East Anglia ONE North and East Anglia TWO Offshore Windfarms

Applicants' Comments on Natural England's Deadline 9 Submissions

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

Revision Summary				
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Description of Revisions			
Rev	**Page**	**Section**	**Description**
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Glossary of Acronyms

AEoI	Adverse Effect on Integrity
A-OE	Alde-Ore Estuary
APP	Application Document
AS	Additional Submission
BDMPS	Biologically Defined Minimum Population Size
CIA	Cumulative Impact Assessment
CRM	Collision Risk Modelling
CRM	Collision Risk Modelling
DCO	Development Consent Order
DML	Deemed Marine Licence
EIA	Environmental Impact Assessment
FFC	Flamborough & Filey Coast
GBBG	Great Black-Backed Gull
HDD	Horizontal Directional Drilling
HRA	Habitats Regulation Assessment
ISH	Issue Specific Hearing
JNCC	Joint Nature Conservation Committee
LBBG	Lesser Black-Backed Gull
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
NE	Natural England
OLEMS	Outline Landscape and Ecological Management Strategy
OTE	Outer Thames Estuary
OWF	Offshore Windfarm
PD	Procedural Decision
PEIR	Preliminary Environmental Information Report
PVA	Population Viability Analysis
RSPB	Royal Society for the Protection of Birds
RTD	Red-Throated Diver
SIP	Site Integrity Plan
SNCB	Statutory nature Conservation Body
SPA	Special Protected Area
UK	United Kingdom
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 9 submissions as follows:

- ***Section 2*** – NE Deadline 9 Cover Letter (REP9-063);
- ***Section 3*** – Appendix A14C (REP9-064): NE Response to legal Submission at ISH14 [REP8-099];
- ***Section 4*** – Appendix A15c (REP9-065) – NE Comments on Ornithology Compensation Measures [REP8-089];
- ***Section 5*** – Appendix A16b (REP9-066) – NE Comments on Cumulative and In-combination Collision Risk [REP8-034];
- ***Section 6*** – Appendix A17b (REP9-067) – NE Comments on Updated Displacement of RTD in OTE SPA [REP8-034]; and
- ***Section 7*** – Appendix G6 (REP9-068) – NE Comments on Updated DCO Version 6 [REP8-004].
- ***Section 8*** - Appendix I1G [REP9-069] – NE's D9 Risk and Issues Log

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

2 Applicants' Comments on NE Deadline 9 Cover Letter [REP9-063]

3. Note that the Applicants have only responded to the following table from the NE Deadline 9 cover letter.

Applicants Response to NE's Response/Summary Position to the Applicants' Documents Submitted at Deadline 8

PINS Document Reference	Applicant's Document Name	Natural England's Response/Position Summary	Applicants' Response
REP8-003, REP8-004	Draft Development Consent Order (Clean and Tracked)	Please see Appendix G6 at Deadline 9.	See the Applicants' response at ***section 7***.
REP8-005	Schedule of Changes to the Draft Development Consent Order	Please see Appendix G6 at Deadline 9.	See the Applicants' response at ***section 7***.
REP8-015	ES Appendix 6.2 – Onshore Plans Secured by the DCO Version 4	Natural England has no comment to this document.	Noted
REP8-016	ES Offshore Plans Secured by the Development Consent Order	Natural England has no comment to this document.	Noted
REP8-017, REP8-018	Outline Code of Construction Practice (OCoCP (clean and tracked) v5	Natural England has reviewed the amended text and currently has no further advice. However, we are aware that the OCoCP will be updated for D9 and therefore we will provide further comments on any updated versions.	The Applicants have submitted an updated OCoCP at Deadline 10 (document reference 8.1) following an amendment to the order limits and to address comments made by NE regarding consultation on the plans and documentation comprised within the CoCP.

PINS Document Reference	Applicant's Document Name	Natural England's Response/Position Summary	Applicants' Response
REP8-019, REP8-020	Outline Landscape and Ecological Management Strategy (clean and tracked)	Natural England notes the minor changes to the sections pertinent to NE remit and has no further advice. The more detailed advice provided at REP8-162 remains unchanged.	The Applicants have submitted an updated OLEMS at Deadline 10 (document reference 8.7) following an amendment to the order limits and have provided further clarity on breeding bird nest buffer distances.
REP8-027, REP8-028	Offshore In Principle Monitoring Plan (clean and tracked)	Terrestrial: Natural England notes the points raised in the Deadline 7 Appendix F9 submission [REP7-074] are addressed and have no further comment. Marine Mammal: Natural England notes the word 'statistically' has been removed from Table 4 in relation to defining the 'significance' of underwater noise monitoring. We are content with this removal. Ornithology: we are satisfied that the Applicant has addressed our previous comments, and we have no further comments to make.	The Applicants welcome this. The Applicants consider this matter to be closed
REP8-029, REP8-030	Marine Mammal Mitigation Protocol (clean and tracked)	Natural England notes and accepts the changes removing the reference to cluster detonation.	The Applicants welcome this. The Applicants consider this matter to be closed
REP8-031, REP8-032	In Principle Southern North Sea Special Area of Conservation Site Integrity Plan (clean and tracked)	Natural England notes and accepts the changes removing the reference to cluster detonation.	The Applicants welcome this. The Applicants consider this matter to be closed

PINS Document Reference	Applicant's Document Name	Natural England's Response/Position Summary	Applicants' Response
REP8-033, REP8-034	Displacement of red-throated divers in the Outer Thames Estuary SPA (clean and tracked)	Please see Appendix A17b at Deadline 9.	See the Applicants' response at ***section 6***.
REP8-035	Deadline 8 Offshore Ornithology Cumulative and In Combination Collision Risk Update	Please see Appendix A16b at Deadline 9.	See the Applicants' response at ***section 5***.
REP8-036, REP8-037	Best Practice Protocol for Minimising Disturbance to RTD	This protocol provides appropriate best practice to mitigate disturbance from vessels and helicopters transiting the SPA to an acceptable level to exclude an adverse effect. However, please note that it doesn't address the impacts from presence of the turbines and from cable installation. Please see D8 Offshore Ornithology [REP8-110] Statement of Common Ground between the Applicant and Natural England.	The Applicants welcome this. The Applicants consider this matter to be closed The ongoing disagreement regarding potential displacement impacts from operational turbines and export cable installation are not relevant to this document.
REP8-040	Underwater Noise Modelling Update	Natural England accepts the additional modelling within this update and has no further comment.	The Applicants welcome this. The Applicants highlight that further additional modelling has been undertaken at the request of the MMO and an updated report will be submitted at Deadline 11 . The Applicants consider this matter to be closed.

PINS Document Reference	Applicant's Document Name	Natural England's Response/Position Summary	Applicants' Response
REP8-041	Ecological Enhancement Clarification Note Addendum	Whilst Natural England acknowledges that the Ecological Clarification note addendum addresses our concerns raised at [REP4-092, REP5-084, REP8-162] in relation to removal of hedgerows and reinstating either like for like or better; the points raise by NE at Deadline 2 [REP2 – 054] in relation to the Ecological Enhancement Clarification note [REP1-35] remain unchanged.	The Applicants welcome that the updated document addressed NE's concerns in relation to removal and reinstatement of hedgerows. See the Applicants response to REP2-054 at REP3-070.
REP8-043	Applicants' Comments on Natural England's Deadline 6 Submissions: Responses to RTD statistical analysis	Natural England note the Applicant's comments. Natural England does not see any value in engaging further given that the Applicant does not intend to carry out any revisions to their modelling. Instead, Natural England has provided our advice with respect to the Applicant's modelled outputs. Notwithstanding our concerns that the extent and level of displacement may have been significantly under-estimated, we still conclude that an AEoI alone from EA1N cannot be ruled out.	Noted. The Applicants maintain their position.
REP8-053, REP8-054	Outline Landfall Construction Method Statement (clean and tracked)	Natural England notes that the main concerns we raised in relation to future consultations in our Appendix F9 submitted at D7 [REP7-074] have been addressed. Therefore we are contentwith the Outline Landfall Construction method statement and provide no further advice on this document.	The Applicants welcome this. The Applicants consider this matter to be closed
REP8-075	Landscape and Visual: Sizewell C Cumulative Impact Assessment	Natural England note the submission of this assessment and has no further comment.	Noted The Applicants consider this matter to be closed

PINS Document Reference	Applicant's Document Name	Natural England's Response/Position Summary	Applicants' Response
REP8-081	EA2 Offshore Ornithology Compensation Measures Funding Statement	No comment, this is outside of Natural England's remit.	Noted
REP8-084, REP8-085	Outline Watercourse Crossing Method Statement (clean and tracked)	Natural England's position remains unchanged. Please see previous comments [REP8-162], [REP7-073], [REP5-084], [REP4-092]. Please note that Natural England is reviewing best available evidence and will provide further advice in relation to the potential 'wet' woodland and hairy dragonfly habitat at Deadline 10.	Noted, see the Applicants' response REP8-162 at REP9-016.
REP8-088	HRA: Derogation Case	Natural England's has reviewed version 3 of this document and our advice at Appendix A15b [REP7-071] remains unchanged. However, we would like to reiterate that the justification/constraints listed for not moving the EA1N development area further away from the Outer Thames SPA boundary (e.g. presence of Sabellaria reef and/or wrecks) remain hypothetical constraints and may be manageable through further discussions, once more detailed evidence is provided.	Noted. See the Applicants' response to REP7-071 at REP8-049. The Applicant maintains its position that the extent of buffer mitigation is appropriate in order to meet the Project objectives set out in REP8-088 and to factor in known and potential unknown environmental constraints, not hypothetical constraints.
REP8-089, REP8-090	Offshore Ornithology Without Prejudice Compensation Measures (clean and tracked)	Please see Appendix A15c at Deadline 9.	See the Applicants' response at ***section 4***.

