



**SCOTTISHPOWER
RENEWABLES**



East Anglia TWO Offshore Windfarm

Applicant's Comments on the Report on Implications for European Sites

Applicant: East Anglia TWO Limited
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Applicable to East Anglia TWO



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Glossary of Acronyms

AEol	Adverse Effect on Integrity
APP	Application Document
AS	Additional Submission
CRM	Collision Risk Modelling
DCO	Development Consent Order
DML	Deemed Marine Licence
EIA	Environmental Impact Assessment
EMP	Ecological Management Plan
ES	Environmental Statement
ESC	East Suffolk Council
FFC	Flamborough & Filey Coast
HRA	Habitats Regulation Assessment
IPMP	In-Principle Monitoring Plan
IPSIP	In-Principle Site Integrity Plan
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
NE	Natural England
OLEMS	Outline Landscape and Ecological Management Strategy
OTE	Outer Thames Estuary
OWF	Offshore Windfarm
PEIR	Preliminary Environmental Information Report
PTS	Permanent Threshold Shift / Permanent Auditory Injury
PVA	Population Viability Analysis
RSPB	Royal Society for the Protection of Birds
RTD	Red-Throated Diver
SAC	Special Area of Conservation
SIP	Site Integrity Plan
SNS	Southern North Sea
SPA	Special Protected Area
UXO	Unexploded Ordnance



Glossary of Terminology

Applicant	East Anglia TWO Limited
Construction operation and maintenance platform	A fixed offshore structure required for construction, operation, and maintenance personnel and activities.
East Anglia TWO project	The proposed project consisting of up to 75 wind turbines, up to four offshore electrical platforms, up to one construction, operation and maintenance platform, inter-array cables, platform link cables, up to one operational meteorological mast, up to two offshore export cables, fibre optic cables, landfall infrastructure, onshore cables and ducts, onshore substation, and National Grid infrastructure.
East Anglia TWO windfarm site	The offshore area within which wind turbines and offshore platforms will be located.
European site	Sites designated for nature conservation under the Habitats Directive and Birds Directive, as defined in regulation 8 of the Conservation of Habitats and Species Regulations 2017 and regulation 18 of the Conservation of Offshore Marine Habitats and Species Regulations 2017. These include candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation and Special Protection Areas.
Generation Deemed Marine Licence (DML)	The deemed marine licence in respect of the generation assets set out within Schedule 13 of the draft DCO.
Horizontal directional drilling (HDD)	A method of cable installation where the cable is drilled beneath a feature without the need for trenching.
Inter-array cables	Offshore cables which link the wind turbines to each other and the offshore electrical platforms, these cables will include fibre optic cables.
Jointing bay	Underground structures constructed at intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The area (from Mean Low Water Springs) where the offshore export cables would make contact with land, and connect to the onshore cables.
Link boxes	Underground chambers within the onshore cable route housing electrical earthing links.
Meteorological mast	An offshore structure which contains metrological instruments used for wind data acquisition.
Mitigation areas	Areas captured within the onshore development area specifically for mitigating expected or anticipated impacts.
Marking buoys	Buoys to delineate spatial features / restrictions within the offshore development area.
Monitoring buoys	Buoys to monitor <i>in situ</i> condition within the windfarm, for example wave and metocean conditions.
Natura 2000 site	A site forming part of the network of sites made up of Special Areas of Conservation and Special Protection Areas designated respectively under the Habitats Directive and Birds Directive.
Offshore cable corridor	This is the area which will contain the offshore export cables between offshore electrical platforms and landfall.



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



1 Introduction

1. This document presents the Applicant's comments on the Report on Implications for European Sites (RIES) (PD-033) for the East Anglia TWO offshore windfarm project (the Project).
2. The Applicant has not reproduced all text and tables provided within PD-033. Where a response to specific text is deemed to be required this is provided in **Table 1**. For all other text that has not been reproduced in **Table 1**, the Applicant has no comment.



Table 1 Applicant's Comments on the RIES

Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
001	1 Introduction	Whole section	n/a	No comment
002	2.1 European Sites Considered	Whole section	n/a	No comment
003	2.2 HRA matters considered during examination	2.2.3 bullet points 2 and 4	<p>Other significant points which have been discussed in the Examination include:</p> <ul style="list-style-type: none"> Collision Risk Modelling (CRM) (particularly in relation to the gannet and kittiwake features of the Flamborough and Filey Coast SPA and the lesser black-backed gull (LBBG) feature of Alde-Ore Estuary SPA and Ramsar) – choice of Band model and evidence supporting the Applicant's parameterisation of the model; The scope of the screening assessment and clarification of discrepancies in the reporting of the screening exercise and the screening matrices submitted by the Applicant; 	<p>The Applicant considers that the choice of Band Model is not a significant point. The use of Option 2 was agreed in consultation with Natural England (NE) and the RSPB through the Evidence Plan Process (see Appendix 12.1 of Chapter 12 Offshore Ornithology (APP-060)) and followed advice from the digital aerial surveyor that their method to estimate seabird flight height was insufficiently robust to be relied upon for use in the site specific (i.e. option 1) version of the Band model. This was acknowledged by NE at Point 13 of REP1-171 and reduced to a green risk level which closed out the issue. However, the Applicants do note that NE have subsequently raised this as an amber issue within their Risk and Issues log submitted at each deadline.</p> <p>In addition, the adoption by the Applicant of the Boreas Deadline 8 figures (with amendments for changes in some of the projects in the in-combination suite, such as removal of the Thanet Extension mortalities) means</p>



