noted comprised perennial rye grass and Yorkshire fog among open muddy areas. It is therefore concluded that hairy dragonfly is unlikely to be present due to the absence of its habitat requirements. A full survey report has been submitted at Deadline 6 (document reference ExA.AS-26.D6.V1). Construction of the Projects will require a temporary footbridge or culvert over the Hundred River. This will be adequately sized to avoid impounding flows and therefore the exiting condition of habitats will be maintained. Where a culvert may be used, the invert level of the structure will be installed below the natural bed of the channel so that sediment transport and the movement of aquatic invertebrates can be maintained. All bed and bank habitats will be reinstated and where possible improved following completion. The SNCB will be consulted on preparation of the ***Watercourse Crossing Method Statement*** (secured under Requirement 22(2)(k) of the DCO) which will require approval by the relevant planning authority. Following implementation, the magnitude of effect on invertebrates is expected to reduce from low to negligible on a high importance receptor representing a temporary residual impact of minor adverse significance.
Outline Landscape and Ecological Management Strategy (REP3-030 Clean and REP3-031 Tracked)		
11	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	Noted. An updated ***OLEMS*** has been submitted at Deadline 6 (document reference 8.7) which includes revised wording in response to this matter.

ID	NE's Deadline 5 Comment	Applicants' Response
	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.	
12	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, 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.	Please see the Applicants' response at ID9. The woodland adjacent to the Hundred River was recorded as semi-natural broadleaved woodland during the 2018 Extended Phase 1 Habitat Survey with the ground flora recorded including bramble, bracken and gorse. The tree species recorded include oak, silver birch, hawthorn, holly, creeping willow and horse chestnut. This classification was verified when the Applicants revisited the site on 15th – 16th February 2021; a full survey report has been submitted at Deadline 6 (document reference ExA.AS-26.D6.V1).
13	13. Furthermore, in the recent response to Natural England's comments regarding hairy dragonfly, *Brachytron pratense*, 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 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.	No evidence of habitat suitable for hairy dragonfly was found during the 2018 or 2019 surveys and therefore no invertebrate (terrestrial or aquatic) survey was undertaken for the Applications (***section 22.5.3.8*** of ***Chapter 22 Onshore Ecology*** (APP-070)). Embedded mitigation measures (e.g. areas where invertebrates have been recorded (predominately around the habitats along the coastline) will be avoided wherever possible) would reduce impacts on invertebrates should their presence or suitable habitat be identified by pre-construction surveys. The Applicants have since revisited the proposed Hundred River crossing location (15th – 16th February 2021) and verified that the woodland within the Order limits not comprise species associated with wet woodland. During Issue Specific Hearing 7, the Councils also confirmed that following their own independent site visit they are in agreement with the Applicants that it is not wet woodland. As such, the

ID	NE's Deadline 5 Comment	Applicants' Response
		Applicants maintain its original identification of this habitat as broadleaved semi-natural woodland. During the 2021 site visit the Applicants assessed the habitat conditions at the Hundred River itself, as well as of the adjoining grazing land. No emergent vegetation was identified and limited bankside vegetation (key species being bramble (*Rubus spp.*), nettle (*Urtica dioica*), teasel (*Dipsacus*) and perennial rye grass (*Lolium perenne*)) was recorded. Cattle were present on the grazing land and key species noted comprised perennial rye grass, Yorkshire fog and open muddy areas. It is therefore concluded that hairy dragonfly is unlikely to be present due to the absence of its habitat requirements. A full survey report has been submitted at Deadline 6 (document reference ExA.AS-26.D6.V1). Construction of the Projects will require a temporary footbridge or culvert over the Hundred River. This will be adequately sized to avoid impounding flows and therefore the exiting condition of habitats will be maintained. Where a culvert may be used, the invert level of the structure will be installed below the natural bed of the channel so that sediment transport and the movement of aquatic invertebrates can be maintained. All bed and bank habitats will be reinstated and where possible improved following completion. The SNCB will be consulted on preparation of the final ***Watercourse Crossing Method Statement*** (an updated version has been submitted at Deadline 6, document reference ExA.AS-5.D6.V2)) (secured under Requirement 22(2)(k) of the DCO) which will require approval by the relevant planning authority. Following implementation, the magnitude of effect on invertebrates is expected to reduce from low to negligible on a

ID	NE's Deadline 5 Comment	Applicants' Response
		high importance receptor representing a temporary residual impact of minor adverse significance.
14	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.	Noted. Whilst no evidence or suitable habitat for hairy dragonfly has been recorded during the surveys undertaken to date, the ***OLEMS*** (an updated version has been submitted at Deadline 6, document reference 8.7) has been updated to include the requirement for pre-construction surveys (including habitat suitability assessments) for hairy dragonfly.
15	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 the case of mitigation for both nightingale (section 6.3.4.2) and turtle dove (***section 6.3.4.1*** of the ***OLEMS*** (REP3-030)), respective management within Work Nos.12A and 14 would take place in the non-breeding season prior to the commencement of construction within and adjacent to the SPA crossing. This would ensure that these areas would be available for these species, and that they contain habitat types that are sufficient to compensate for losses while enhancing existing conditions. Management within Work No 12A would aim to mitigate for the temporary loss of potential breeding habitat within Work No 12. This would occur over a period of ten years within areas of potentially suitable habitat (the area of horse paddock would be managed for a five-year period). Habitat condition and breeding evidence would be monitored throughout the ten-year period to determine whether any management measures require alteration.
16	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	The details of the planting and landscaping proposed are given within the ***OLEMS*** (an updated version of the document has been submitted at Deadline 6, document reference 8.7). There are notable opportunities for ecological enhancement which the Projects will actively seek to