PINS Document Reference	Applicant's Document Name	Natural England's Response/Position Summary	Applicants' Response
REP8-099	Applicant's Responses to Hearings Action Points	Please see Appendix A14c at Deadline 9 for Natural England's response to the Applicant's Deadline 8 written summary: *ISH14 –Red Throated Diver of the Outer Thames Estuary SPA: Concluding Legal Submissions* .	See the Applicants' response at ***section 3***.

3 Applicants' Comments on NE Appendix A14c [REP9-064] – NE Response to legal Submission at ISH14 [REP8-099]

ID	NE Comment	Applicants' Comments
Introduction		
1	1. Natural England has waited until Deadline 9 to deliver its response to legal issues raised at ISH14 so that it can respond to both the recorded oral submissions from that hearing and to the written summary that the Applicant has provided at Deadline 8, entitled "ISH14 – Red-Throated Diver of the Outer Thames Estuary SPA: Concluding Legal Submissions". It is hoped that this is helpful. 2. Natural England stands by and repeats the legal submissions that it made at Deadlines 4 [REP4-089] and 7 [REP7-070].	Noted. The Applicants maintain their position as set out within REP6-020 and Appendix 1 of REP8-093
"Effective Habitat Loss"		
2	3. Dr Trinder, the Applicant's principal ornithology witness, said (at minute 46 of the recording of ISHs14): *"… the point here is that the birds are if they are avoiding the turbines by whatever the distance might be whether it's ours or Natural England's version they are … excluded for want of a better word from that location as long as they don't like being close to turbines …"* 4. This statement is entirely consistent with Natural England's opinion that if red-throated divers are denied access to part of the SPA which would otherwise be suitable for them the effect is to diminish the functional size of the SPA. This statement also highlights the relevance of the Bagmoor Wind case, cited by Natural England at Deadline 7, in which the issue was the exclusion of golden eagles from suitable habitat	The Applicants have made the point on several occasions, based on the abundant evidence available, that all parts of the SPA are not the same in terms of the densities of red-throated diver recorded, and that the context for any impact must take into account those variations. Thus, the areas of the SPA within the potential zone of influence of the windfarms have consistently recorded lower densities of birds and this is a material factor in considering the magnitude of potential impact. To treat all parts of the SPA as being of equal importance for the birds is clearly not appropriate.

ID	NE Comment	Applicants' Comments
	due to their aversion to wind turbines. It is accepted that exclusion effects exist on a continuum of severity and that Bagmoor Wind appears to have been a severe case.	Regarding the comparison with the Bagmoor Wind case, the Applicants note that there was a concluded ecological consequence i.e. that the territory was likely to be abandoned resulting in a potential increase in disturbance / impact on breeding success on the individuals. For the Projects, the Applicants consider that displacement of red-throated divers will have effects which are too small to detect, as red throated diver are unlikely to be subject to density dependent competition for resources during the nonbreeding season (see ***Displacement of Red-throated Divers in the Outer Thames Estuary*** - REP8-033).
3	5. In versions 01 and 02 of the Applicant's red-throated diver displacement report this position was acknowledged by use of the clear words "effective habitat loss". The assertion that these words were removed as part of a tidying-up exercise, rather than on the basis of legal advice as to the effect of this admission, is unconvincing when it can be seen that version 03 of this document describes these changes as "Minor revisions following further legal review". It is not accepted that these revisions are minor.	The Applicants have previously responded to this point in detail in section 2.1 of Appendix 1 (ISH14 – Red-Throated Diver of the Outer Thames Estuary SPA: Concluding Legal Submissions) of the ***Applicants' Responses to Hearings Action Points (CAH3, ISH10, ISH11, ISH12, ISH13, ISH14, ISH15)*** (REP8-093) and in section 3, ID1 of REP8-049.
Conservation objectives		
4	6. At paragraph 41 of the Applicant's legal submissions of 24th February 2021 it is said that: *"…, drawing these strands together, in all cases the conservation objectives will be a consideration of significant importance when determining whether or not a project would adversely affect the integrity of a site: but they are not, and*	NE appear to have misunderstood the Applicants' submission within Appendix 1 of REP8-093. The Applicants' emphasis on population was in the context of the basic aim of the Wild Birds Directive which is to preserve and enhance the **populations** of relevant birds. The Applicants were not singling

ID	NE Comment	Applicants' Comments
	must not be viewed as being, ends in and of themselves. They are there in order to protect "integrity". They need to be read and applied with that firmly in mind." 7. However, the Applicant now submits that one of the five conservation objectives for this site, concerning population size (objective d.), should be treated as being more important than the others – as if it were an end in and of itself. This overlooks the legal reality, which is that the law applies to protect the integrity of the site, rather than just numbers of an individual species. As the case law that the Applicant cites explains, the concept of integrity is a broad one relating to the "lasting preservation of the constitutive characteristics of the habitat in that area, the survival of the species in question". This reflects the simple reality that a species cannot derive the maximum amount of benefit that a protected site could allow it if it is effectively excluded from a quantity of suitable habitat on a lasting basis.	out one of the conservation objectives but were referring to the introductory text of the conservation objectives which refers to the aims of the Wild Birds Directive as follows: *"to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that* ***the site contributes to achieving the aims of the Wild Birds Directive****, by maintaining or restoring…"*. The Applicants therefore stand by their submission within Appendix 1 of REP8-093 and consider that Natural England's comments do not accurately reflect the Applicants' position.
5	8. The leading authority on the interpretation of conservation objectives is the judgment of Lord Justice Sullivan in RSPB v The Secretary of State for Environment Food and Rural Affairs and others1, which concerned an SPA with essentially identical conservation objectives. It was held that: *21. … conservation objectives are not enactments, and should not be construed as such. However, it was common ground that they mean what they say, and do not mean what the Secretary of State, or for that matter, Natural England or the RSPB, might wish that they had said. The conservation objectives must be read in a common sense way, and in context. They are conservation objectives for an area that has been classified as being of European significance under the Wild Birds Directive.* 9. In Natural England's submission the conservation objectives for this SPA should be construed in that way – in the round, with regard to all of the objectives, and in the context of the legal requirement to protect a classified area. The five conservation objectives are all to be taken into account, without any one of them necessarily	The Applicants agree that all the conservation objectives require to be considered in coming to a conclusion as to whether there would be an adverse effect on integrity. The Applicants refer back to the legal submissions made within REP6-020 (paragraphs 1 to 35 for context and 36 to 44 for the consideration of conservation objectives) and Appendix 1 of REP8-093. (paragraphs 11 to 19).

ID	NE Comment	Applicants' Comments
	dominating the others. Turning to the words of Mr Fraser Urquart QC at minute 59 of the recording of ISHs14: *"… just to reemphasise really that the consideration is the effect on population in view of those matters so these are very much sub-matters for the ultimate question that you have to determine…"* 10. In Natural England's submission it is wrong to treat conservation objectives that relate to habitat extent, distribution, structure and function as being "sub-matters" that rank below the population of red-throated divers in significance. There is no correct legal basis for this and it is inconsistent with the wording of the conservation objectives themselves. Natural England advises that the correct way to approach the conservation objectives for the Outer Thames Estuary SPA is to appreciate that the goal is to protect the site and its habitats, so that the site can provide as much support to red-throated divers as it is naturally capable of. All five conservation objectives are relevant to this, and the decision-maker's task is to weigh them together, on the basis of the evidence.	

4 Applicants' Comments on NE Appendix A15c [REP9-065] – NE Comments on Ornithology Compensation Measures [REP8-089]

ID	NE Comment	Applicants' Comments
Summary		
1	Please be advised that Natural England's advice on the previous version of this document [REP7- 071] remains unchanged.	Noted, see the Applicants response to REP7-071 in REP8-049.
2	The main difference between the two versions is the addition of Annex 3 relating to 'By-catch', which without further development of implementation measures we do not currently believe provides sufficient 'additionality' to be considered to be a compensation measure.	See ID 12.
3	In addition to our comments on the Deadline 8 documents, Natural England wishes to highlight the continued engagement by all parties to identify possible compensation options. Since Deadline 8, Natural England has continued to explore potential strategic approaches to compensatory measures with other parties, including the Applicants and Defra regarding possible options for Lesser Black Backed Gull from the Alde-Ore Estuary SPA (A-OE SPA).	The Applicants welcome the continued constructive engagement with NE and Defra on compensation matters.
Detailed Comments		
4	**1. Kittiwake** Natural England welcomes the revision to include the 95% Confidence Intervals and the commitment to adaptive management measures should they be required following monitoring. We do continue to advise that greater detail regarding the design and implementation of the artificial nest	The Applicants maintain their position (as stated in REP9-016) that the compensation measures proposed are appropriately secured at a level that provides adequate levels of compensation to offset the potential effects of the Projects (noting that the extremely low numbers that would need to be offset for the Projects even on the basis of NE's worst case assessment conclusions means that over-compensation is inevitable) whilst providing the necessary flexibility to allow for refinements in detail

ID	NE Comment	Applicants' Comments
	sites are needed to provide the Secretary of State with necessary confidence that compensatory measures can be secured.	as the specifics of the measures are developed and agreed with stakeholders, Government, partners etc.
5	**2. Gannet** Natural England welcomes the revision to include the 95% Confidence Intervals. We do not agree with the Applicant's rationale as regards the current favourable conservation status obviating the need for compensation measures. SPAs represent key sites for maintaining the favourable conservation status of the species they support, and it therefore follows that were there to be an Adverse Effect on Integrity (AEOI) on the gannet feature of Flamborough and Filey Coast SPA (FFC SPA), this would also have negative consequences for the favourable conservation status of the species.	The Applicants' position on this matter is that the gannet population is in favourable conservation status at all UK SPAs (including FFC SPA) and on this basis there is no risk of an AEoI. It therefore follows that there is no requirement for compensation.
6	We also note that an additional potential option for reducing mortality at colonies through plastic waste removal has been included. However, we believe that the RSPB may have sizable concerns in relation to the desirability, feasibility and logistical challenges associated with removing plastic embedded into gannet nests at Grassholm SPA. We also note that the Grassholm colony managers already cut free those juvenile gannet prevented from fledging by plastic at the end of each breeding season, as part of their ongoing site management.	The removal of plastic waste has not been put forward as a proposed compensation measure at this time, it is mentioned as a potential line of inquiry in the future because the Applicants consider that there may be merit in it.
7	**3. Guillemot and Razorbill** Natural England welcomes the additional detail on potential sites where rat eradication measures may be able to take place. As stated in REP7-071, consideration will need to be given to how close a candidate site is to (FFC SPA). It also remains unclear whether rat predation is actually a	Noted. If compensation measures for guillemot and razorbill are deemed to be required, further analysis of the most appropriate sites to implement rat eradication measures would be considered in consultation with NE and the RSPB. The Applicants consider that a number of the sites presented in Stanbury et al. 2017 provide a moderate amount of potential breeding habitat of guillemots and razorbills that is currently exposed to