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
				<p>that there is no dispute over the in-combination totals presented.</p> <p>Regarding the scope of the screening assessment and clarification of discrepancies in the reporting of the screening exercise and the screening matrices, the Applicant does also not consider this to be a significant point. The Applicant considers these to be minor points of detail only which had no effect on the sites which progressed through screening. This is correctly identified by the ExA in paragraph 3.1.7</p> <p><i>The Applicant's conclusion of likely significant effects on those European sites and their qualifying features identified in Table 3.2 were not disputed by any Interested Parties during the Examination.</i></p>
004	3.0 Assessment Approach	Whole section	n/a	No comment
005	3.1 Summary of HRA screening outcomes during the Examination	3.1.7	The Applicant's conclusion of likely significant effects on those European sites and their qualifying features identified in Table 3.2 were not disputed by any Interested Parties during the Examination. No concerns were raised by NE in their relevant representation [RR-057] regarding the sites and features for which no LSE was concluded, however as noted above, NE did provide comments on the updated screening exercise [REP1-018] at Deadline 2 [REP2-057].	The Applicant references their response at 003 and also wishes to draw attention to and welcome the fact that the screening exercise undertaken by the Applicant is fully agreed with NE.



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
			No other party raised concerns about the screening assessment.	
006	4.0 Conservation Objectives	Whole section	n/a	No comment
007	4.1 The Integrity Test	4.1.2	Neither NE, nor other Interested Parties, have raised any concerns in relation to the Applicant's conclusions for these sites and features [REP3-117, REP1-058].	The Applicants welcome this position by Interested Parties.
008	4.2 Effects on Offshore Ornithology	4.2.3	At [REP5-089], NE agreed to conclude no AEOL in relation to project alone displacement impacts on the red-throated diver (RTD) feature of the Outer Thames Estuary SPA (OTE SPA). However, due to its continued concerns regarding the Applicant's assessment methodology, NE states that its	<p>The Applicant considers that Table 4 of the RIES accurately reflects NE's position as stated in their summary table on AEOL in REP7-071, i.e. there are no project alone issues with EA2 for RTD. Whilst we consider this to be a sensible and appropriate conclusion, the Applicant notes that NE also state in REP7-071 that:</p> <p><i>As there is evidence from London Array that displacement within the Outer Thames Estuary extends out to 11.5km we maintain that EA2 should be included in the in-combination assessment.</i></p> <p>The Applicant also notes that NE now have confirmed that EA2 does not have a project-alone AEOL (Natural England Statement of Common Ground (Offshore Ornithology) [ExA.SoCG-15.D8.V2].</p>



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
				<p>The Applicant does not consider that EA2 makes a material contribution to the in-combination totals. The Applicant has updated the RTD note once again to address comments made by NE (which we already included in our D7 response) in the EA2 project alone section. The Applicant has therefore added NE's approach to effective area of displacement and the conclusions of that which show that EA2 will make no material contribution to the in-combination effect. The Applicant considers that NE's position on uncertainty on EA2 project alone effects is not credible given that even using their methods the effects are nugatory.</p> <p>The Applicant considers that updating the Displacement of red-throated divers in the Outer Thames Estuary SPA at Deadline 8 (document reference ExA.AS-10.D8.V4) again is the correct approach as it reduces the need for parties to cross refer between reports and responses.</p>
009	4.2 Effects on Offshore Ornithology	4.2.10	<p>Offshore cable laying activities: The Applicant's Information to Support Appropriate Assessment Report [APP-043] identified the potential for disturbance and displacement of non-breeding RTD resulting from the presence of up to two cable laying vessels installing the export cable through the OTE SPA. The Applicant sets out its approach to the assessment of displacement of RTD by offshore cable laying activity in Paragraph 4.3.1.2.2 of [APP-043]. NE confirms that the Applicant's assumption of</p>	<p>The Applicant notes that the purple highlighted text relates to NE's interpretation of operational windfarm displacement which has been considered separately from cable laying vessel displacement.</p> <p>As stated within the Information to Support Appropriate Assessment Report (APP-043), the 'worst-case' area from which birds could be displaced was defined as a circle with a 2km radius around each cable laying</p>



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
			<p>a 100% RTD displacement within a 2km buffer around the cable laying vessel is a reasonable approach and that whilst the level of displacement (which NE calculates could affect up to 3.5% of the total OTE SPA area based on a 10km buffer) would be significant, NE acknowledges that the displacement would be short-term [RR-059]. Therefore, given the temporary nature of the cable laying operations, NE agrees that there is likely to be no AEOI alone as a result of RTD displacement due to cable laying [RR-059]. However, NE states at [RR-059] that it is “unable to rule out AEOI in-combination with displacement” and recommends that a seasonal restriction in cable laying activity should be put in place. Cable laying is anticipated to take a total of 110 days to complete (identified in paragraph 213 of [APP-043]). NE therefore recommends that the activities are carried out during the part of the year when RTD are not present in order to reduce displacement risks associated with this activity [RR-059]. The Applicant responded at Deadline 5 [REP5-015] to state that it would address these points in an update to the submitted Best Practice Protocol (BPP) [REP3-074] at Deadline 6. The BPP is discussed in further detail in section 4.2.31 of this RIES.</p>	<p>vessel, which is 25.2km² (area round each vessel being 12.6km²). This represents approximately 0.6% of the Outer Thames Estuary SPA.</p> <p>The Applicant notes that the RTD BPP does not apply to export cable laying in the SPA over winter and the Applicant does not intend to update the BPP to include this. The BPP only covers vessel routeing between the windfarm sites and the ports.</p>
010		4.2.15	<p>At Deadline 3 [REP3-049], the Applicant submitted an updated assessment and analysis of RTD displacement that considered a 10km buffer from the Proposed Development to the OTE SPA. [REP3-049] states that results of this updated assessment were presented to NE,</p>	<p>The Applicant wishes to clarify that the assessment presented to stakeholders at the 28 July 2020 workshop was produced in response to the NE relevant representation and used different methods to that presented in REP3-049. It was during the workshop on</p>