ID	NE's Deadline 5 Comment	Applicants' Response
	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.	deliver and develop through the Landscape Management Plan (LMP) and Ecological Management Plan (EMP); these will be produced post-consent for approval by the relevant planning authority as per Requirements 14 and 21 of the DCO.
17	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.	Noted.
18	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.	Noted. The ***OLEMS*** that has been submitted at Deadline 6 (document reference 8.7) includes confirmation that NE will be consulted.
19	19. 5.3.2. We welcome the change to a width of 16.1m where the cable route crosses important hedgerows.	Noted.
20	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: • Paragraph 155: Landscaping • 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	Noted. An updated ***OLEMS*** has been submitted at Deadline 6 (document reference 8.7) which includes revised wording in response to this matter.

ID	NE's Deadline 5 Comment	Applicants' Response
	• Paragraph 346: The Breeding Bird Protection Plan (BBPP_ • Section 9: Monitoring Note that there may be other examples and therefore a full review of the document is necessary.	
21	21. 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.	The Applicants note that badgers are mobile species and between the ecological surveys undertaken for the EIA and the commencement of construction, the number, status and location of badger setts may have changed. Pre-construction surveys for badger will be undertaken, the findings of which will be considered during detailed design and inform the measures presented within the final EMP. At this stage, the Applicants cannot guarantee that all badger setts identified during future surveys will be avoided in all cases. The Applicants have submitted a request for a Letter of No Impediment for badgers to NE, which was supported by a draft badger mitigation licence application comprising a suite of documents including a draft Badger Method Statement submitted to the Examinations at Deadline 6 as ***Appendix 2*** of the ***Applicants' Responses to Hearing Action Points*** (document reference ExA.HA.D6.V1). The draft Badger Method Statement sets out the mitigation measures that will be implemented under licence in respect of badgers.
22	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,	***Appendix 23.3*** of the Environmental Statement (ES) (APP-510) contains a list of all species present within each part of the study area during the baseline surveys. Skylark, and other Red-listed species were considered target species, and an estimated 30-40 skylark pairs were present within the study area (***Table A23.***3 of ***Appendix 23.3*** (APP-510)).

ID	NE's Deadline 5 Comment	Applicants' Response
	and whether any mitigation is being provided for loss of farmland habitat in this context.	Farmland species turtle dove and yellow wagtail were included in the assessment because of possible population-level effects. No population-level effects were considered likely for any species not taken forward to assessment in ES ***Chapter 23 Onshore Ornithology*** (APP-071), and so no specific mitigation is required. However, all species would be protected from damage to nests, eggs and young via the Breeding Bird Protection Plan. By its nature, arable land is a habitat subject to regular change and so habitat availability is likely to fluctuate between years. However, all arable land subject to construction activities would be reinstated following completion of the Projects.
23	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.	The Applicants have strengthened the wording within the ***OLEMS*** submitted at Deadline 6 (document reference 8.7) regarding the implementation of breeding bird buffer zones during construction. If an active nest is identified during the works, it must be protected until the young have fledged, or breeding activity has otherwise ceased. Works in the area will be halted and a suitably qualified ecologist or ECoW will be contacted to advise on appropriate mitigation. This will involve retaining a buffer zone around the nest of 5-25m dependent on the species involved (Schedule 1 species would need a separate plan due to greater potential range of disturbance distances) and the location of the nest. Although general ranges of exclusion can be determined for species types, for example, a ground nesting species would require a greater exclusion due to having less cover, it is not possible to give specific distances per species, as this is site-specific, e.g. dependent on the level of visual screening around the nest.
24	24. 410 – Natural England should be added to the section regarding consultation.	An updated ***OLEMS*** has been submitted at Deadline 6 (document reference 8.7) which includes revised wording in response to this matter. Requirement 21 of the ***draft DCO*** (REP5-003) requires that the final SPA Crossing Method Statement be submitted to and approved by