ID	NE Comment	Applicants' Comments
	limiting issue for these species at these sites, for guillemot in particular: if this is not the case it is hard to see that this could constitute compensation for the impacted species. In addition, because the FFC SPA is classified for the albionis sub-species of guillemot Natural England advises that compensation should ideally be directed towards this sub-species, which has a more southerly distribution, before measures for guillemot in general are considered.	mammal predators and therefore, whilst further analysis is required, there is a reasonable likelihood that there are sites that would represent a suitable option in the context of the compensation proposals for the Projects. With respect to NE's comment on the need to focus on the *albionis* sub-species of guillemot, as distinct from the *aalge* sub-species, there is evidence that these subspecies are probably not biologically valid classifications (Morris-Pocock et al. 2008)[1]. There is apparently no detectable genetic discontinuity between genetics of the two "subspecies", suggesting that they are not genuinely separate populations. There is evidence of ringed birds born in one population subsequently recruiting and breeding in the other population, and there is also evidence that there is clinal (i.e. gradual) variation rather than any discontinuity, so these two subspecies appear to be taxonomically invalid and historical artefacts from early ornithological research. For example, Forrester et al. (2007)[2] Birds of Scotland says "*The clinal variation seen within the British breeding population suggests that the validity of this subspecies is suspect, and that albionis may in future be lumped with aalge*". So the evidence indicates that treating *albionis* as a separate subspecies should be ignored, and since many chicks move to breed in distant colonies and often over purported "boundaries" between the two subspecies there is a

[1] Morris-Pocock, J.A., Taylor, S.A., Birt, T.P., Damus, M., Piatt, J.F., Warheit, K.I. and Friesen, V.L. 2008. Population genetic structure in Atlantic and Pacific Ocean common murres (Uria aalge): natural replicate tests of post-Pleistocene evolution. Molecular Ecology 17: 4859-4873.

[2] Forrester, R.W., et al. (eds). The Birds of Scotland. The Scottish Ornithologists Club, Aberlady

ID	NE Comment	Applicants' Comments
		clear indication that compensation at colonies within the range of *aalge* will still improve the conservation status of colonies in the *albionis* area.
8	**4. Lesser black-backed gull** As stated in REP7-071, Natural England is in agreement with the principle of these proposals, though greater detail regarding the design and implementation are needed to provide the Secretary of State with necessary confidence that compensatory measures are secured. We look forward to engaging with the Applicant to discuss the strategic approach to delivery of these measures during the remainder of the examination.	In drafting the offshore ornithology in-principle compensation measures document (REP8-090) and DCO schedule 18, the Applicants have ensured that the compensation measures proposed are appropriately secured at a level that provides adequate levels of compensation to offset the potential effects of the Projects (noting that the extremely low numbers that would need to be offset for the Projects even on the basis of NE's worst case assessment conclusions means that over-compensation is inevitable) whilst providing the necessary flexibility to allow for refinements in detail as the specifics of the measures are developed and agreed with stakeholders, Government, partners etc.
9	We note RSPB's representations regarding these measures in REP4-097. We are not persuaded that because a site has a restore conservation objective where a particular pressure is a factor, it follows that all possible measures that might address that pressure must be thought of as required site management (and are therefore not additional). In this particular instance, Natural England takes the view that the installation of a substantial New Zealand-style predator exclusion compound with the SPA goes above and beyond what would be expected from site managers attempting to restore a ground-nesting gull colony. Needless to say, if there are opportunities for predator exclusion measures over potentially suitable habitat outwith but adjacent to the SPA, these would also be well worth exploring.	Noted
10	**5. Red throated diver**	The Applicants have responded as follows: NE Document | Applicants' Response

ID	NE Comment	Applicants' Comments
	Natural England's position on the impacts on red throated diver from Outer Thames Estuary SPA (OTE SPA) is set out in REP4-087, REP6-113, REP7-070 and Deadline 9 Appendix A17b. We note that some the additional text (para 237- 240) in this updated version relates displacement effects from studies in the German Bight. However, as we have highlighted previously, Natural England's advice is primarily based on studies in the OTE SPA. We note that whilst the distribution of divers in the German Bight has changed, the abundance figures have apparently not decreased. **However, the issue regarding the impacts of EA1N/EA2 is that whilst the Conservation Objective to maintain the population at the stated level may not be compromised by the predicted level of displacement-related mortality, the Conservation Objectives relating to habitat and distribution will be. Therefore, Natural England's view is that an AEOI cannot be ruled out from EA1N alone or EA1N or EA2 in-combination with other plans and projects.**	<table><tr><td>REP4-087</td><td>REP5-015</td></tr><tr><td>REP6-113</td><td>REP7-053</td></tr><tr><td>REP7-070</td><td>REP8-049 (also see REP8-043)</td></tr><tr><td>Deadline 9 Appendix A17b</td><td>See ***section 6***</td></tr></table> The Applicants note NE's statement that their '*advice is primarily based on studies in the OTE SPA*' is somewhat at odds with that provided earlier in the examination, such as their relevant representation (RR-059): '*Although the distance around OWFs within which changes in the abundance of divers have been detected appears to vary between developments, in many studies the displacement effect can be detected well beyond the 4km distance which is typically used to inform baseline characterisation, including 8km (Webb and others 2017)* [**Greater Wash SPA**]*, 10km (Heinanan and others 2016)* [**Germany**]*, 13km (Petersen and others 2014)* [**Denmark**]*. Mendel and others (2019)* [**Germany**] *reports displacement up to 20 km from OWFs'.* Indeed, it was following discussions with NE about the lack of a comprehensive analysis of the OTE SPA red-throated diver data that the Applicants undertook the modelling work in order to provide a more appropriate local understanding for the species. One of the clearest messages from all the studies undertaken to date is that there simply is no 'one size fits all' estimation of red-throated diver displacement, with a wide range of apparent avoidance distances, and the Applicants' modelling represents the most comprehensive and robust of those conducted at the OTE SPA.

ID	NE Comment	Applicants' Comments
		As noted at ID 2 of ***section 3***, there are very clear indications for an alternative explanation for the displacement distance reported at London Array which Natural England states is more appropriate, namely that the birds were already found outside the windfarm areas before any construction activity had begun. There is potential that the displacement is actually just modifying the pre-existing distribution pattern as seen in O'Brien (2012), clearly it was never the case that RTD were uniformly distributed throughout the SPA, there were always 'hotspots'. NE has expressed surprise at the rates of displacement found by the Applicants' modelling (e.g. 33% displaced from within the windfarms) on the basis that these do not correspond to estimates found in studies conducted elsewhere. However, when the pre-existing distribution of red-throated divers in the OTE SPA is taken into account it can be seen that the Applicants' findings are in fact consistent with the underlying pattern which indicated lower use of the London Array windfarm area prior to construction, and thus the effect of the windfarms would be of a lower magnitude.
11	Natural England continues to advise that the proposed measure of vessel navigation management will not provide compensation that addresses the AEOI on the Outer Thames Estuary as a result of effective loss of habitat, and the change in distribution, as a result of displacement from the presence of turbines. We do acknowledge the benefits of the proposal in mitigating for the disturbance caused by vessel movements, however this does not represent compensation. As regards vessel navigation from East Anglia 3, given the mitigation measures in place for that project, vessel movements were not considered to represent an AEOI on the OTE SPA during the determination of that project: it is hard therefore to see how	As stated by the Applicants in previous submissions and as acknowledged by NE, it is difficult to compensate for non-breeding RTD associated with the OTE SPA. Therefore, the Applicants have put forward a practical measure which goes above and beyond the measures proposed in Best-Practice Protocols for Minimising Disturbance to RTD that the Applicants have seen for other windfarm projects. The measures provided are firm commitments rather than being broad objectives and commit East Anglia THREE to avoiding vessel transits through the OTE SPA during the winter period during construction of the projects and during the entire operational period (unless this cannot be

ID	NE Comment	Applicants' Comments
	removing a sub-AEOI impact could provide sufficient compensation for an AEOI.	avoided e.g. because of health and safety reasons). This measure will exceed the requirements of the original best-practice protocol for East Anglia THREE. For the avoidance of doubt, the best practice protocol agreed for East Anglia THREE requires efforts to minimise the risk of disturbance to red-throated divers encountered by the operation vessels whilst transiting the SPA. But it does not require those vessels to avoid the SPA altogether and as a consequence while disturbance would be reduced it would not be avoided completely. The current proposal to take routes which reduce travel through the SPA as much as possible, would avoid causing disturbance to red-throated divers within the SPA. This would clearly result in further reductions in disturbance (above that already in place) and this would make a meaningful contribution towards compensating the displacement impacts which NE are concerned about.
12	**6. Secondary measure: Ornithological By-catch** Natural England broadly welcomes the Applicant's proposal to develop a secondary measure to look at measures to reduce ornithological by-catch. As with measures aimed at increasing prey availability, this type of measure could potentially benefit a number of relevant species including guillemot, razorbill and gannet. However, Natural England is uncertain of the required 'additionality' which the proposal may provide as a compensatory measure. In July 2018 Defra asked JNCC to develop a UK marine bird bycatch Plan of Action. This was in order to *"Deliver a coherent approach to understand and where necessary reduce marine bird bycatch in UK fisheries, through engagement and dialogue with all interested parties and the*	The Applicants welcome this position. Regarding additionality, in ***section 11.6*** of REP8-089 it is stated that: *"The Applicant is aware that at time of writing Defra is concluding work on the UK Seabird Plan of Action for 2020/21. The outputs aim to refine estimates of bycatch, improve monitoring and assessment, define best practice in mitigation, and engage on voluntary implementation or regulatory intervention where necessary. It is anticipated therefore that Actions 1 - 4 proposed by the Applicant may have been fully implemented or part-implemented at the time of operation of the EA1N and EA2 projects by the Defra work."* However, the Applicant proposes to provide security that in the absence of voluntary or regulatory interventions by Defra, Actions 1 - 4 will be undertaken in the East Anglia region. If there is voluntary or regulatory