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
			the RSPB, and the Marine Management Organisation (MMO) at a workshop held on the 28 July 2020. The Applicant states that it was agreed at that workshop that the Applicant would further revise the assessment to consider displacement out to 12.5km using 1km increments. Furthermore, NE requested modelling of the distribution of RTD from the available survey data for the OTE SPA to investigate how existing wind farms have affected these distributions [REP3-049].	<p>the 28 July 2020 where NE provided further advice in light of publications from 2020 e.g. Vilela et al (2020), Dorsch et al (2020).</p> <p>Following receipt of this advice it was agreed that a more thorough statistical modelling exercise would be undertaken. This modelling was first presented to stakeholders at the 7th December 2020 workshop and submitted as a first draft at Deadline 3 along with the interpretation (at REP3-049). This analysis considered effects out to 15km in 1km increments to determine <i>inter alia</i> the extent of the graduated effect with increasing distance from the operational windfarm.</p> <p>It should also be noted that the Applicants addressed some of the initial comments from NE provided in the 7th December workshop within REP3-049.</p>
011		4.2.17	At Deadline 5, the Applicant provided an updated assessment of its Deadline 3 submission regarding RTD displacement in the OTE in response to NE's Deadline 4 comments [REP5-025]. The Applicant's response to [REP4-087] in [REP5-015] drew from its updated RTD assessment and responds to NE's comments about the methodology and modelling approach for the assessment of displacement.	<p>The updates at Deadline 5 covered two aspects. Firstly, the methodology section (section 2.1) was updated to reflect NE's methodological comments. It was considered by the Applicant more helpful for all parties to incorporate these in an updated report rather than necessitate the reader to cross-reference between the Report (REP5-025) and the Applicant's responses (REP5-015).</p> <p>Secondly, the Applicant also updated Tables 5 – 9 by presenting the Natural England's preferred displacement rate (based on 100% within the windfarm)</p>



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
				alongside the Applicant's modelled displacement rate. This also extended the displacement beyond the modelled maximum displacement distance to the distance advised by NE (11.5km). This allows for the results of both approaches to be compared side by side.
012		4.2.24	There is ongoing dispute between the Applicant and NE regarding the existing operational wind farms identified in 4.2.28 and whether it is appropriate for these projects to be excluded from the Applicant's in-combination assessment of operational displacement of RTD.	The Applicant maintains its position that some if not all of the projects within the SPA should be considered as part of the baseline, given that some were operational prior to designation of the SPA and all were operational when the latest surveys (upon which the SPA population estimates are now based) were undertaken. Nevertheless, the Applicant has included all projects within the in-combination assessment (in all versions of the report submitted (REP3-049, REP5-025 and REP6-019). This allows all parties to see the effects of each project and the contribution they make to the in-combination effect. A decision can be therefore be based upon the suite of projects the decision-maker believes is appropriate to include.
013		4.2.27	Since NE does not agree with the Applicant's position on the magnitude and extent of the displacement effects, the effect on the abundance of RTD is disputed. In light of this uncertainty, NE cannot agree that the effects on conservation objective (d) do not amount to an AEOI.	The Applicant has presented both their preferred and NE's preferred numbers for displacement. Irrespective of the method used, the numbers are low. In REP6-113 NE state <i>We note that the displacement within the East Anglia ONE North buffers from 2km to 8km estimated using</i>



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
				<p><i>the spatial models provided by the Applicant equated to a total 34 individuals, and that using the NE advised outputs, across the 2km to 12km buffers, the estimate is of 127 displaced individuals.</i></p> <p>In REP4-087 NE state</p> <p>Para 26. <i>We acknowledge that the likely consequences (lethal or otherwise) of displacement that results from the concentration of more birds into a smaller area of sea distant from all windfarms is not known and may indeed be small.</i></p> <p>Para 29. <i>It may be that no birds at all die as a result of the displacement, but it is in the light of these Conservation Objectives it is still possible that an AEoI on the SPA will result from one or more of the other conservation objectives not being fulfilled.</i></p> <p>Therefore, the Applicant does not consider that the disagreement with NE is about the effect on the abundance of RTD, but rather their distribution within the SPA.</p>
014		4.2.30	NE raised a series of technical concerns regarding the Applicant's revised approach to assessing RTD during ISH2 on 02 December 2020 [EV-034g to EV-034k]. NE maintained its position that it could not agree no AEoI for EA1N AEoI alone or in-combination with other plans and projects. NE does not agree with the Applicant's	The Applicant submitted a response to NE [REP4-089] (Appendix A14 Legal Submission on RTD Displacement within OTE SPA) at Deadline 6 [REP6-020].