ID	NE's Deadline 5 Comment	Applicants' Response
		the relevant planning authority in consultation with the relevant statutory nature conservation body.
Outline Operational Drainage Management Plan (REP4-003 Clean and REP4-004 Tracked)		
25	25. Natural England welcome the level of detail presented in this plan concerning flood risk, surface water and foul drainage. In our view, this outline plan contains a sufficient level of detail to inform the Drainage Management Plan (in terms of Natural England's remit). Note that we are particularly interested in viewing the final Sustainable Urban Drainage System (SUDS) strategy when it is available. SUDS generally form an excellent base for the creation of new habitats or the enhancement of habitats. Therefore they offer an opportunity to increase the range of habitats available to support species on site. We would welcome further information on how this system will be managed to benefit wildlife.	Noted. The sustainable drainage system (SuDS) basins form an integral part of the Outline Landscape Management Plan within the ***OLEMS*** (an updated version of the document has been submitted at Deadline 6, document reference 8.7) and their design will be progressed through the LMP and EMP. In accordance with Requirement 21 of the ***draft DCO*** (REP5-003), NE will be consulted on the EMP.
Deadline 4 Onshore Ecology Clarification Note (REP4-005)		
26	26. In section 2, paragraph 7, it states that "the onshore substation and National Grid substation are located within an area of low ecological value. As a consequence, disturbance from lighting and noise is predicted to be of minor adverse and therefore not significant and only have the potential to affect ecological receptors in the immediate vicinity of the onshore substation and National Grid substation locations". Natural England expects these areas of current low value to be enhanced.	The Applicants assume NE is referring to paragraph 8 of ***section 2***. This is a quote from ***section 22.6.2.2*** of ***Chapter 22*** of the ES (APP-070) which is referring to the location of the substations and the wider area in general, which in large part relates to the fact that the land is in arable use. The Applicants will actively seek out enhancement opportunities as detailed design progresses and these will be secured through the LMP and EMP.
27	27. Natural England request that, when considering the effect of noise on ecological receptors, consideration is given to all the land in	The woodland planting to the east, south and west of the onshore substations will experience similar noise levels to Laurel Covert and Pit Wood (discussed in paragraph 11 of the ***Deadline 4 Onshore Ecology***

ID	NE's Deadline 5 Comment	Applicants' Response
	question following enhancement i.e. when it is likely to attract more species.	***Clarification Note*** (REP4-005)). At this stage it is not possible to undertake an assessment of noise effects on the receptors that may use these enhancement areas as they are unknown.
28	28. In Section 10, Natural England note that the deciduous woodland priority habitat is now confirmed as adjacent to the Hundred river crossing, and therefore effects on this habitat, and the species within it, needs to be added to this Clarification Note.	The ***Deadline 4 Onshore Ecology Clarification Note*** (REP4-005) was prepared in response to a query from ESC raised through the Statement of Common Ground (SoCG) process specifically regarding the potential for impacts on sensitive ecological receptors arising from operational noise levels at the onshore substations. It will be necessary for NE to clarify what it is referring to as the note does not contain a Section 10. Please see the Applicants' response at ID9. The woodland adjacent to the Hundred River was recorded as semi-natural broadleaved woodland during the 2018 Extended Phase 1 Habitat Survey and the Applicants considered it as such throughout development of the Projects. This classification was verified when the Applicants revisited the site on 15th – 16th February 2021; a full survey report has been submitted at Deadline 6 (document reference ExA.AS-26.D6.V1).
29	29. Effects on the mitigation areas, including the area set aside to mitigate for effects to the Sandlings SPA, need to be evaluated.	The ***Deadline 4 Onshore Ecology Clarification Note*** (REP4-005) was prepared in response to a query from ESC raised through the SoCG process specifically regarding the potential for impacts on sensitive ecological receptors arising from operational noise levels at the onshore substations. None of the ecological mitigation areas are in locations likely to be affected by noise from the onshore substations. Works No. 29 is nearest to the onshore substation locations and sits further away that SSR2 and SSR3 for which the Applicants have set have committed to a maximum operational noise rating limit (paragraph 7 of REP4-005); receptors within Works No. 29 will experience markedly less noise that those in Laurel Covert (discussed in paragraph 11 of REP4-005).

ID	NE's Deadline 5 Comment	Applicants' Response
		The mitigation areas within Work Nos. 12A and 14 are required for Leiston - Aldeburgh SSSI qualifying features turtle dove and nightingale. These two species, and likewise the Sandlings SPA qualifying features (nightjar and woodlark) are not found within the potential noise disturbance zones around the substation or Hundred River crossing locations. As noted in section 6.3.4.1 of the Outline Landscape and Ecological Management Strategy (December 2020) Work No. 14 for turtle dove mitigation would be subject to ongoing monitoring as part of the Breeding Bird Protection Plan throughout the construction period, and measures would be undertaken that feeding birds in this area are not disturbed by construction activities. The Breeding Bird Protection Plan would ensure that no nesting birds are disturbed by construction and this would include nightingale within Work No.12A mitigation area, and any species within Work No. 14.
Outline Landscape Mitigation Plan (REP4-015)		
30	30. Natural England have no specific comments regarding this plan other than to remind the Applicant that the Priority Habitat next to the Hundred River Crossing is likely to need to be included within this plan. See comments regarding the proposed mitigation and enhancement in our comments regarding the OLEMS.	Noted.
Noise Modelling Clarification Note (REP4-043)		
31	31. Natural England has no comments on this document, but have provided comments on the noise assessment presented in the Deadline 4 Onshore Ecology Clarification Note [REP4-005], in accordance with our remit.	Noted.