ID	NE Comment	Applicants' Comments
	implementation of subsequent recommendations". we do acknowledge that OWF developers are able to contribute to this plan. Therefore, we would encourage the Applicant to investigate this issue further and would welcome further engagement in these discussions.	advancement the Applicant proposes to engage and support the programme of measures identified The Applicants would either implement the measure in full as proposed in ***section 11.9 Summary and Roadmap for Delivery of Compensation*** or take on the recommendations of Defra's work and move straight to Action 5, following engagement with fishers to explain the work already undertaken through the UK Seabird Plan of Action.
13	Natural England also notes that for the proposals to represent relevant compensation, implementation of bycatch reduction measures that will benefit the FFC SPA populations would need to be brought forward. We note the preference for working with fishers off the coast of East Anglia; however, to better target measures it may be more appropriate to consider interventions in waters closer to the colony. For example, a potential bycatch hotspot North of the Humber is referred to. To increase the likelihood of the 'saved' seabirds originating from the impacted SPA – should the bycatch risk arise during the breeding season of course - it would make sense to look at fishery engagement and gear modifications in this area, given its proximity to FFC SPA. Natural England recommends reviewing the available data with respect to the likely foraging areas of importance to the FFC SPA in order to help develop the implementation phase of the proposed project.	The proposal to focus on East Anglian fishers is largely a practical one, given the presence of the Applicants' parent company SPR in the region for ten years and the location of the EA1N and EA2 projects. It is these groups with whom there are existing relationships and engagement mechanisms. If the UK Seabird Plan of Action is published in 2021 as anticipated, through discussion with stakeholders it may be possible to amend this measure to take account of the Plan and potentially encompass other geographies.

5 Applicants' Comments on NE Appendix A16b [REP9-066] – NE Comments on Cumulative and In-combination Collision Risk [REP8-035]

ID	NE Comment	Applicants' Comments
1) General Comments		
1	1.1 Natural England welcomes the corrections and updates made by the Applicants to the figures presented in the Tables in Appendix 1 of REP8-035 and we agree with these figures.	Noted The Applicants will update the tables in REP8-035 to account for the comments from NE below and, in light of the extension to the examination, any changes to other projects (for example the East Anglia THREE non-material change has now been granted) at Deadline 11.
2	1.2 We have the following queries regarding the information presented: • The last bullet point of paragraph 1 states that: 'the East Anglia Two estimates for gannet and kittiwake apportioned to the Flamborough and Filey Coast SPA have been updated to use the migration free breeding season.' This sentence contradicts Section 2 of REP8-035, which suggests that the figures for EA2 have been updated to use the full breeding season rather than the migration season (as was done at EA1N following Natural England advice). Clarification is therefore required that it is in fact the full breeding season that has now been used.	The Applicants note that the last bullet point after paragraph one is an error and should have stated *"updated to use the full breeding season"*.
3	• The Applicants' state in paragraph 3 that: 'For the avoidance of doubt the collision risk modelling itself is not affected (i.e. the EIA and CIA figures), the only change is the months which are treated as part of the breeding or non-breeding seasons, and hence what proportion of the total collisions in those months are apportioned to the FFC SPA populations. The changes for East Anglia TWO are provided in Table 1 and incorporated in Appendix 1 (from use of migration free to full breeding season).' However, we note that using the full	The Applicants statement was correct – the collision modelling itself (i.e. the estimate of how many collisions would occur in each calendar month) is unchanged from that provided in previous submissions. The only change is to which biological season (e.g. breeding, migration, etc.) the collisions in each month are assigned,

ID	NE Comment	Applicants' Comments
	breeding season instead of the migration free breeding season and adjusting the migration months accordingly does alter the collision predictions for the EA2 site alone, and therefore these predictions are the ones that should be taken through to the in-combination total.	and following from that, the proportion of those collisions which are assigned to specific SPA populations. The Applicants agree that the figures to be used are those presented in REP8-035 and confirm that the collision predictions based on the assignment of months to the full breeding season were carried through to the final in-combination total and were considered in the updated offshore ornithology in-principle compensation measures document submitted at Deadline 8 (REP8-090).
4	• We note that the tables in Appendix 1 for both gannet and kittiwake include figures for EA2 based on use of the migration free breeding season and not the full breeding season. However, we recognise that adjusting these does not significantly alter the in-combination totals for these species.	The gannet table (A0.1) provided the correct FFC SPA apportioned figures using the full breeding season (12.5, 1.3, 0.1, 13.8 for breeding, autumn, spring and annual respectively) however the non-apportioned figures (i.e. those used for the EIA and CIA) were incorrect and will be updated at Deadline 11.
5	• We note that there are some errors in the data presented for EIA and HRA for EA2 for gannet in Table A0.1 of Appendix 1 – currently the breeding season collision figure apportioned to the Flamborough and Filey Coast (FFC) SPA exceeds the EIA scale breeding season prediction. The spring migration EIA figure currently exceeds the annual EIA predicted figure, which then affects the FFC SPA apportioned figure for this season. These apparent errors then affect the annual EIA and HRA totals included in the in-combination assessment for EA2, and hence potentially also the cumulative and in-combination predicted totals. Therefore, we advise the Applicants check these figures and totals.	As noted above, the EIA figures for East Anglia TWO in this table were incorrect and will be updated at Deadline 11.
6	• Based on the seasonal EIA scale figures presented for both projects in Table A0.2 of Appendix 1 of REP8-035, we query what spring migration apportionment rates have been used by the Applicants to arrive at the spring FFC SPA kittiwake collisions of 0.25 for EA1N and 0.5 for EA2. Using the 7.2% spring apportionment rate (as advised by Natural England during the Norfolk Vanguard	A spring apportioning rate of 7.2% was used as per NE advice and the collisions assigned to the FFC SPA were correct in table A0.2, however, the EIA figures presented in the table were transcribed in error and this accounts for the noted discrepancies.

ID	NE Comment	Applicants' Comments
	and Boreas examinations and which appears to have been used by the Applicants for spring apportionment for all the other projects included in the in-combination assessment), we calculate these figures to be 0.7 for EA1N and 1.3 for EA2. This means that the annual totals for the FFC SPA kittiwakes for these sites would be 1.2 for EA1N and 1.7 for EA2. This makes a slight adjustment to the Applicants' in-combination FFC SPA kittiwake totals presented in Table A0.2 of Appendix 1 of REP8-035.	For the avoidance of doubt, the FFC SPA figures provided were correct, and therefore the annual totals for FFC SPA are also correct, however the EIA and CIA figures need to be updated. These will be submitted at Deadline 11.
7	1.3 Projects in-combination: We welcome that the Applicants have presented cumulative collision totals for all confirmed projects (i.e. excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard) and for including all projects for gannet, lesser black-backed gull and great black-backed gull. We note that for cumulative collisions (EIA scale) for kittiwake, the Applicants have presented totals for all projects and all projects excluding Hornsea 4 and Norfolk Vanguard. As the Hornsea 3 project has not provided updated collision figures following their additional mitigation and additional baseline data for EIA scale for kittiwake, the uncertainty regarding the figures to include for this project remains. Therefore, totals should also be presented for cumulative kittiwake collisions for all projects and all projects excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard (as Natural England have presented in our advice in Appendix A19 of our Deadline 8 response [REP8-035].	These will be provided at Deadline 11.
8	1.4 Herring gull: We note that no updates have been provided for herring gull cumulative collisions, which is due to the low collisions (less than 1 bird for East Anglia Two and 0 for East Anglia One North) predicted for this species from both East Anglia One North and East Anglia Two. However, as noted in our advice in Appendix A19 of our Deadline 8 response [REP8-035] the cumulative herring gull collision total is now approaching 1% of baseline mortality of the largest BDMPS, indicating the need for all future offshore wind farm projects in the North Sea to undertake herring gull CRM.	The Applicants note NE's statement regarding the cumulative total collision estimate for herring gull, and also that the contribution from the current projects is less than 1 bird (summed across both East Anglia ONE North and East Anglia TWO). The Applicants therefore omitted a cumulative table (and cumulative assessment) for this species on the basis that the windfarms make no material contribution to the impact on this species. This position has no

ID	NE Comment	Applicants' Comments
		bearing on the need for future windfarms to assess collision risk for this species.
9	1.5 Significance of impacts: The Applicants consider in paragraph 14 that the updates made in REP8-035 do not alter their conclusions of negligible to minor adverse significance for the EIA and no Adverse Effects on Integrity for the HRA within the assessments submitted in AP-060 and APP-043. Natural England does not agree with these conclusions for several species (gannet, kittiwake and gannet cumulative EIA scale) or site combinations (including Flamborough and Filey Coast SPA kittiwakes and Alde-Ore Estuary SPA lesser black-backed gull). A summary of our advice/conclusions is set out in Table 1 below and further details behind this advice is set out in the following species-specific sections. **Table 1 Summary of conclusions for operational collision assessments of the East Anglia One North and East Anglia Two projects for cumulative**	The Applicants maintain their position on each of these species.