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
			interpretation of the OTE SPA conservation objectives and therefore set out its legal submission in Deadline 4 [REP4-089] (Appendix A14 Legal Submission on RTD Displacement within OTE SPA). This document outlines areas of law in the RTD Assessment that NE argue has led the Applicant to draw incorrect conclusions on the absence of AEOI, including around the Applicant's interpretation of the Conservation Objectives of the OTE SPA) in Section 4 and 5 of the Displacement of RTD in the OTE SPA document [REP3-049]. At ISH3, the Applicant indicated that it did not agree with matters raised within NE's legal submissions and stated that it planned to provide its own legal submissions at Deadline 6.	
015		4.2.31	The Applicant submitted a 'Best Practice Protocol (BPP) for minimising disturbance to Red-Throated Diver' for the Proposed Development at Deadline 3 [REP3-074]. NE provided interim comments on the BPP at Deadline 4 [REP4-087] in which it welcomed the Applicant's submission of the document [REP3-074] but suggested that additional detail should be included regarding the control of vessel movements during seasonally sensitive periods prior to its adoption as a Project Environmental Management Plan. The content of the BPP was discussed at ISH3 [EV-046]. The Applicant responded at Deadline 5 [REP5-015] to state that it would address these points in an update to the BPP at Deadline 6.	The Applicant submitted an updated BPP at Deadline 7 which included details of project vessel traffic management through the OTE SPA which would avoid transits through the SPA during the winter period.



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
016		4.2.55	NE stated [REP5-083] that it is still considering the implications of the Hornsea Project Three decision and in-combination collision totals and is therefore unable to conclude no AEIOI in relation to in-combination collision impacts for the gannet qualifying feature of FFC SPA and LBBG feature of the Alde-Ore Estuary SPA. However, Hornsea Project Three totals do not change NE's conclusions that AEIOI cannot be ruled out in relation to in-combination collision effects for FFC SPA kittiwakes. Specific conclusions drawn in relation to these features are discussed in the following sections.	The Applicant wishes to clarify that Hornsea Project Three has no LBBG collisions apportioned to the Alde-Ore Estuary SPA and therefore should not be considered in relation to this site (as acknowledged by NE in [REP7-071]).
017		4.2.56	At ISH3 on the 19 January 2021, NE was asked how Hornsea Project Four figures should be considered in the in-combination totals. NE responded that if Hornsea Project Four is due to submit its application within the timeframe of this Examination, the Proposed Development will be in the planning system and would be a material consideration for the Secretary of State's Appropriate Assessment (as summarised in [REP5-089]). Further comments from NE are expected to be received at Deadline 6.	The Applicant stated in its comments on NE Deadline 5 responses [REP6-030] that if updated numbers for Hornsea Project 4 become publicly available by mid-March, then the Applicants will endeavour to update the collision numbers and submit these at Deadline 8. These numbers have not become publicly available however the Applicants have submitted an updated cumulative and in-combination collision risk assessment at Deadline 8 (document reference ExA.AS-11.D8.V1).
018		4.2.67	The Applicant stated within its HRA Derogation case [REP3-053] that increasing the draught height further would have implications on technical aspects of the Proposed Development and was constrained by the site conditions. The ExA explored these matters through ExQ2 (Question 2.2.7) [PD-030] to which a response has been requested at	The Applicant notes that the alternatives to the design of the Project were included in the updated HRA Derogation Case submitted at Deadline 6 [REP6-044].



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
			Deadline 6. The alternatives to the design of the Proposed Development are discussed in the context of the HRA derogations in Section 5 of this RIES.	The Applicant also notes that evidence from the ORJIP collision avoidance study (Bowgen & Cook, 2018 ¹) indicates that Avoidance Rates for gannet and kittiwake are higher than the Avoidance Rates currently recommended by the SNCBs and that using these updated evidence based rates would result in a reduction in overall collision mortality numbers by a greater magnitude than would be achieved by increasing draught height (approximately 50% for gannet and 10% for kittiwake, see AS-041). The Applicant notes that NE is reviewing the conclusions of Bowgen and Cook (2018).
019		4.2.69	In addition to the remaining concerns of NE and the RSPB on the approaches taken to collision risk modelling, there are also specific concerns relating to in-combination displacement effects for its auk (ie razorbill and guillemot) features, which are described in Paragraph 4.2.32.	As noted in Row 003, the adoption by the Applicant of the Boreas Deadline 8 figures (with amendments for changes in some of the projects in the in-combination suite, such as removal of the Thanet Extension mortalities) means that there is no dispute between the Applicant and NE over the in-combination totals presented. We would therefore question the relevance of the references to approaches to collision risk modelling. The Applicants note that there is dispute with RSPB as they do not agree with the avoidance rates advised by NE.

¹ Bowgen, K. and Cook, A. (2018). Bird Collision Avoidance: Empirical evidence and impact assessments. JNCC Report No. 614, JNCC, Peterborough.



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
020		4.2.71	In addition to in-combination collision impacts on the gannet of the FFC SPA, the RSPB does not agree to conclude no AEOI in relation to project alone collision impacts on gannet [REP4-097]. In its written representations (including [REP4-097]), and as noted in AS-054, the RSPB has expressed concern regarding the Applicant's assessment methodology, specifically in relation to the avoidance rate (AR) that has been applied to breeding gannet. The RSPB does not agree that the AR of 98.9% applied to non-breeding gannet is appropriate for breeding gannet due to 'the lack of available evidence relating to breeding birds' [AS-054]. The RSPB has also raised concerns regarding 'as-built versus consented capacity of windfarms'; this matter is discussed in further detail in section 4.2.57 of this RIES.	<p>The Applicant notes that the Avoidance Rate of 98.9% was agreed with NE and that evidence-based rates from Bowgen and Cook 2018 indicate Avoidance Rates of 99.5% for gannet and therefore the Applicant considers that 98.9% is precautionary.</p> <p>Whilst the Applicant notes that RSPB did raise concerns with the 'as-built' position, any concerns on this are no longer relevant following the adoption by the Applicant of the Boreas Deadline 8 figures (which do not include consideration of as-built).</p>
021		4.2.74	At [AS-054], the Applicant notes that at the time of writing (June 2020), the detail of the arguments presented by the RSPB about potential changes in behaviour and avoidance rate of gannet in the breeding season had not been investigated. The Applicant argued that NE has not recommended any such changes to its assessment methodology. In the Applicant's comments on the RSPB's Deadline 4 submission [REP5-016], the Applicant maintains its view that it has undertaken assessments for gannet and reached the conclusion that there will be no AEOI due to the project alone or in-combination with other plans and projects. Therefore, at the time of this RIES, the Applicant	The Applicant also notes that NE does not consider there to be an AEoI on the gannet feature of the FFC SPA at the project-alone level [REP7-071].