<table>
<tr><th>ID</th><th>NE Comment</th><th>Applicants' Comments</th></tr>
<tr><td></td><td>and in-combination with other plans and projects for relevant species for EIA and HRA based on the Applicants' updated assessments in REP8-035
<table>
<tr><th>EIA species</th><th>East Anglia One North and East Anglia Two cumulatively with other plans & projects</th></tr>
<tr><td>Gannet: collision</td><td>Unable to rule out significant adverse impact excl. & incl. Hornsea 3, Hornsea 4 & Norfolk Vanguard</td></tr>
<tr><td>Kittiwake: collision</td><td>Unable to rule out significant adverse impact excl. & incl. Hornsea 3, Hornsea 4 & Norfolk Vanguard</td></tr>
<tr><td>Lesser black-backed gull: collision</td><td>No significant adverse impact excl. Hornsea 3, Hornsea 4 & Norfolk Vanguard
Unable to rule out significant adverse impact incl. Hornsea 3, Hornsea 4 & Norfolk Vanguard</td></tr>
<tr><td>Great black-backed gull: collision</td><td>Unable to rule out significant adverse impact excl. & incl. Hornsea 3, Hornsea 4 & Norfolk Vanguard</td></tr>
<tr><td colspan="2"></td></tr>
<tr><th>HRA species/site</th><th>East Anglia One North and East Anglia Two in-combination with other plans & projects</th></tr>
<tr><td>Flamborough & Filey Coast SPA: gannet</td><td>No AEoI excl. Hornsea 3, Hornsea 4 & Norfolk Vanguard
Unable to rule out AEoI incl. Hornsea 3, Hornsea 4 & Norfolk Vanguard</td></tr>
<tr><td>Flamborough & Filey Coast SPA: kittiwake</td><td>AEoI irrespective of whether Hornsea 4 and Norfolk Vanguard included or not (Hornsea 3 considered compensated for)</td></tr>
<tr><td>Alde-Ore Estuary SPA: lesser black-backed gull</td><td>Unable to rule out AEoI incl./excl. Norfolk Vanguard (no collisions apportioned from Hornsea 3 & Hornsea 4)</td></tr>
</table></td><td></td></tr>
<tr><td colspan="3">2) Gannet cumulative and in-combination collisions</td></tr>
<tr><td>10</td><td>2.1 Cumulative collisions:

We suggest that the cumulative (EIA) annual gannet collisions presented in Table A0.1 of Appendix 1 of REP8-035 are checked by the Applicant, largely due to the fact that the sum of the seasonal EIA predictions included for EA2 does not appear correct: 10.7 + 24.2 + 47.7 does not equal 39.6 as currently presented. However, based on the figures presented by the Applicant in Table 2 of REP1-047 of revised CRM figures for EA2, we have taken the annual gannet collision prediction for the East Anglia Two project for a draught height of 24m above Mean High Water Springs (MHWS) to be 39.6. Using this figure in the</td><td>As noted in response ID 4 above, the gannet EIA figures for East Anglia TWO were transcribed in error, although as noted here by NE the total EIA figure for East Anglia TWO (39.6) was correct. An updated table will be submitted at Deadline 11.

The Applicants disagree with NE's position on the significance of the cumulative collision mortality for the reasons set out in REP9-016.

Also see ID5 at section 4.</td></tr>
</table>

ID	NE Comment	Applicants' Comments
	cumulative total, the annual cumulative gannet collision totals are 2,889 for all confirmed projects (i.e. excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard) and 3,031 for all projects including Hornsea 3, Hornsea 4 and Norfolk Vanguard. These match the totals presented by the Applicant in Table A0.1 of Appendix 1 of REP8-035 and also match those presented by Natural England in our advice in Appendix A19 of our Deadline 8 response [REP8-159]. Therefore, our advice regarding gannet cumulative collisions remains as that set out in Appendix A19 of our Deadline 8 response [REP8-159], namely: **We are unable to rule out a significant adverse impact on gannet from cumulative collision mortality at an EIA scale irrespective of whether the Hornsea 3, Hornsea 4 and Norfolk Vanguard projects are included in the cumulative totals or not**.	
11	2.2 In-combination collisions: The in-combination FFC SPA gannet collision total presented by the Applicants in Table A0.1 of Appendix 1 of REP8-035 for all confirmed projects (i.e. excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard) of 277 is lower than the total for all projects excluding Hornsea 3 and Hornsea 4 presented by Norfolk Boreas, this is because the Norfolk Vanguard figures were included by Boreas, and this project has had its consent revoked since the end of the Boreas examination.	No comment.
12	The in-combination FFC SPA gannet collision total for all projects including Hornsea 3, Hornsea 4 and Norfolk Vanguard of 358 presented by the Applicants in Table A0.1 of Appendix 1 of REP8-035 has decreased slightly (by 1 for the total including all projects) from that presented by Vattenfall at Deadline 8 of the examination of that project (Norfolk Boreas Ltd 2020). This decline is due to the EA1N/EA2 Applicants' updated assessment revising the figures included for their projects to account for the updated CRM following the increase in draught height (the Boreas assessment included figures from the submission documents for EA1N and EA2), and also removing the contribution of Thanet Extension	The Applicants welcome NE's confirmation that an AEoI can be ruled out for gannet at FFC SPA due to in-combination collision risk when Hornsea 3, Hornsea 4 and Norfolk Vanguard are omitted. However, the Applicants disagree with NE that the same conclusion (of no AEoI) cannot be reached with these projects included, as set out in APP-043.

ID	NE Comment	Applicants' Comments
	from the total following the decision not to grant consent for this project (the Boreas assessment included a figure for Thanet Extension). We have assumed that the Applicants have made use of the same PVAs as were used at Norfolk Boreas (the FFC SPA gannet PVA undertaken by Hornsea 3 presented in Hornsea Project Three 2019). Therefore, given that the in-combination totals now presented for all confirmed projects (excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard) are lower than that presented by Boreas for excluding just Hornsea 3 and 4, and that the total for all projects (including Hornsea 3, Hornsea 4 and Norfolk Vanguard) is just 1 bird below the total presented by Norfolk Boreas, our advice remains as set out in our Deadline 4 (Natural England 2020a), Deadline 7 (Natural England 2020b) and Deadline 9 (Natural England 2020c) responses during the Norfolk Boreas examination: **An adverse effect on integrity (AEoI) of the gannet feature of the FFC SPA can be ruled out for in-combination collision impacts if Hornsea 3, Hornsea 4 and Norfolk Vanguard are excluded from the in-combination totals.** **However, due to Natural England's significant concerns regarding the associated level of uncertainty as regards the potential impacts of the Hornsea 3 project, together with the inevitable uncertainty associated with the figures for Hornsea 4 (which are from the PEIR and are subject to change), along with the current status of the Norfolk Vanguard project, Natural England therefore is not in a position to advise that an AEoI can be ruled out for the gannet feature of the FFC SPA for in-combination collision impacts when the Hornsea 3, Hornsea 4 and Norfolk Vanguard projects are included in the in-combination totals.**	
3) Kittiwake cumulative and in-combination collisions		

ID	NE Comment	Applicants' Comments
13	3.1 Cumulative collisions: As noted in our general comments section above, the cumulative kittiwake collision total for all confirmed projects presented by the Applicants in Table A0.2 of Appendix 1 of REP8-035 includes Hornsea 3 in this total. As Hornsea 3 have not provided updated EIA scale kittiwake collision figures following their additional mitigation, this total should also exclude Hornsea 3.	Updated kittiwake cumulative collisions will be provided at Deadline 11.
14	Based on the figures presented by the Applicants in Table A0.2 of Appendix 1 of REP8-035, the annual cumulative kittiwake collision totals are 3,835 for all confirmed projects (i.e. excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard) and 4,387 for all projects including Hornsea 3, Hornsea 4 and Norfolk Vanguard. This matches the all project total (including Hornsea 3, Hornsea 4 and Norfolk Vanguard) presented by the Applicant in Table A0.2 of Appendix 1 of REP8-035 and both match those presented by Natural England in our advice in Appendix A19 of our Deadline 8 response [REP8-159]. Therefore, our advice regarding kittiwake cumulative collisions remains as that set out in our advice in Appendix A19 of our Deadline 8 response [REP8-159], namely: **We are unable to rule out a significant adverse impact on kittiwake from cumulative collision mortality at an EIA scale irrespective of whether the Hornsea 3, Hornsea 4 and Norfolk Vanguard projects are included in the cumulative totals or not.**	Noted. The Applicants maintain their position that there would be no in-combination AEoI on the kittiwake feature of the FFC SPA.
15	3.2 In-combination: We note that if we correct the apparent error in the spring apportioning and hence annual totals for FFC SPA kittiwake collisions for East Anglia One North and East Anglia Two (as set out above), the revised in-combination totals become 339 collisions per annum for all confirmed projects, i.e. excluding Hornsea 4 and Norfolk Vanguard (compared to 337 as presented in Table A0.2 of Appendix 1 of REP8-035) and 515 for all projects including	Noted

ID	NE Comment	Applicants' Comments
	Hornsea 4 and Norfolk Vanguard (compared to 514 as presented in Table A0.2 of Appendix 1 of REP8-159).	
16	The in-combination FFC SPA kittiwake collision total for all projects including Hornsea 3, Hornsea 4 and Norfolk Vanguard of 515 has decreased from that presented by Vattenfall at Deadline 8 of the examination of that project (Norfolk Boreas Ltd 2020). This decline is due to the EA1N/EA2 Applicants' updated assessment updating the figures included for their projects to account for the updated CRM following the increase in draught height (the Boreas assessment included figures from the submission documents for EA1N/EA2), removal of the contribution of Thanet Extension from the total following the decision not to grant consent for this project (the Boreas assessment included a figure for Thanet Extension) and removal of the contribution of Hornsea 3 (as the impact from this project is considered to be fully compensated for).	The Applicants can confirm that this is correct.
17	We have assumed that the Applicants have made use of the same PVAs as were used at Norfolk Boreas (the FFC SPA kittiwake PVA undertaken by Hornsea 3 presented in Hornsea Project Three 2019). The total of 339 for all confirmed projects (i.e. excluding Hornsea 4 and Norfolk Vanguard) would result in use of the same PVA counterfactuals as were used in our Deadline 4 advice at Norfolk Boreas for the in-combination total excluding Hornsea 3 and Hornsea 4 (but including Vanguard) (i.e. PVA outputs for 350 additional mortalities, as the closest PVA output to the in-combination all confirmed project total of 339). We again highlight that the in-combination total of collision mortality across consented plans/projects has already exceeded levels which are considered to be of an Adverse Effect on Integrity to kittiwake at FFC SPA, and that any additional mortality arising from these proposals would therefore be considered adverse. In addition, the issues regarding inevitable uncertainty associated with the figures for Hornsea 4 from the PEIR and are subject to change, along with the current status of the Norfolk Vanguard project remain for FFC SPA kittiwake.	The Applicants disagree with NE's conclusion on in-combination collision risk to the FFC SPA kittiwake population. The Applicants' basis for this was originally presented in APP-043 and reiterated in REP8-035.