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
			and the RSPB have not reached agreement to conclude no AEOI on the gannet feature of the FFC SPA from the project alone and this remains a point of ongoing dispute.	
023		4.2.74	At REP4-042, the Applicant states that, "for kittiwake the total is given on the assumption that the compensation provided by Hornsea Project Three fully compensates for those collisions for the Flamborough and Filey Coast SPA and therefore zero collisions are attributed to the SPA from Hornsea Project Three". The Applicant therefore maintains its view that the contribution from the Hornsea Project Three wind farm should be removed from consideration as it considers that kittiwake mortality will be fully compensated for. At the time of this RIES, the Applicant and NE have not reached agreement on this matter and it remains a point of ongoing dispute.	<p>The Applicant notes that NE have yet to provide a view on the contribution of Hornsea Three following the compensation measures to be implemented in respect of that project. In REP5-083 NE state:</p> <p>Paragraph 3<i>Natural England are still considering the implications of the Hornsea Project Three decision and hence our advice in relation to cumulative and in combination figures when this project is included in the totals. However, it should be noted that the Hornsea Project Three decision does not change Natural England's conclusions in relation to in-combination collision effects of FFC SPA. We have advised that an adverse effect on integrity (AEoI) could not be ruled out for in-combination collision risk to kittiwakes at the FFC SPA since Hornsea Project Two...</i></p>
024	LBBG - Apportioning Rates	4.2.79	In its written summary of oral representations made at ISH 3 [REP5-089], NE confirmed that until updated in-combination and project-alone figures from the modelling had been provided it would not be in a position to update or change its conclusions. Therefore, NE's conclusions remain unchanged whilst it is still considering the implications of the Hornsea Project Three decision and in-	The Applicant wishes to clarify that Hornsea Project Three has no LBBG collisions apportioned to the Alde-Ore Estuary SPA and therefore should not be considered in relation to this site (as acknowledged by NE in [REP7-071]).



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
			combination collision totals when this project is included (see section 4.2.44 of this report).	
025		4.2.85	As discussed at ISH3 on 19 January 2021, further comments from NE on the technical scope of the EA1N Offshore IPMP are expected as the Examination progresses.	The Applicant updated the IPMP at Deadline 6 to include provision for collision risk monitoring at the Project. The Applicant notes NE's comments on the updated IPMP and have responded to these in the Applicants' Comments on NE deadline 7 Submissions (document reference ExA.AS-17.D8.V1) and submitted an updated IPMP at Deadline 8 (document reference 8.13).
026	4.3 Effects on marine mammals	4.3.1	The Applicant concludes in its HRA Information to Support Appropriate Assessment Report [APP-043] that there would be no AEOI on marine mammal qualifying features of The Wash and North Norfolk Coast SAC, the Humber Estuary SAC and the Southern North Sea (SNS) SAC. NE [RR-059] and TWT [RR-091] disagree that there will be no project alone or in-combination AEOI on the SNS SAC. Information provided by NE, TWT, and the MMO [RR-052] sets out concerns around the control of unexploded ordnance (UXO) clearance and piling activities, and the delivery of an adequate regulatory mechanism to manage underwater noise effects on harbour porpoise during construction in-combination with other plans and projects. The Applicant's SoCG with NE [REP1-056] only records continuing discussion regarding the conclusion of no AEOI on the SNS SAC due to outstanding matters of disagreement around underwater noise effects on the qualifying feature harbour	The Applicant confirms that with regards to marine mammals, it is only the harbour porpoise feature of the SNS SAC which has been the subject of discussions with NE, the MMO and TWT. However, due to the conditions included within the DMLs, the Applicants consider that all matters associated with underwater noise and potential effects on marine mammals are now agreed.



Ref.	Section within PD-033	Paragraph	Text	Applicants' Comments
			porpoise during construction. Whale and Dolphin Conservation also expressed concerns about adverse effects of construction noise on harbour porpoise [RR-090].	
027		4.3.12	During ISH7 on 17 February 2021 [EV-102], the MMO and the Applicant confirmed that they were close to reaching agreement on the wording of the DML conditions securing the SIP, with the intention for removal of mitigation for project-alone effects from the SIP if the conditions can be agreed, and that further information is anticipated to be submitted at Deadline 7.	The Applicant understands that the wording of the SIP conditions are agreed with the MMO and NE.
028		4.3.14	TWT [REP4-125] and NE [REP4-090] noted that the timescales for the discharge of plans and documents relating to UXO clearance activities in the Applicant's latest updates [REP3-042 and REP3-044] had been reduced from six to three months prior to commencement. NE considers that a six-month period is more appropriate to secure appropriate mitigation. The MMO supported this view. DML condition 16(3) was updated at Deadline 5 [REP5-003] to provide that the MMMP and SIP must be submitted at least six months prior to the start of UXO clearance activities. Six months was also provided for submission of the method statement for UXO clearance, with the exception of the plan showing the area of clearance activities and any exclusion zone/ micrositing requirements, both of which must be submitted three months prior to activities beginning. At ISH7 on 17 February 2021 the MMO confirmed that it was content	The Applicant notes that NE has agreed to the submission timescales within NE Appendix G4 [REP6-114] and that the MMO has agreed them within REP6-104.