ID	NE Comment	Applicants' Comments
	Therefore, our advice remains the same as that set out in in our Deadline 4 (Natural England 2020a), Deadline 7 (Natural England 2020b) and Deadline 9 (Natural England 2020c) responses during the Norfolk Boreas examination: **As the kittiwake feature of the FFC SPA has a restore conservation objective, and because there are indications that the predicted level of mortality would mean the population could decline from current levels should it currently be stable, it is not possible to rule out AEoI of the kittiwake feature of the FFC SPA for collision impacts from in-combination with other plans and projects, both including and excluding Hornsea 4 and Norfolk Vanguard (contribution from Hornsea 3 is considered to be compensated for).**	
4) Lesser black-backed gull (LBBG) cumulative and in-combination collisions		
18	4.1 Cumulative collisions: Based on the figures presented by the Applicants in Table A0.3 of Appendix 1 of REP8-035, the annual cumulative LBBG collision totals are 509 for all confirmed projects (i.e. excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard) and 540 for all projects including Hornsea 3, Hornsea 4 and Norfolk Vanguard. These match those presented by Natural England in our advice in Appendix A19 of our Deadline 8 response [REP8-159]. Therefore, our advice regarding LBBG cumulative collisions remains as that set out in our Appendix A19 of our Deadline 8 response [REP8-159], namely: **We advise a conclusion of no significant adverse impact from cumulative collision to LBBG at an EIA scale if the Hornsea 3, Hornsea 4 and Norfolk Vanguard projects are excluded from the cumulative total.** **However, due to the associated level of uncertainty as regards the impact figures to include for Hornsea 3, together with the inevitable uncertainty associated with the figures for Hornsea 4 from the PEIR and are subject to change, and the current status of Norfolk Vanguard, Natural England**	The Applicants maintain their position that there would be no significant cumulative impact or an in-combination AEoI on the LBBG feature of the Alde-Ore Estuary SPA, as set out in APP-043.

ID	NE Comment	Applicants' Comments
	therefore is not in a position to advise that significant impact can be ruled out for LBBG for cumulative collision impacts when the Hornsea 3, Hornsea 4 and Norfolk Vanguard projects are included in the cumulative totals.	
19	4.2 In-combination collisions: The in-combination Alde-Ore Estuary SPA LBBG collision total for all projects including Hornsea 3, Hornsea 4 and Norfolk Vanguard presented by the Applicant in Table A0.3 of Appendix 1 of REP8-035 of 53 has decreased slightly (by 1 bird) from that presented by Vattenfall at Deadline 8 of the examination of that project (Norfolk Boreas Ltd 2020). This decline is due to the EA1N /EA2 Applicants' updated assessment updating the figures included for their projects to account for the updated CRM following the increase in draught height (the Boreas assessment included figures from the submission documents for EA1N and EA2), and removal of the contribution of Thanet Extension from the total following the decision not to grant consent for this project (the Boreas assessment included a figure for Thanet Extension). The in-combination total of 50 for all confirmed projects (i.e. excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard, but no birds are apportioned to the Alde-Ore from Hornsea 3 and Hornsea 4) is slightly lower again due to the removal of the contribution from Norfolk Vanguard. We have assumed that the Applicants have made use of the same PVAs as were used at Norfolk Boreas (the Alde-Ore SPA LBBG updated PVA undertaken by Norfolk Vanguard presented in MacArthur Green 2019). Based on the revised in-combination totals of 50 (essentially excluding Norfolk Vanguard only as no birds are apportioned from Hornsea 3 and 4) and 53 including Norfolk Vanguard, using the density independent PVA model outputs in MacArthur Green (2019), if the additional mortality from the windfarm is 50-55 adults per annum (closest PVA outputs available in MacArthur Green (2019) to predicted 50 mortalities for the in-combination total excluding Norfolk Vanguard and to the 53 in-combination total including Norfolk Vanguard) then the population of the Alde-	The Applicants disagree that an AEoI cannot be ruled out for the AOE SPA lesser black-backed gull population, as set out in REP8-089.

ID	NE Comment	Applicants' Comments
	Ore Estuary SPA after 30 years will be 30.6-33.1% lower than it would have been in the absence of the additional mortality. The population growth rate would be reduced by 1.3-1.4% (based on the counterfactuals of population size and growth rate presented in Tables 2 and 3 of MacArthur Green 2019). If it is assumed that the population is stable then this would mean that the population would be 30.6-33.1% lower than the current population size. This would be counter to the restore conservation objective for this feature of the site. Based on the above, and the assessment of the status of the Alde-Ore Estuary SPA LBBG population, plausible future growth rates of the colony etc. detailed in our Deadline 4 (Natural England 2020a) and Deadline 7 (Natural England 2020b) responses during the Norfolk Boreas examination, our advice remains as set out in our Deadline 4 (Natural England 2020a) and Deadline 7 (Natural England 2020b) responses during the Norfolk Boreas examination: **As this feature has a restore conservation objective, and because there are indications that the population might even decline from current levels, Natural England advises that it is not possible to rule out an adverse effect on integrity (AEoI) of the LBBG feature of the Alde-Ore Estuary SPA for from in-combination collision impacts with other plans and projects, both including and excluding Norfolk Vanguard (no collisions apportioned from Hornsea 3 or Hornsea 4).**	
20	**5) Great black-backed gull (GBBG) cumulative and in-combination collisions** **5.1 Cumulative collisions:** The cumulative total for all confirmed projects (i.e. excluding Hornsea 3, Hornsea 4 and Norfolk Vanguard) of 917 in Table A0.4 of Appendix 1 of REP8-035 is slightly higher (3 birds more) than the figure presented by Natural England in our advice in Appendix A19 of our Deadline 8 response [REP8-159].	The Applicants maintain their position that there would be no significant cumulative impact on GBBG. However, updated GBBG cumulative collisions will be provided at Deadline 11 and the error identified by NE will be corrected.

ID	NE Comment	Applicants' Comments
	We note that there is a minor error in the annual collision total presented for Hornsea 4 in Table A0.4 of Appendix 1 of REP8-035: 3 collisions in the breeding season + 13.6 in the non-breeding season = 16.6 (not 13.6 as presented). This makes a very minor increase of 3 birds to the all projects (including Hornsea 3, Hornsea 4 and Norfolk Vanguard) cumulative collision totals to 1,026 collisions (rather than 1,023 as presented by the Applicants). These minor differences in the totals highlighted above, do not alter our advice regarding GBBG cumulative collisions set out in our advice in Appendix A19 of our Deadline 8 response [REP8-159], namely: **We are unable to rule out a significant adverse impact on GBBG from cumulative collision mortality at an EIA scale irrespective of whether the Hornsea 3, Hornsea 4 and Norfolk Vanguard projects are included in the cumulative totals or not.**	

6 Applicants' Comments on NE Appendix A17b [REP9-067] – NE Comments on Updated Displacement of RTD in OTE SPA [REP8-034]

ID	NE Comment	Applicants' Comments
Summary		
1	1. The comments Natural England have made on previous versions of this document still stand [REP4-087, REP6-113, REP7-070]. We note that the only changes in version 4 [REP8-034] relate to the EA2 project alone assessment and the in-combination assessment so we have restricted our comments to those sections.	See the Applicants' response to REP4-087, REP6-113 and REP7-070 in REP5-015, REP7-053 and REP8-049 respectively.
2. Project Alone Assessment East Anglia TWO		
2	2. Natural England welcomes the inclusion of additional text under 'Project Alone Assessment East Anglia TWO' section around the numbers of red throated divers and the area of the SPA that could be subject to displacement from EA2. However, we disagree with the Applicant that there will be no displacement effect and resultant change in distribution. Our position is based on the evidence from the recent London Array post-construction monitoring which has reported that the extent of displacement extends to 11.5km.	The Applicants stated that there would be displacement effect and resultant change in distribution on the basis of the Applicants' modelling results, and the Applicants consider this is a robust prediction on the basis of the scientific evidence presented. However, the Applicants also provided assessment applying NE's preferred approach which demonstrated that even under these precautionary assumptions the magnitude of effect would be negligible.
3	3. Natural England notes that the Applicant suggests that the effective area of habitat loss from EA2 is 0.075% of the SPA area. We acknowledge that it is unlikely that this level of displacement will result in an Adverse Effect on Integrity (AEOI) alone.	The Applicants welcome this position.