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			within this approach [EV-103]. Comments from other parties are anticipated at Deadline 7.	
029	4.4 Effects on Onshore Ornithology / Terrestrial Ecology	4.4.6	Additionally, the Applicant also provided a project update [REP2-007] which it refers to in its response to NE's Deadline 2 submission [REP2-053] [REP3-070] committing to parallel cable duct installation for both projects should EA1N and EA2 be consented and constructed sequentially, within a 32m wide cable corridor (16.1m per project). The Applicant's view regarding crossing method preference is supported by East Suffolk Council (ESC) [REP4-059] which considers that open-cut techniques are preferable across the SPA to reduce the amount of machinery required and therefore minimise potential air quality and disturbance impacts.	The Applicant welcomes and agrees with the ESC position that an open-cut technique is a preferable method to cross the SPA. Both trenchless and open-cut techniques are acceptable (with the correct mitigation) from a HRA perspective, but open-trench has wider benefits with regard to, for example, fewer construction vehicle movements, reduced noise and a shorter overall construction period.
030		4.4.10, 4.4.11 & 4.4.12	The Applicant's Statement of Common Ground with the RSPB [REP1-395] records that the RSPB supports the submission of additional detail in the Outline SPA Crossing Method Statement and that use of an open-cut trench crossing should be justified and agreed with NE. At Deadline 5, NE [REP5-084] confirmed that subject to specific conditions, it accepted that an AEOI is unlikely to occur as a result of the use of an open-cut trench method, based on further information supplied by the Applicant in relation to its Sandlings SPA Crossing Method Statement [REP1-043]. NE's proposed additional mitigation measures include ensuring that replacement nesting habitat is in place and functional before any crossing works take place,	The Applicant has noted the concerns raised by NE throughout the Examination in relation to the crossing of the Sandlings Special Protected Area (SPA) using an open trench construction methodology and the associated potential impacts upon the integrity of the SPA. An updated Outline SPA Crossing Method Statement was submitted at Deadline 6 (REP6-036) in which the Applicant committed to an increased management period of Work No. 12A following completion of construction of the relevant works to ten years (save for the area within Work No. 12A identified as being used as a horse paddock, which would be subject to a five year management period). Annual



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			<p>that the Applicant explore reinstatement options that would improve the habitat for interest features of the designated sites, and that monitoring should be in place for at least 5 years, but with the expectation that monitoring beyond this will be needed to ensure success.</p> <p>NE provided further comments on the OLEMS at Deadline 5 [REP5-084]. In relation to protection of the Sandlings SPA interest features, it commented (Section 15 [REP5-084]) that the Applicant's proposal to survey for five years is not sufficient taking into account the length of time that the habitat will take to become favourable. It also noted that if monitoring identifies that birds are not using the land provided for mitigation, alternative mitigation land will need to be provided, secured through the DCO.</p> <p>At ISH7 on 17 February 2021, the Applicant advised that it would provide suitable replacement habitat, making the best effort to maximise its value to the SPA qualifying bird species, but cannot guarantee that it will be occupied. It disagrees that it needs to allow for providing alternative mitigation should that become the case. The Applicant referenced the hope to agree with landowners a 10 year management plan for Work 12A (temporary ecological mitigation works in accordance with the ecological management plan and associated access). East Suffolk Council has stated that it will provide comment on this at Deadline 6 [EV-101].</p>	<p>monitoring will be undertaken throughout the duration of the management period, with the results of the monitoring used to inform the management measures implemented during subsequent years.</p>



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031		4.4.15	Within its comments on the OLEMS [REP5-084], NE acknowledge that the updated OLEMS provided additional clarity and accepts that the timing of the seasonal restriction can be based on the approach described, subject to approval from NE. This matter was explored by the ExA at ISH7 (17 February 2021) whereby the Applicant confirmed its view that the seasonal restriction is robustly controlled by the OLEMS but that it intended to specifically respond to NE concerns at Deadline 6.	The Applicants responded to NE comments on the OLEMS within the Applicants Comments on NE Deadline 5 Submissions [REP6-030] and also updated the OLEMS at Deadline 6 [REP6-008].
032		4.4.22	At ISH7 on 17 February 2021, the Applicant re-confirmed that an updated OWCMS, which will take account of the Sandlings SPA, will be provided at Deadline 6 [EV-101 and EV-107].	The Applicant submitted an updated OWCMS at Deadline 6 [REP6-042].
033		4.4.24	The ExA explored this matter at ISH7 (17 February 2021) during which the Applicant confirmed its intention to submit further information at Deadline 6. ESC highlighted its outstanding concerns related to the potential impacts of emissions from non-road mobile plant at the onshore cable landfall area, stating that its concerns are captured by NE's submission [REP4-092]. ESC also restated its preference for an open-cut construction technique with respect to minimisation of emissions to air [EV-101].	The Applicant submitted an updated Outline SPA Crossing Method Statement at Deadline 6 [REP6-036] and a Deadline 3 Onshore Ecology Clarification Note [REP3-060].
034	5 Alternatives and IROPI	Whole section	n/a	No comment