ID	NE Comment	Applicants' Comments
3. In-Combination Assessment		
4	4. Natural England has already stated its position that the assessment needs to consider a range of displacement scenarios (and not just the outputs from the Applicant's modelling exercise). For the in-combination assessment it is critical that an appropriate and precautionary figure is used to assess the within windfarm displacement figure for the worst-case scenario. Similarly, a range in relation to the extent of the buffer and the gradient across it is required.	The Applicants consider that the modelling of red-throated diver distributions in the SPA represents the most robust foundation on which to base the in-combination assessment, since this modelling provides consistent estimates across the whole area, is derived from high quality and comparable datasets and has been conducted by a leading expert in the field of spatial modelling. A range for the in-combination assessment can be derived by considering NE's approach. In ***paragraph 60*** of REP8-033 it is stated that: *The total effective area of the SPA estimated to be subject to displacement due to the operational windfarms for red-throated diver is 204km^2 using the 2013 predictions and 196km^2 using the 2018 predictions, and using NE's advised precautionary method is 948km^2*. Using the spatial modelling results, these equate to 5.0% to 5.2% of the SPA, while using NE's precautionary rate this represents 24.2% (of the total area of 3,294km^2). East Anglia ONE North adds between 16km^2 and 19km^2 to the total area (model results) or 54km^2 (NE approach), which equates to an additional 0.4% to 0.5% (model results) or 1.4% (NE approach) of the total SPA area.* **Note that this total double counts the area of overlap of the buffers of the London Array and Gunfleet Sands projects which is approximately 200km^2 . Given that this is a simplistic model for illustration, we have not attempted to determine how the displacement effects between the two windfarms would be*

ID	NE Comment	Applicants' Comments
		expressed. There is no overlap between the buffers of Kentish Flats and the other projects using NE's approach Therefore, the percentage of the SPA by area already subjected to displacement would lie between 5.4% (the Applicants' analysis) and 25.6% (using NE's approach to gradient of effect to 11.5km). The Applicants did not present these figures as a 'range' within the in-combination assessment as the NE approach is not considered credible. As stated in ***paragraph 109*** of REP8-033 (which uses NE's originally proposed 10km displacement buffer for illustration): *To illustrate, it is informative to consider the alternative situation which would be expected if displacement had occurred in the manner proposed by NE. With 47% of the SPA within 10km of the operational windfarms, and assuming a linear decrease in displacement from 100% in the windfarms to 0% at 10km, the effective area of 100% impact would be 23.5% of the SPA (i.e. half of 47%). Combined with a 10% mortality rate, this would indicate annual mortality of 2.4% of the SPA population due to displacement. From an initial population of approximately 6,000 prior to the windfarms' construction, after a decade the population would decline to around 4,800. In contrast the monitoring surveys have found that the population has either remained stable (and survey methods have markedly improved) or has increased by up to 13% per year. It would seem apparent that it is simply not feasible that both NE's predicted displacement effect and the increased or stable population are compatible, and given current evidence, more weight should be given to the monitoring data.* In addition, it is also clearly evident from a comparison of the before and after red-throated diver distributions (as presented in REP9-016) that NE's insistence on the application of precautionary buffers

ID	NE Comment	Applicants' Comments
		extending up to 11.5km is not supported by the survey data and that this suggested avoidance distance is in fact very strongly influenced by the existing bird distribution, within which the windfarms were constructed. It should be stated that the Applicants do not disagree that red-throated divers are subject to a degree of displacement by windfarms, but the Applicants do disagree with NE about the extent of this effect. The Applicants also consider that the in-combination assessment is already over-precautionary and NE's request would add further unwarranted layers of precaution to what is already an over-precautionary assessment.
5	5. We note with concern that the contribution from EA2 is not included in the in-combination assessment, based on the Applicant's assertion that its contribution to area of displacement would not materially add to the in-combination effect. Natural England's advice is that EA2's contribution to the in-combination total is included. The small contribution EA2 makes to some of the totals for species subject to collision risk is included in those totals, and the principle is the same for displacement.	The Applicants maintain that the project alone conclusion for East Anglia TWO of between 0.006 (using the Applicants mortality assumptions) and 0.6 (using the NE's precautionary mortality assumptions) individual RTD mortalities apportioned to the OTE SPA would not materially add to the in-combination effect and that with only 0.07% of the area of the SPA subject to potential displacement effects, it is appropriate for East Anglia TWO to be omitted from the in-combination assessment. However, NE can still include the additional 0.6 birds in the in-combination total noting that it would still make no material difference.
6	6. Natural England's position is that there is already an AEoI from displacement effects of red-throated diver in-combination [REP4-087] from existing windfarms within the OTE SPA. Whether the total area of SPA that is subjected to some level of displacement is 31% (based on the Applicant's modelling outputs), or 47% of the SPA (assuming that the extent of displacement extends to 10km), it is clear that a significant percentage of the SPA by area is already subjected to displacement. We therefore disagree with the Applicant's conclusions set out in Table 11. Natural England's conclusions are set out in the table below:	The Applicants consider that NE's statement that there is '*already an AEoI from displacement effects of red-throated diver in-combination*' fails to acknowledge the abundant evidence that the red-throated diver population has shown no sign of impact despite the presence of windfarms within the SPA for more than 10 years. If the effect was as large as NE suggest then this would be evident through population declines. None have been recorded, and in fact it is highly likely that the population has increased. Furthermore, the apparent

Table 1: Natural England's advice regarding the implications of EA1N and EA2 for the OTE SPA high-level conservation objectives.

Conservation Objective	Summary of assessment	EA1N alone	EA2 alone	In-combo
a) the extent and distribution of the habitats of the qualifying features	Regardless of whether projects are outside of the SPA boundary, birds' avoidance of them means that the presence of turbines is still able to affect the extent of supporting habitat and their function inside the SPA. Based on the Applicant's modelling outputs the area of habitat affected would be between 0 and 0.075% of the SPA for EA2; between 0.5% and 1.4% of the SPA for EA1N based on Table 9; and between 31% and 47% of the SPA affected to some degree by all projects in-combination.	AEoI	No AEoI	AEoI
b) the structure and function of the habitats of the qualifying features		AEoI	No AEoI	AEoI
c) the supporting processes on which the habitats of the qualifying features rely		AEoI	No AEoI	AEoI
d) the populations of each of the qualifying features	We acknowledge that the current population estimate is considerably higher than was estimated at the time of the original notification in 2010. Although it is not possible to know what that	No AEoI	No AEoI	No AEoI

displacement caused by London Array, on which NE put considerable weight in their arguments, was apparent in the pattern of red-throated diver distribution *before* the windfarm was constructed (REP9-016). This clearly demonstrates that the aspects NE has cited as evidence for windfarm displacement, the hotspot in density located equidistant from Gunfleet Sands, Kentish Flats and London Array and the high densities to the east and north of London Array were features of the red-throated diver distribution that have nothing to do with windfarm avoidance (since there were no windfarms to avoid).

The Applicants also note that NE has suggested that 31% of the SPA is subject to displacement based on our analysis. This is not the case. For clarity:

- 47% of the SPA 'subject to some level of displacement' was NE's original estimate based upon applying a simple 10km buffer to each of the existing windfarms within the OTE SPA without providing any gradient of effect.
- 31% of the SPA is the area of the SPA within 7km of the existing windfarms within the OTE SPA without providing any gradient of effect. 7km being the maximum range at which the Applicants' analysis determined displacement to occur
- Using NE's approach to the gradient of effect (assuming a linear decrease in displacement from 100% in the windfarms to 0% at 10km) the effective area of in-combination displacement for the existing windfarms would be 23.5% of the SPA
- Using the Applicants' analysis, effective area of in-combination displacement for the existing windfarms is between 5.0% and 5.2% of the SPA, to which East Anglia ONE North will add 0.4% to 0.5%.

ID	NE Comment					Applicants' Comments
			previous abundance estimate would be had it be undertaken with digital aerial survey methods, we accept that the population is unlikely to have decreased since 2010, despite the presence of additional OWF during this period. Therefore, based on the latest survey data, there is sufficient likelihood that an AEoI alone and in-combination through this conservation objective can be ruled out. We do however note that the associated attribute in our Supplementary Advice on the Conservation Objectives is to *'Maintain the size of the non-breeding population at a level which is at* ***or above*** *18,079 individuals,* ***whilst avoiding its deterioration from its current level****' [our emphasis].* It should therefore not be				Therefore, it would be more correct to state that the percentage of the SPA by area already subjected to displacement would lie between 5% (the Applicants' analysis) and 23.5% (using NE's approach to gradient of effect). Also see ID4 above for the comparable figures with displacement based on the NE approach out to 11.5km.

ID	NE Comment					Applicants' Comments
		assumed from our conclusions on EA1N/EA2 that increased pressure from further OWFs in or adjacent to the SPA could not compromise this attribute in the future.				
	e) the distribution of qualifying features within the site	Based on the Applicant's modelling assumptions the displacement effects extend to 7- 8km from the windfarm footprint, and on that basis there will be a change in distribution as a result of EA1N and therefore an AEoI alone cannot be ruled out. Our position is that whilst some displacement from EA2 cannot be ruled out, it is not likely to result in AEoI alone. In-combination it is clear from the current distribution that RTD density is lower in the windfarm boundaries, and the greatest density is equi-distant from the	AEoI	No AEoI	AEoI	

ID	NE Comment					Applicants' Comments
		existing windfarms in the OTE. There is clear evidence of windfarms resulting in re- distribution within the SPA, and therefore AEoI in-combination cannot be ruled out. Although both EA1N and EA2 lie outside the SPA boundary, their proximity to the boundary is less than the distance over which RTD have been shown in some studies to display avoidance reactions to wind turbines. Thus, it cannot be ruled out that both EA1N and EA2 as configured will not contribute further to the overall percentage of the SPA within which the density of RTD is altered by windfarm development and so an AEoI.				