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035	6 Compensatory Measures	6.0.2	NE commented that prey enhancement measures should remain an option to be considered, contradicting [REP3-054] which stated that this option had been agreed to be unviable with NE.	<p>The Applicant does not consider this to be correct. The following text from [REP3-054] accurately reflects the respective positions i.e. that NE wanted prey enhancement kept as an option but that the Applicant and the RSPB agreed that this was not a viable option for delivery by an individual project:</p> <p><i>Note that in the screening exercise, the Applicant considered but ruled out prey enhancement as a compensatory measure. Prey enhancement would require management of fisheries through, for example, partial or complete closure of a prey fishery (e.g. sandeel). The Applicant ruled this out as this would require either the purchase of quota or introduction of fisheries management (i.e. closed areas, reduction of by-catch) which is not considered to be deliverable. RSPB concurred with the Applicant that</i></p> <p><i>"It is not a viable measure for a developer at this time. It is properly for Government to take the lead in order to ensure adequate food supply for those breeding seabirds in the North Sea and elsewhere affected by fishery management" (see REP4-097 for RSPB position in full).</i></p> <p><i>Natural England have suggested keeping this option under consideration, however the Applicant's position (which reflects that of RSPB) is that there are no</i></p>



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				<p><i>practical mechanisms to progress this. Therefore, the Applicant will not progress this option.</i></p> <p>The Applicants also reference the evidence provided at ISH 14 where the Applicants expert ecologist Bob Furness reiterated that this measure is not viable for developers to implement. This position was also presented in the review provided in Offshore Ornithology Without Prejudice Compensation Mechanisms - Annex 1 - Prey Availability Compensation Mechanisms (REP6-046).</p>
036		6.0.3	<p>The RSPB provided comments on the proposed compensatory measures at Deadline 4 [REP4-097], stating its position that compensation remained a relevant matter to kittiwake, gannet, guillemot and razorbill at FFC SPA; LBBG at Alde-Ore Estuary SPA; and red-throated diver at the OTE SPA (specifying this is with regards to EA1N). The document notes the exclusion of guillemot and razorbill from [REP3-054] and records the view that compensation for these qualifying features should remain under consideration.</p>	<p>The Applicant notes that compensation options for guillemot and razorbill were provided in the updated 'Without Prejudice' HRA Compensation Mechanisms document [REP6-045] submitted at Deadline 6 and updated at Deadline 8 (document reference ExA.AS-8.D8.V2).</p>
037		6.0.5	<p>The matter of prey availability/enhancement was explored at ISH3 on 19 January 2021. In its written summary of oral case following the hearing [REP5-026], the Applicant provided its reasoning against the decision to discount prey enhancement as a feasible compensation measure. The reasoning draws from studies made of fisheries</p>	<p>The Applicant believes that this accurately reflects NE's position (as discussed in row 035 above) that prey availability/enhancement, whilst it may be the most beneficial compensation option ecologically, is not a practical project-level compensation option.</p>



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			management undertaken by Ørsted, to be submitted along with further commentary by the Applicant at Deadline 6. In its written summary of oral case NE noted that its advice pertains to strategic level opportunities for delivery of compensation and that considering this option may allow a project-level assessment to contribute to that delivery [REP5-089].	
038		6.0.6	At Deadline 5 the Applicant responded to NE's comments on the options under consideration and restated its rationale for exclusion of prey enhancement as a viable compensation measure, and also stated that a wider update will be provided at Deadline 6 [REP5-015]. At Deadline 5 NE provided expanded views on the compensation measures, re-stating its position regarding the need to exhaust avenues of mitigation before considering compensation. Concern has been expressed by NE regarding the ability of the compensation measures to satisfy the derogation tests and the confidence which can be placed in their feasibility and efficacy. NE requested that detail be provided on the nature of the measures and the delivery mechanisms and timescales involved [REP5-082].	<p>The Applicant considers that it has exhausted all avenues for mitigation. The Project Update Note [REP3-052] and Offshore Commitments [REP3-073] documents submitted at Deadline 3 clearly describe the constraints limiting the extent of OTE SPA buffer and draught height commitments which mitigate displacement impacts on red-throated divers and collision risk impacts respectively.</p> <p>In the updated Offshore Ornithology Without Prejudice Compensatory Measures [REP6-045] the Applicant provided greater detail on the nature of the measures and the delivery mechanisms and timescales involved in an effort to address NE comments. The Applicant would note however that NE has up until now made no allowance for scale of contribution and proportion of effect from individual projects which the Applicant considers to be a key factor in compensation considerations.</p>



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039		6.0.7	<p>Advice was also provided by NE at Deadline 5 on the risks and opportunities associated with specific measures. The advice stressed that sole reliance on artificial nest sites for kittiwakes carries risk as this measure is untested and will remain so until the measures proposed for Hornsea Project Three are built and operational monitoring information is available. NE also expressed concern that there may be a limit to the occupation of artificial nest sites in practice, and that difficulties are likely to be encountered in identifying suitable locations [REP5-082]. NE advised that if disturbance effects on RTD cannot be mitigated, compensation will be required, and urged the Applicant to consider project and strategic level options including navigational management to reduce anthropogenic influences within the OTE SPA [REP5-082]. In this document, NE also expressed broad agreement that predator exclusion is a feasible measure in principle in relation to LBBG, and advised that information relating to other projects including Norfolk Boreas Offshore Wind Farm is considered to ensure this measure is additional and specific to EA1N.</p>	<p><u>Kittiwake</u></p> <p>The Applicant has presented a standalone measure on the basis that there is uncertainty over what may or may not be implemented (or required) for other projects. The Applicant is willing to work collaboratively with other developers and indeed has reached out to potential partners with whom it would be suitable to develop joint compensation strategies. Given the number of individual kittiwake the Applicant potentially needs to compensate for i.e. 0.8 there is a large incentive to work collaboratively.</p> <p><u>RTD</u></p> <p>The Applicant has included vessel routing commitments at East Anglia THREE as a compensation measure which avoids transits through the OTE SPA during the winter period throughout the entire operational period (see Offshore Ornithology Without Prejudice Compensation Measures submitted at Deadline 8 document reference ExA.AS-8.D8.V2)..</p> <p>The Applicant considers that it is exceedingly difficult to manage other (non-SPR) vessel traffic within the SPA and therefore this is not a potential compensation option.</p>