7 Applicants' Comments on Appendix G6 [REP9-068] - NE Comments on Updated DCO Version 6 [REP8-004]

ID	NE Comment	Applicants' Comments
Introduction		
1	In formatting this response, the following documents have been considered on both projects: • Update Draft DCO [REP8-004] • Schedule of Changes [REP8-005]	Noted
Summary		
2	Natural England welcomes the headway that has been made in addressing a large majority our outstanding concerns. And we hope that the remaining ones can be resolved by the 'new' close of examination.	Noted

ID	EA2 / EA1N or both?	Point	Document section	Natural England's Comment	Risk	Applicants' Response
DCO schedule of Changes						
3	Both	Page 25	Schedule 1, Part 3, Requirement 13	Natural England welcomes the changes to include consultation with MMO and the relevant SNCB for the landfall construction method statement and monitoring plan.		The Applicants welcome this. The Applicants consider this matter to be closed

ID	EA2 / EA1N or both?	Point	Document section	Natural England's Comment	Risk	Applicants' Response
4	Both	Page 67	Schedule 13, Part 2, Condition 16	Natural England notes the updated wording and that we will be provided a copy of the close out report for UXO. This change is welcomed and we have no further comment to make on this condition.		The Applicants welcome this. The Applicants consider this matter to be closed
5	Both	Page 69	Schedule 13, Part 2, Condition 17 (1)(e)(vi)	Natural England notes the changes to this condition and support the change to make it clear that the best practice protocol must be adhered to during the overwintering period for RTD.		The Applicants welcome this. The Applicants consider this matter to be closed
6	Both	Page 71	Schedule 13, Part 2 Condition 21 (3)	Natural England notes changes to revert the condition to an earlier version. We have no concerns with the new wording.		The Applicants welcome this. The Applicants consider this matter to be closed
7	Both	Page 78, 79	Schedule 13, Part 2, Condition 26 and 27	Natural England notes the SIP condition has been split into two conditions one for piling and one for UXO detonation. This resolves the issue we raised at Deadline 8 regarding the potential need for separate UXO and piling SIP documents.		The Applicants welcome this. The Applicants consider this matter to be closed

ID	EA2 / EA1N or both?	Point	Document section	Natural England's Comment	Risk	Applicants' Response
8	Both	Page 82	Schedule 13, Part 2, Condition 31	Natural England notes and supports the inclusion of a close out condition within the DML. This resolves our concerns regarding the need for a close out condition.		The Applicants welcome this. The Applicants consider this matter to be closed
9	Both	Page 83-	Schedule 14	Comments above on conditions repeated in Schedule 14 should be considered submitted in respect of both schedules and for brevity will not be repeated here.		The Applicants welcome this. The Applicants consider this matter to be closed
Draft DCO Version 5						
10	Both		Schedule 18, General Point	It is noted that parts 2-6 have been amended to allow consideration of work to reduce by-catch to be considered as a compensatory measure. However, please see our Deadline 9 Appendix A15c on the matter. However, the comments raised by Natural England within Deadline 8 Appendix G5 have not been resolved by the changes.		See the Applicants' comments at ***section 4*** in relation to Appendix A15c and see section 8 of the ***Applicants' Comments on Natural England's Deadline 8 Submissions*** (REP9-016) in relation to NE's comments within Appendix G5.
11	**Both**		Schedule 18, Part 5	It is noted this condition now shows in full and Natural England's comments raised at Deadline 8 Appendix G5 regarding the		See section 8 of the ***Applicants' Comments on Natural England's Deadline 8 Submissions*** (REP9-016).

ID	EA2 / EA1N or both?	Point	Document section	Natural England's Comment	Risk	Applicants' Response
			Condition 3	adequacy of these conditions remain relevant.		The Applicants maintain that, in drafting DCO schedule 18, the Applicants have ensured that the compensation measures proposed are appropriately secured at a level that provides adequate levels of compensation to offset the potential impacts of the Projects (noting that the extremely low numbers that would potentially need to be offset for the Projects even on the basis of NE's worst case assessment conclusions means that over-compensation is inevitable) whilst providing the necessary flexibility to allow for refinements in detail as the specifics of the measures are developed and agreed with stakeholders, Government, partners etc. The Applicants note that identifying suitable candidate locations, obtaining the necessary rights (land, access, etc.) and implementing the measures are all considered to be feasible undertakings that the Applicants could achieve within a relatively short time-frame. Given the very small number of predicted mortalities for all of the species considered in the compensation

ID	EA2 / EA1N or both?	Point	Document section	Natural England's Comment	Risk	Applicants' Response
						measures document, the Applicants consider that while this risk of incurring a 'mortality debt' exists, the size of debt for a delay of 1 to 2 years remains extremely small and would readily be recouped within a year or two of measures becoming operational. Therefore, since the requirement for a long lead-in time is a lower concern for the Projects than, for example Hornsea Project Three, it follows that there is also no requirement for the current compensation schedule to contain detailed designs and site locations. Instead, these aspects can be addressed once a decision on the need to compensate for the Project(s) has been made by the SoS.

8 Applicants' Comments on NE Appendix I1G [REP9-069] – NE's D9 Risk and Issues Log

4. The Applicants have previously responded to the NE Deadline 8 Risk and Issues log at Deadline 9 (see REP9-017). The points responded to here have been selected because they are identified by NE as being 'New Issues' and therefore the Applicants consider it is appropriate to provide a response.

ID	NE's Relevant Representation	Consultation, actions, progress		Applicants' Comments at Deadline 9
1	New Issue. It is noted that the compensation secured within each part is limited to an attempt, at one compensation measure, such as nesting sites or predator control. However, this limits the options for the Secretary of State to those specific compensatory measures. See NE deadline 8 appendix G5 for further details	New Issue at Deadline 8. See this inclusion in Natural England Response in Appendix G5 at Deadline 8.		Schedule 18 was updated in the draft DCO submitted at Deadline 8 to make provision for ornithology by-catch measures to be considered for species where this is considered appropriate (i.e. gannet, guillemot, razorbill and lesser black backed gull) as an alternative, or in addition to the primary measure proposed. With regard to kittiwake, whilst the by-catch measure could be considered as an alternative, it was not included because, as stated, there is limited evidence of by-catch of the species in the North Sea. The by-catch measure could be applicable to red-throated diver as there is evidence of by-catch. This was excluded because the effect is displacement not mortality and therefore inclusion of by-catch would not be 'like-for-like'. If the approach to compensation is more flexible than a 'like-for-like' approach then it may be possible to extend the by-catch measure to red-throated diver. The Applicants have previously stated that

ID	NE's Relevant Representation	Consultation, actions, progress		Applicants' Comments at Deadline 9
				NE's suggestion of decommissioning operational projects within the Outer Thames Estuary SPA is not practical and is in conflict with the Government's 2030 targets.
2	Schedule 18 Part 1-4 and 6, condition 3 (a) Within this condition is a requirement to provide information on the location of compensatory measures. These sections should be amended to note that within this information details need to be provided that explain ecologically why this location is appropriate and likely to support successful compensation (e.g. for nesting sites a site that the target species will colonise with adequate access to prey resource).	Issue Raised		The Applicants do not consider any amendments are required to Schedule 18 to address this point as any location selected for compensation measures will need to be justified as an integral part of the implementation plan (as is evident from the ***Offshore Ornithology Without Prejudice Compensation Measures*** document (REP8-090) on which the implementation plans must be based). Furthermore, the implementation plan(s) require to be approved by the Secretary of State in consultation with the relevant statutory nature conservation body (among others) and therefore this provides the opportunity for comment on location(s) and information can be added during iterations of the plan(s).
3	Schedule 18 Part 1-6 Condition 4 It is not sufficient for compensatory measures to just be in place. They need to be fully functioning and effectively compensating prior to construction/operation.	Issue raised		See section 8 of the ***Applicants' Comments on Natural England's Deadline 8 Submissions*** (REP9-016). The Applicants maintain that, in drafting DCO schedule 18, the Applicants have ensured that the compensation measures proposed are appropriately secured at a level that provides adequate levels of compensation to offset the

ID	NE's Relevant Representation	Consultation, actions, progress		Applicants' Comments at Deadline 9
				potential impacts of the Projects (noting that the extremely low numbers that would potentially need to be offset for the Projects even on the basis of NE's worst case assessment conclusions means that over-compensation is inevitable) whilst providing the necessary flexibility to allow for refinements in detail as the specifics of the measures are developed and agreed with stakeholders, Government, partners etc. **For collision effects** – it is acknowledged that for some species there will be a time lag between (i) the Applicants' works to put in place the agreed compensation measures and (ii) those efforts then resulting in additional birds within a SPA population. However, given the very small number of predicted mortalities for the species considered in the compensation measures document, the Applicants consider that while the risk of incurring a 'mortality debt' exists, the size of debt for a delay of 1 to 2 years remains extremely small and would readily be recouped within a year or two of measures becoming operational. Therefore, the Applicants consider the requirement for the measures to be implemented prior to operation of the wind turbine generators to be entirely appropriate, proportionate and justified and that the requirement for a long lead-in time is not necessary for the Projects (see section 7 of the

ID	NE's Relevant Representation	Consultation, actions, progress		Applicants' Comments at Deadline 9
				Applicants' Written Summary of Oral Case for ISH14 (REP8-099).. **For displacement effects** – it should be noted that in all cases the compensation must be in place prior to installation of the first wind turbine, for example for razorbill: *The undertaker must implement the measures as set out in the RIMP approved by the Secretary of State and where an eradication programme is to be undertaken, no tower comprised within a wind turbine generator forming part of the authorised development may be installed until the implementation of the first eradication programme as set out in the RIMP.* The same provision can be found in relation to guillemot. For red-throated diver Schedule 18 states that: *The undertaker must implement the measures as set out in the RTDIMP approved by the Secretary of State and no tower comprised within a wind turbine generator forming part of the authorised development may be installed until the implementation of relevant measures as set out in the RTDIMP.* These compensation measures would have immediate effect (either removing predation mortality or preventing the displacement effect at

ID	NE's Relevant Representation	Consultation, actions, progress		Applicants' Comments at Deadline 9
				source) and therefore would deliver in a timely manner.
4	Schedule 18 Part 5 Condition 3 This condition is incomplete and therefore we are unable to comment on its sufficiency. However, if similar wording that is used in parts	Issue raised		This was a formatting error. The full text of paragraph 3 was included in Part 5 but paragraph (a) was showing as paragraph 4. This formatting error was corrected in the draft DCO submitted at Deadline 8.