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				<p><u>LBBG</u></p> <p>The Applicant welcomes NE's initial comments and notes that they recently had a meeting with Defra to discuss potential compensation options. It is the Applicant's understanding that NE have proposed a measure similar to that proposed by the Applicant and the intention is to have discussions with the Applicant, Vattenfall (for Norfolk Boreas), NE and Defra to consider the potential for a collaborative solution.</p> <p>Therefore, the Applicant has updated the offshore ornithology 'without prejudice' compensation measures document at Deadline 8 (document reference ExA.AS-8.D8.V2) to reflect the potential for a strategic approach in relation to LBBG compensation measures.</p>
040		6.0.9	The Applicant indicated at ISH9 that it would be submitting an updated compensatory measures plan at Deadline 6, seeking to address the points raised [EV-121].	The Applicant submitted an updated compensation mechanisms document [REP6-045] and also provided a DCO schedule to secure compensation within the updated draft DCO submitted at Deadline 7.
041	7 Summary	7.0.7	Matters in relation to collision mortality and resulting effects on seabird qualifying features have a bearing on the conclusions regarding AEOL for the gannet, kittiwake, and seabird assemblage qualifying features of Flamborough and Filey Coast SPA and the lesser black-backed gull qualifying feature of the Alde-Ore Estuary SPA and Ramsar	The Applicant notes that matters of disagreement centre largely around interpretation. The in-combination collision mortality numbers are those that were agreed with NE for the Norfolk Boreas project at Deadline 8 (i.e. the most recent commonly agreed positions) with Thanet extension removed following its refusal of



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			site. Matters of disagreement are around the approach and interpretation of collision risk modelling and the data for inclusion within the in-combination assessment.	<p>consent. Therefore, the data for inclusion is considered to be agreed at this stage.</p> <p>As noted above there are areas of disagreement around for example avoidance rates for gannet and kittiwake and how Non Material Change (NMC) applications should be considered. However, in order to move forward, the Applicant has agreed to present final numbers and base conclusions on NE recommendations.</p>
042		7.0.8	Matters relating to the assessment of displacement effects have a bearing on the conclusions regarding AEOI for the guillemot, razorbill, and seabird assemblage qualifying features of Flamborough and Filey Coast SPA and the red-throated diver qualifying feature of the Outer Thames Estuary SPA. Matters of disagreement remain around the assessment of displacement effects and the ecological implications of those effects for the seabird populations, and the data for inclusion within the in-combination assessment.	<p>The Applicant would emphasise that it is the ecological implications on which there is largely disagreement. For red-throated diver, the Applicant has outlined in its Displacement of red-throated divers in the Outer Thames Estuary SPA [document reference ExA.AS-10.D8.V4] assessment that the ecological consequence of displacement would result in negligible impacts. Notably, NE point out in REP4-087 the following:</p> <p><i>“the mortality rate as a result of displacement is not the main the area of concern to Natural England in relation to the Habitats Regulations Assessment.”</i></p> <p>Therefore, the area of disagreement centres around a change in distribution of divers within the OTE SPA and whether or not this results in an AEol.</p> <p>As stated in row 011, the Applicant has included all projects within the in-combination assessment (in all</p>



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				versions of the report submitted (REP3-049, REP5-025, REP6-019 and document reference ExA.AS-10.D8.V4). This allows all parties to see the effects of each project and the contribution they make to the in-combination effect. A decision can therefore be based upon the suite of projects the decision-maker believes is appropriate to include.
043		7.0.11 and 7.0.12	<p>With respect to the Southern North Sea SAC, disagreement is centred around the delivery and securing mechanism of the mitigation measures set out in the HRA Addendum for Marine Mammals [REP1-038], IPSIP [REP3-044] and draft MMMP [REP3-042]. The wording of relevant DCO Requirements and DML conditions remains in discussion with the MMO, as reflected in the Statement of Common Ground between the Applicant and the MMO [REP5-033]. These matters are being progressed by the Applicant and Interested Parties, specifically NE and the MMO, and progress is anticipated to be made at Deadline 6 and Deadline 7.</p> <p>No agreement on the exclusion of AEOI to the Sandlings SPA has been reached. Matters remaining to be resolved are details of the Outline SPA Crossing Method Statement; details of pre-construction mitigation measures and timescales; determination of air quality effects on supporting habitats; and the inclusion of an assessment of effects on the SPA within the OWCMS. These matters have</p>	<p>The Applicant has been engaging with the MMO and NE on the wording of various conditions and submitted an updated draft DCO at Deadline 7 to address comments received.</p> <p>Following further engagement with the MMO and NE additional updates to condition wording in order to reach agreement has been provided in the updated draft DCO submitted at Deadline 8</p> <p>With regard to onshore matters, the Applicant is awaiting comments from NE which are due to be submitted at Deadline 8</p>



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			been stated as being subject to further submissions from the Applicant at Deadline 6.	